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Economic and Market Outlook

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The Passage

Section I. Straw and the Camel

Part-A. The Burden of Sway

There is much to cheer about the U.S. economy; so perhaps it's heresy to bring up the topic of recession. Although I believe the runway between now and the next recession is reasonably long; it perhaps looks a bit like the runway at LaGuardia—long enough to land the plane, but fraught with potholes and construction obstacles.

Liz Ann Sonders, of Charles Schwab, October 8, 2018

Before presenting our five leading, two coincidental, and two lagging indicators that collectively present the current general health of the economy, we can say that we share Sonders' apprehensions about events to come. Specifically, we believe economic balances have already been largely disrupted and the passage ahead is now from growth to contraction.

Liz Ann Sonders said, in Schwab's latest Market Perspective, dated December 7, 2018, entitled, "Gathering Storm or Passing Clouds?" "The economic growth is slowing, but not yet to the point of threatening a recession in the near term." She continued, "Risks have risen, as evidenced by the flattening of the yield curve, with the Federal Reserve and trade relations with China holding near-term keys to both the degree of slowing and market volatility [our emphasis]."

While evidence of a Recession has yet to be declared by our group of forecasting tools, we will argue in **Part-B** there are serious conditions present that we expect will undo both Consumer and Business Confidence.

Presently, Exhibit-1 (Conference Board Consumer Confidence Index) and Exhibit-2 (Small Business: Optimism Index) both clearly show near-record confidence. Sonders concluded in her December report:

It is becoming clearer to us that we have likely seen an inflection point in the U.S. economy, with a peak real gross domestic product (GDP) growth rate of 4.2% in the second quarter, slowing to 3.5% in the third quarter, and expected to slow again to 2.4% in the fourth quarter; and then decelerating further from there in 2019.

The burning question is by how much? [Our emphases.]

What follows are our indicators that, collectively, conclude economic expansion continues, even if slowing.

Leading Indicators

First, Exhibit-3 (Civilian Unemployment Rate), currently at 3.7%, is the lowest since December 1970, and the rate remains below its 12-month moving average of 3.92%; it is, thus, positive.

Second, Exhibit-4 (Advance Real Retail and Food Services Sales) indicates that growth in this Consumer sector of the economy continues to grow. We can see modest weakness developing, in that the year-over-year (YOY) November growth of 2% was down from the May YOY peak growth of 3.8%.

Third, Exhibit-5 (Industrial Production) also continues to show growth at a YOY of 3.9% in November but, once again, off its peak September rate of 5.6%.

Fourth, Exhibit-6 (All Employees: Total Nonfarm Payrolls/Civilian Labor Force) indicates continuing health though, again, off its best levels in August.

Fifth, Exhibit-7 (10-Year Treasury Constant Maturity Minus 2-Year Constant Maturity) shows the so-called Yield Curve that Sonders referred to in the Schwab December report as flattening. This tool has turned negative before 100% of Recessions. The closeness to turning negative is a significant worry, though the average lead-time to Recession is 12 months.

Coincident Indicators

First, Exhibit-8 (Aruoba-Diebold-Scotti Business Conditions Index) presents The Philadelphia Federal Reserve Bank's "Now" Index, which is one of two Coincident Indicators that signal the point when Recession starts or, alternatively, when economic Expansion begins.

Second, Exhibit-9 (Chicago Fed National Activity Index) is also a "Now" Index.

We use both Indexes, because while they measure similar parts of the economy, they also measure many different aspects of sectors of the economy. In both cases, the Indexes are currently well above the trigger point that declares a Recession is underway.

Lagging Indicators

First, Exhibit-10A (Smoothed U.S. Recession Probabilities) reflects the likelihood of a Recession; this is the earliest form of a “Now” Index. Its problem is a three-month delay in declaring a Recession or Expansion. Still, as of three months ago, there was no Recession. A Recession is declared at the 30% level on the Index rise; and a 30% level of Expansion as the Index falls. We note that an error was made in 1982 in declaring an Expansion (i.e., end of Recession), but it was soon corrected.

Second, Exhibit-10B (Real Personal Income Excluding Current Transfer Receipts) is also a lagging indicator that simply helps confirm that Recession is most likely underway. It has had two false signals—missing the 1970 Recession, and calling for one in March of 2013.

The Lagging Indicators will only appear when needed to confirm, after-the-fact, Recessions and Expansions.

What follows in **Part-B** is the body of our case for concern about coming Recession.

Our contention is that the major financing needed by both government and the private sector will gradually drive interest rates higher and that this development will impact both the stock-market and the economy.

Exhibit-11 (U.S. Interest Rates) shows rates have begun to rise in earnest since late 2015.

Exhibit-12 (Why is the Business Cycle Important?) lies at the heart of our approach to portfolio allocations between asset classes.

We encourage the reading of **Section II** for a more complete understanding of the importance of using knowledge of “Now” data to determine the major changes to allocations.

Allocating based on conditions of economic Expansion or Contraction means that major shifts occur infrequently and are directly related to our Leading Indicators and the Federal Reserve’s “Now” Indexes.

Having said the above, the possibility of a long-lead Bear Market, like 1973-74 to the Recession of 1974-75 (i.e., 10.6 months), requires an important response, which will be covered in **Part-C** of this **Section I**.

Exhibit-13 (The U.S. Equity Market Usually Peaks Before the Recession Hits) lays out the problem.

If Recession does strike in late-2019-to-early-2020, then a Bear Market is likely to be underway by mid-year 2019. The average lead-time can be seen as 6 months.

If, on the other hand, the market leads the Recession by a greater-than-normal 6 months, like it did when the Bear Market led the 1974-75 Recession by 10.6 months, we may already be looking at the opening decline of a Bear Market. As we said above, we will offer a resolution to the question in **Part-C**.

Jason Zweig said, back in December of 2016, in his *Wall Street Journal* column: It isn't quite true, to paraphrase Tolstoy, that all bull markets are alike but each bear market is unhappy in its own way. But investors do need to realize that the past rarely repeats exactly. The bear market of 2008-2009 was V-shaped: a steep, swift 50% loss followed just as unexpectedly by a sharp upslope that more than tripled stock prices (at least for now, anyway). The bear market that began with the Great Crash of 1929 was shaped more like a cliff above jagged canyons: Stock prices fell 89% in 35 months, then rocked up and down for years. And the bear market of 1973-1974 was a slow-motion mudslide.

We include Exhibit-14 (S&P 500 Index) simply to show the last two Recessions had one about average (6 months) and one, The Great Recession of 2007-09, with little real lead time (3 months).

Part-B. Gathering Bundles

As we have said, we have become increasingly concerned that a Recession lies ahead, most likely starting by the fourth quarter of 2019 or within the first of 2020.

To be concerned nine-to-twelve months ahead of the likely start of a Recession is an unusually cautious position in light of both the economic and earnings growth we experienced during the second and third quarters of this year.

So far in 2018, GDP was reported to be the following: Growth of 2.1% in the first quarter; 4.2% in the second quarter; 3.5% in the third; and it is estimated to be around 2.4% for the final quarter of 2018.

Chart-1 (Evolution of Atlanta Fed GDPNow real GDP estimate for 2018: Q4) shows early evidence of a sudden drop in expectation. The sudden drop is backed up by the NY Federal Reserve District report on December 17, 2018, that their Index fell to a 19-year low.

As far as Earnings go, Zacks Investment Research reported very strong growth in the same first three quarters:

1st = +24.6%
2nd = +25.4%
3rd = +25.4% again

Considering such growth, it seems hard to understand why stock performance in 2018 has been so dismal.

Answers, however, can be found in shocks to Confidence stemming from the chaos that government has injected into the economic system. Political risk is normally not at the top of investment risks on a day-to-day basis.

Chart-2 (Evolution of 2018 Q4 Earnings Growth Estimates) shows important revisions to Earnings growth estimates have been underway all during the fourth quarter about what the quarter will end up with.

Moreover, Chart-3 (Quarterly Earnings & Revenue Growth YOY) shows a continuing uneasiness as it relates to both the first and second quarters of 2019. Part of the uneasiness is the fact that the estimated YOY Earnings for the first two quarters of 2019, at 4.5% and 4.8%, will be compared, respectively, with the 24.6% and 25.4% actual YOY Earnings of 2018.

Returning to the economy, Chart-4 (When the World Monetary Base Contracts, Trouble Soon Follows) and Chart-5 (St. Louis Adjusted Monetary Base) both show an alarming weakness. In the case of the U.S., the renewed decline in the Monetary Base spells some trouble for liquidity within the system. It directly reflects a tightening Monetary Policy (i.e., less money in the system).

From the standpoint of the economy, we face a series of problems, many of which have parallels to the 1974-75 Recession some 44 years ago. We are, again, faced with both foreign and domestic political risks, as well as economic risks.

What follows are comments concerning a number of the issues:

1. Falling Oil Prices. Chart-6 (Crude Oil) shows a collapse of 33% in less than three months. While it does not initially hurt the economy, it drives profit margins and earnings lower for energy companies. If they, in turn, lower capital spending, it will then hurt the economy enough to affect the benefits of lower energy costs at the Consumer level.

2. Brexit concerns stem from the unknown level of damage to both the British economy and that of the European Union, which, by the way, are vastly more important to our exports than is China.

3. The developing Trade War with friend and foe—in particular, China—is becoming very serious. In the third quarter our GDP was reduced by a full 1% due to lower exports and increased imports. Moreover, President Trump's trade negotiations with the EU and Japan have yet to start, but can be expected to add to volatility.

4. Output Gap. Chart-7 (U.S. GDP Output Gap) suggests the Expansion (i.e., the business cycle) “may be entering the final stages” (quote from the Chart). What is the output gap? *Investopedia* defines it as follows:

The output gap is an economic measure of the difference between the actual output of an economy and its potential output. Potential output is the maximum amount of goods and services an economy can turn out when it is

most efficient—that is, at full capacity. Often, potential output is referred to as the *production capacity* of the economy.

Just as GDP can rise or fall, the output gap can go in two directions: positive and negative. Neither is ideal. A *positive output gap* occurs when actual output is more than full-capacity output. This happens when demand is very high and, to meet that demand, factories and workers operate far above their most efficient capacity. A *negative output gap* occurs when actual output is less than what an economy could produce at full capacity. A negative gap means that there is spare capacity, or slack, in the economy due to weak demand.

An output gap suggests that an economy is running at an inefficient rate—either overworking or underworking its resources.

5. Errant Late Cycle Tax Cuts and Deficit Spending have caused government revenue to tank!

One analyst estimated that the Treasury expected to borrow a total of \$1.338 trillion from global investors this year (2018), which is 145% greater than the \$546 billion borrowed in 2017.

So much for the tax cut and spending increase paying for themselves.

The need to borrow is expected to climb above \$1.4 trillion in fiscal year ending October 2019 and continue at that level between now and 2025.

Chart-8 (Corporate Profits Before & After Tax), compiled by Lance Roberts, of Real Investment Advice, shows something quite revealing. Roberts, writing about his Chart, in the blog called TalkMarkets.com, on November 19, 2018, said:

Importantly, note that **corporate profits, pre-tax, are at the same level as in 2012**. In other words, corporate profits have not grown over the last 6-years [our emphasis], yet it was the decline in the effective tax rate which pushed after-tax corporate profits to a record in the second quarter. Since consumption makes up roughly 70% of the economy, then corporate profits pre-tax profits should be growing if the economy was indeed growing substantially above 2%.

He continued:

The reality is that what earnings growth there has actually been, as shown [in the Chart], was indeed derived from tax cuts but also through the extensive use of share buybacks. **While the mainstream media, and the Administration, initially rushed to claim that tax cuts would lead to surging economic growth, wages, and employment, such has yet to be the case.** Instead, companies have used their tax windfall to repurchase shares.

The breakout of how the companies have used the tax cuts, compiled by Roberts, appears as Chart-9 (How Are Companies Using Tax Cuts). Roberts continued in his blog:

The lack of corporate profit since 2012 is just another version of the same story we have previously discussed when analyzing quarterly earnings. As noted in our recent report following the end of the Q2-2018 reporting period:

*“Since the recessionary lows, much of the rise in ‘profitability’ has come from a variety of cost-cutting measures and accounting gimmicks **rather than actual increases in top-line revenue**. While tax cuts certainly provided the capital for a surge in buybacks; revenue growth, which is directly connected to a consumption-based economy, has remained muted.”*

Here is the real kicker. Since 2009, the reported earnings per share of corporations has increased by a total of 391%. This is the sharpest post-recession rise in reported EPS in history. **However, the increase in earnings did not come from a commensurate increase in revenue, which has only grown by a marginal 44% during the same period.** This is an important point when you realize only 11% of total reported EPS growth actually came from increased revenues [our emphasis].

Roberts concluded [our emphases]:

With share buyback activity already beginning to slow, the Federal Reserve extracting liquidity from the financial markets, and the Administration continuing their *“trade war,”* the risk to extremely elevated forward earnings estimates remains high. We are already seeing the early stages of these actions through falling home prices, automobile sales, and increased negative guidance for corporations.

If history, and logic, is any guide, we will likely see the U.S. economy pushing into a recession in 2019, particularly as the global economy continues to weaken. This is something both domestic and global yield curves are already screaming is an issue, but few are listening. As noted last week, we can already see this in the MSCI World Market Index as well.

Chart-10 (S&P 500: % of Companies Issuing Negative EPS Guidance) shows that the earnings problems of 2013 through 2017 have already returned, despite the favorable tax cut.

6. The Fall in Government Revenue, according to the Administration and Congress, was not supposed to happen because of the revenues to be derived from increased GDP growth.

What happened?

Chart-11 (Federal Government Current Tax Receipts) has gone negative! Failed expectations? And so, the budget deficit grows. See Chart-12 (US Government Budget 12MMA [Month Moving Average]).

By the end of Trump’s first term (?), the debt is expected to rise by \$4.4 trillion despite historically low unemployment.

Moreover, as Chart-13 (It’s Only Money) shows, the debt is expected to have increased at least \$7.5 trillion from 2016 to 2023, based on projections of the Office of Management and Budget (OMB).

7. The Federal Reserve's Growing Caution may limit 2019 Fed Funds Rate increases. The markets at first liked the idea because the Fed gave, as the reason for Fed increases, that Rates are getting closer to neutral status (i.e., normal range).

At the same time, the Fed warned about the risk to financial stability, saying trade tensions, geopolitical uncertainty, and a buildup in Corporate debt among firms with weak balance sheets—all pose strong threats (November 28, 2018).

The Fed Governors are concerned with the large increase in bonds rated near the bottom of the ladder—see Chart-14 (The A to B of Decline). Chart-15 (Loan Market Catching Up to Bonds) shows the dramatic rise of high-yield debt and leveraged loans.

The Fed is particularly worried about leveraged loans, which now exceed \$1 trillion (i.e., doubled since 2010).

What is a leveraged loan? It is a commercial loan provided to a borrower that has a non-investment-grade rating arranged by a group of banks and then sold (i.e., syndicated) to other banks or institutional investors. **If this sounds familiar, it is, indeed, similar to what was done with mortgages, leading to the Great Recession of 2007-09.**

Chart-16 (Covenant-lite Share of Outstandings, US Leveraged Loans) shows the problem—approximately 78% of all US leveraged loans are covenant-lite (i.e., with little-to-no documentation and/or collateral). The Chart ends in July of this year. The total leveraged-loan market, as of November 20, 2018, was \$1.3 trillion, up 30% in four months, according to the *Washington Post* (Nov. 20, 2018). No wonder the Fed is worried about financial stability.

In the same *Washington Post* article entitled, “The Two Big Reasons There Really Might Be a Recession in 2020,” the author (Matt O’Brien) said, “The first reason is that of interest rates.” At this point, he discussed the possibility of the Yield Curve’s inverting (i.e., the 2-Year Treasury yield exceeding the yield of the 10-Year Treasury).

O’Brien’s second, and greatest, concern involved leveraged loans. He said:

There’s been so much competition among lenders to make these loans that they haven’t been requiring a lot of protection for themselves if things go bad. In a certain foreboding sense, that’s understandable. That’s because, by and large, they aren’t holding onto these loans, themselves, but are rather bundling them together into securities known as “collateralized loan obligations” (CLO), to sell to investors [see again our Chart-15]. That, thanks to the magic of modern finance, lets them turn a big chunk of their BBB-rated corporate loans into AAA-rated bonds, since there should be safety in numbers: any single borrower might default, but the chance that most of them would be at the same time should be negligible. At least it is according to their mathematical models, which, as we know, are never . . . never mind.

All of this should sound uncomfortably familiar. After all, replace “business” with “households,” and you’d have a pretty good description with what went wrong in 2008 [our emphasis].

Chart-17 (Buybacks and Dividends Paid vs the S&P 500's Value) and Chart-18 (Maturing Debt) show the trend of spending for buyback of stock and the amount of Corporate debt needing to be refinanced. The trend of Capital expenditures seen in Chart-19 (Core Capital-Goods Orders) clearly shows the tax cut did not get used as advertised. Workers' wages were not increased significantly; neither did Corporations spend on new plant and equipment. See Chart-20 (Soft Patch, or Worse?) The Chart's comment is, "October capped third month of weak U.S. business-equipment orders."

What a shame. The tax cut was supposed to lead, in particular, to Capital spending to boost economic growth on a sustainable basis. Wrong!

Finally, even Consumers are in trouble, while declaring how confident they are.

Chart-21 (Total Revolving Credit Owned and Securitized, Outstanding) shows that the credit debt level of Consumers has returned to pre-Great-Recession levels. Moreover, note in Chart-22 (Personal Savings as a % of GDP) that Consumer Savings has returned to near-all-time lows.

We conclude that the primary source of downward pressure on GDP will come from debt-financing needs—driving interest rates up and lowering liquidity, as well as creating a higher cost of credit and slowing both Consumer and Business demand for goods and services.

As we have said in prior quarterly letters, cutting taxes and increasing spending in a late cycle (i.e., a near-full employment economy) and operating with an Output Gap are gross errors. The Great Economist, John Maynard Keynes, would be sad.

We end the survey of problems with some comments on the potential risk of eroding Confidence. Perhaps the greatest concern today is the risk that Confidence can be damaged badly by the developing belief that chaos is the rule of our leadership.

A survey of investors both in the U.S. and globally by Bank of America Merrill Lynch finds the biggest concern for the year ahead is the worsening trade war and the seeming breakdown of international relationships.

Confidence is All!

Part-C. Balancing the Weight of Straw

Responding to uncertainty surrounding the confluence of negative events always requires balancing the behavioral urge to simply do nothing until the events create a growing sense of panic, against some approach that leads to a reasoned response.

Unfortunately, the financial media, like all media today, both spread and intensify concerns until there is "more truth in the unreal than in the real" (quote from Gustave Le Bon [*The Crowd*—1895]).

We have explored, in the preceding **Parts** of this report, real economic issues. What we present now is, first, a reasoned response to the possibility that the volatility we have seen since the beginning of October is part of a long-lead Bear Market that connects to Recession.

Secondarily, we offer another explanation for the volatility, suggesting that there is a structural shift underway between holding bonds and stocks, which represents a rebalancing of portfolios. The problem concerns money flow, or fund flows, between the two asset categories. This flow may represent that both stock and bond markets are reverting to their historical usage (i.e., a rebalancing of the long-term structural risk of portfolios).

We begin by addressing the possibility that the current volatility in the stock-market is a part of a long-lead Bear Market that ends in Recessions, such as the period preceding the Recession of 1974-75.

Normally, our response to oncoming Recession is to wait for, and not anticipate, a Recession call by our leading indicators, which include the “Now” Indexes of the Federal Reserve Banks of Philadelphia and Chicago.

But in the case of a long-lead Bear Market to Recession (e.g., 1974-75) or of Bear Markets not connected to Recessions, such as 1962’s Cuban Missile Crisis or 1987’s Market-Liquidity Crash, our response is the same—if any market decline reaches 15%, we will reduce equity positions in accordance with the known attitudes and abilities of clients to assume risk.

Why is a market decline of 15% important? It turns out, in the history of market Corrections and Bear Markets since 1926, a decline that reaches that magnitude has odds of 4-in-5 (i.e., 80.8%) of no longer being a normal Correction, but of being a Bear Market, instead, whose average loss has been 38%—and average term has lasted 1.4 years.

And since most Bear Markets are connected to Recessions, it can be said that market declines of 15% have a high probability of predicting Recession. However, until it reaches 15%, a market’s decline should be considered a normal Correction.

There is a second problem, or bundle of straw, weighing on the stock market in 2019. As mentioned above, the problem concerns a structural rebalancing of the allocation between stocks and bonds used in portfolio construction.

It is our contention that, after nearly a decade of low-to-very-low bond, note, and Treasury bill yields, which led fixed-income allocations to move to stocks for higher returns, a long-term reallocation from stocks to bonds is taking place.

We believe that a move towards normal allocations between the two asset classes began in earnest around the middle of 2016 when fixed-income yields reached their absolute lows (i.e., the 10-year Treasury fell to 1.376%, the 2-year Treasury fell to

.60%, and the 1-year to .45%--see Chart-23 (U.S. 10-year Treasury Note) and Chart-24 (1-year Bill & 2-year Note).

Notice that, by the beginning of 2018, yields of the 10-, 2-, and 1-year Treasuries had sufficiently recovered to be running at or near 2%, a level at or better than the inflation rate.

At the time of this writing, the 10-year yield was 2.82%, while both 1- and 2-year securities yielded the same 2.65%. All yields now provide inflation-adjusted returns that are positive as well as safe.

With Chart-25 (Fed Balance Sheet vs the S&P 500), we begin to piece together the basis of our argument.

First, note the sharp decline of the S&P 500 in 2008 going into March 2009.

Second, we see Quantitative Easing (QE—the Fed’s program to buy Treasuries and mortgage-backed securities) beginning in October 2008.

Third, we see that, after QE began, it had helped to arrest the Bear-Market fall by March of 2009.

Fourth, from there until QE ended in October of 2014 (note: leaving the Central Bank holding a massive \$4.5 trillion portfolio), the stock-market benefited both from the liquidity injection and from the Confidence derived out of the belief that the Fed had investors’ back. This feeling was cemented by the clear evidence seen in the Chart of the relationship between QE and the S&P 500.

However, returning to Chart-24, we can see the other side of the story—fixed-income investors had their returns sacrificed by the Fed’s having pushed the Fed Funds rate to near-zero (December 17, 2008).

It took 10 years for short-term fixed-income investments to return to the prior levels of 2008.

All during that time, bond investors found little income, and stocks were doing exceedingly well. Analyst after analyst, as well as media spokesperson after spokesperson, declared: “The Only Game in Town Is to Buy Stocks.” The drumbeat grew deafening as yields on stocks (dividends ÷ price) first equaled, then exceeded, 10-Year Treasury Bond yields.

As bond yields reached their respective lows during the mid-part of 2016, the stock-market took off again, following two corrections (i.e., one in early 2015, and the second late in 2015/early 2016).

In effect, the bond buyers once again saw a rising stock-market leaving them behind, even as yields improved, but remained below 1%.

QE had ended more than two years before (2014), without causing the Recession many had feared.

It is our contention that confidence in the Fed's leadership, including the strong feeling that the Fed had their back, led bond investors to importantly increase stock commitments.

For nearly three-quarters of 2018, the seeming "Only Game in Town" was the stock-market; however, it has, in the last quarter, turned to "Leaving Town."

Meanwhile, since the beginning of the year, both 1- and 2-year Treasury obligations have seen yields move from 2% to the recent 2.65%.

Despite high earnings growth, tax cuts, spending increases, low unemployment, and modest income growth, the stock-market has been increasingly unable to cope with erosion of Confidence by stock holders due to the increasing uncertainty and the chaos of international and domestic government leadership.

Chart-26 (Aggregate Fund Flows and S&P 500 Performance) points to an important part of the reason the stock-market has sharply declined since September's peak. Aggregate Fund Flows—which include Mutual Funds, ETFs, Hedge Funds, and institutional trading of banks, insurance companies, and endowments—have tended to show larger outflows during 2018 than inflows.

Chart-27 (Short-Term Government Bonds Remain Attractive) makes it clear that inflows to short-term bonds have been dominantly positive. As we speculated and the data in Chart-27 support, in their returning to bonds for income or to balance risks in portfolio objectives and attitudes towards risk-bearing, investors have dominantly gone to short maturities, awaiting long-bonds to achieve higher yields.

As we have said, we expect those high yields will come from the upward pressure on yields from the huge supply ahead, along with the Fed's working off its balance-sheet assets (i.e., QE bonds) by adding to the already expected supply.

It does not help the situation that foreign holders of U.S. government bonds have shrunk their holdings during 2018. Moreover, the auctions of bonds since late October have had the weakest foreign participation in nearly a decade, according to Reuters' analysis.

The concerns we have expressed relative to a return of bond/stock allocations toward a more historical relationship will likely take place over a relatively long period (i.e., three or more years). However, the move at present from some part of stocks to short-term bonds and then ultimately to longer-term bonds has definite merit with a stock-market as volatile as it is today.

This concludes our analysis of the current economy and market, and we now present, in **Section II**, the fourth part of our **White Paper: Aspects of Investing**, which we have been developing in our quarterly reports over the last year-and-a half.

Section II. White Paper: Aspects of Investing (Continued from Sub-Section II.A Investment Decisions in the Era of Intangible Assets [June 2017], II.B Make Portfolio Construction Mean Something! [September 2017]), and II.C Looking for Alpha [September 2018])

Sub-Section II.D. The Fallacy of “Buy and Hold”

It is reason, and not passion, which must guide
our deliberations, guide our debate,
and guide our decision.
--Barbara Jordan

Segment-1. Rethinking Risk

The best way to measure your investing success
is not by whether you're beating the market,
but by whether you've put in place a financial plan
and a behavioral discipline that are likely to get you
where you want to go.
--Benjamin Graham

We begin here by saying that advisors and investors alike should be focusing more on how to limit Bear Market losses than on how to beat the market during a Bull Market.

When you look at the stock market over the last 10, 20, or 30 years, the performance makes clear that, if you simply purchased and held, you would have a fine return.

The problem is that such advice as to simply “Buy and Hold” is just not realistic, given investor psychology. Passions outstrip reason. You can't expect an investor to live without reacting through Bear Markets like 2000-2002 (the S&P 500 lost 49%) and 2007-2009 (the S&P 500 lost 56.4%). Nobody is going to be “rational” to the point of not responding to it. We all act emotionally in that context.

“Buy and Hold” completely ignores the essential investment concept of managing risk. “Buy and Hold” implies that prices don't matter because the strategy requires you to buy and hold at all times, regardless of whether valuation problems or the presence of an unhealthy economy (i.e., a recession) exist.

Figure-1 (Investment Process – Roller Coaster of Emotion) and Figure-2 (Just a Normal Day . . .), while adding a little humor to a serious problem, illustrate an all-too-familiar pattern of psychological pitfalls or emotional biases that investors often fall prey to.

Figure-3 (Market's Emotional Roller Coaster) presents theoretical predictions of an investor's behaviors from Behavioral Finance, which focuses on the cognitive and emotional aspects of investing.

Mark Hulbert, writing for the blog, *Marketwatch* (August 2018), said:

Most who say they believe in a long-term buy-and-hold strategy end up discovering—at or near the bottom of the bear market—that they don't have what it takes. That means they suffer most or all of the bear-market's losses and benefit from only a portion of the market's subsequent rebound.

Figure-4 (The Dalbar Study: 30 Years of Average Equity Fund Investor vs. Indexes) and Figure-5 (Blackrock Study: How the Average Investor Stacks Up—20-Year Annualized Returns) both show the dramatic impact of behavioral errors at work.

In Figure-4, we see the dramatic result of investor underperformance: \$100,000 invested for 30 years in the S&P 500 and/or an Index Fund keyed to the S&P 500 resulted in \$1,822,711 (10.16% compounded for 30 years), while the record of the Average Equity Fund Investor resulted in \$100,000 going to \$322,474 (3.98% compounded for 30 years).

Obviously, the Average Investor was unable to simply Buy and Hold. The S&P 500 statistically (without any emotions) outperformed the investor by a factor of more than 5.65 times. (Note that the result was still worse measured against the Global Equity IFA Index Portfolio 100.)

The shattering comparison shows the nearly total inability of the Average Investor to Buy and Hold.

In Figure-5, we see the last 20 years and, once again, the average equity, or stock, investor underperformed all asset classes—barely beating the rate of inflation.

Figure-6 (Fund Flows Indicate Investors Did Not Buy and Hold) clearly shows the withdrawal of mutual funds during the last Bear Market (2007 to March 2009) and during every normal correction since. Note that very little positive funds flow has occurred from the end of the Great Recession. On balance, not a very good decision since the Bull Market has been long and strong until 2018. Investors missed a great opportunity! Figure-6 also shows most investors have been afraid to re-enter the market since 2015's dip. Note the persistent withdrawals even as the market turned in great performance in 2016 and 2017.

The truth about "Buy and Hold" gets still uglier when we consider the second reason "experts" give to investors for adopting the "Buy-and-Hold" strategy, as explained by Don Schreiber, Jr., of WBI (note that his reference to Chart 1 is included in our report as Figure-7 [Dow Jones Industrial Average 1950-2017]):

Buy and hold theorists suggest that investors cannot successfully time the markets, and by trying to avoid the down days, investors will miss the few powerful up days that provide most of the return. They believe the positive returns generated during bull market uptrends will always be sufficient to allow

investors to not only recover lost capital but to generate returns high enough to help them achieve their financial goals. But the devil is in the details, and as it turns out, investors who follow the “buy and hold” mantra also expose their capital to the markets’ biggest losing days, which have an even worse effect on return.

The prevailing conventional investment wisdom suggests you would diminish performance dramatically by attempting to avoid losses, but our analysis in Chart 1 [our [Figure-7](#)] shows that if you can avoid the worst market declines you can also miss the best gains and still enhance return. Chart 1 also shows that since 1950, \$100,000 invested in the Dow Jones Industrial Average (DJIA) Index on a buy and hold basis would have grown to \$12,351,581. However, by missing both the 10 best and worst quarters, the return would have improved to \$17,250,082. Of course, missing the 10 worst quarters while capturing the returns from the 10 best quarters would have produced the best result. We believe the important takeaway is that preventing large losses is dramatically more important than chasing returns. [Our emphasis.]

Clearly, there are great gains to be made by missing the worst quarters. Despite the truth of the above statement, we are not advocating that all such worst quarters can be avoided, but it turns out that 60% of the 10 best quarters occurred in close proximity to the 10 worst. This close occurrence of the best and worst relates to the presence of Bear Markets (i.e., rallies in Bear Markets).

The “experts” cite only that Buy and Hold (1950-2017) \$100,000 goes to \$12,351,581, and if you miss the 10 best quarters, it only goes to \$2,423,052. The fact that had you missed the 10 worst quarters, the \$100,000 would have gone to \$87,932,833 is left to silence.

[Figures-1](#) through [-6](#) depict behavioral-problem outcomes vs. the S&P 500 and other asset classes.

[Figure-7](#) illustrates that preventing large losses is critically important to long-term performance.

We call attention to what Jeremy Seigel, Professor of Finance in the Wharton School of the University of Pennsylvania, said, in his book entitled, *Stocks for the Long Run* (2002): “Out of 43 Recessions since 1802, 40 of them (9.3 out of 10) have been preceded (or accompanied) by declines in the stock market.” We also note that this connection continues to hold, since, so far, the only Recession after 2002 (Seigel’s date of publication) was the Great Recession of 2007-09, which was, indeed, connected to a fierce Bear Market.

Thus, since Recessions and Bear Markets are closely tied, it seems to us that if one could anticipate the onset of a cyclical decline, it would help investors to protect their portfolios from large losses by getting out of the way of a Recession.

Segment-2. Pre-Planning—A Clear Victory

Part-A. Armed with Data from “Nowcasting”

Armed with the knowledge that most major losses are directly connected to Recessions, if investors can forecast a developing Recession using “Nowcasting” data that indicates the high probability of a start or of an end of Recessions, then an investor can with reasonable confidence “Buy and Hold” based on the required presence of an economic expansion and exit as a contraction leading to a Recession gets underway.

Thus, Pre-Planning for an exit from equities and a return to them based on the high likelihood of a Recession’s beginning and then of its ending, mitigates the behavioral errors that the emotional intrusion of fear causes under the misguided “Buy and Hold” strategy alone.

In a major study entitled, *Does It Pay to Forecast the Business Cycle?* (September 2016), James A. Conover, David A. Dubofsky, and Marilyn K. Wiley conclude (with our emphasis):

Over the period 1970-2015, investment returns were enhanced by merely knowing concurrently whether the economy was in a state of expansion or contraction, and making the most basic asset allocation decision of whether to be in stocks or cash/bonds. In the United States, an annual excess return of 2.01% was earned by investing in stocks during expansions and in cash during contractions.

Taking these actions means we would be out of the stock-market for some part of the average 11.9 months of the average economic contraction (Recession); but in the stock-market for a large part of the average 67.0 months of the average expansion.

The key point related to behavioral mistakes is that they can be importantly mitigated!

We note that the annual excess return in the 1970-2015 study quoted from above was 2.01%; excess means higher than that of the S&P 500 Index. Consider that the earlier discussed Dalbar study over 30 years (1987 to 2016) showed the average equity fund investor’s average annualized return was only 3.98% compared to the S&P 500 Index’s average annualized return of 10.16% (look again at Figure-4). Certainly, a return that actually exceeds the S&P 500 Index would be more than welcome. In fact, even the same performance as the S&P would be a clear victory.

The authors of the study quoted from above reiterate, “Just knowing the current state of the economy led to excess returns.” “Nowcasting” data from the Chicago, Philadelphia, New York, and Atlanta Federal Reserve districts are available and should be used as a set of most important inputs into asset allocation decisions.

Figure-8 (Perfect Recession Timing) simply reminds us of the statistically possible (i.e., Perfect Recession Timing outperforms the S&P 500 over the period 1947 to 2015 by a factor of 2.8 times). While Perfect Recession Timing is humanly impossible, “Nowcasting” opens the way to make better investment decisions. By using “Nowcasts” to determine whether the economy is expanding or contracting permits reasoned changes to asset allocations, thereby mitigating the dominant problem of emotionally-driven behavior.

Figure-9 (Chicago Fed National Activity Index) is one of the several “Nowcasting” tools. It provides one of the two most important “Nowcasting” tools we use, the second being the Philadelphia Fed’s Index. Both are technically known as Coincident Economic Indicators (i.e., they turn with the directional shift of the economy).

To get a head-start on what may happen to the “Nowcasts” (i.e., Coincident Indicators), we use five so-called Leading Indicators (discussed in Section-1 of this report). Figure-10 (Unemployment Rate [%]; MA Line [12-Month Moving Average]) shows how one of these five is especially noteworthy because of its perfect record since 1948. All eleven Recessions and recoveries were correctly forecast by comparing the actual monthly rate of Unemployment to the rate of its 12-Month Moving Average.

Furthermore, Table-2 ([Lead Time] {months}—Unemployment Rate [UE] {year.month}) pinpoints the lead time from the crossover of the actual Unemployment Rate and its 12-Month Moving Average to the onset of Recession. Note that the average lead time is 3.45 months, but that two of the eleven Recessions had 0 lead time; however, despite there being no lead, neither was there any lag, which would have been shown as a minus number in the Table.

In addition, we utilize two Confirming (i.e., Lagging) economic indicators that literally provide confirmation (or not) that both the Leading and Coincident data were spot-on (i.e., not false positives) in their sell signals.

The two Lagging Indicators are Real Personal Income Excluding Transfer Payments and the Smoothed U.S. Recession Probabilities Index. We note that both of these Lagging Indicators were useful by failing to confirm the “Nowcast” signals that dipped briefly below the -.70 line in 1989, 1992, and 2003 (see Figure-9).

In sum, with use of the five Leading, two Coincidental, and two Lagging Indicators as forecasting tools, we have high confidence that investors will benefit importantly versus the record of average equity investors (as seen in Figures-4 and -5).

Table-1 (Recessions and Connected Market Declines [seen at the end of the Charts and Figures]) presents the record of both the economy and the stock market during the Recessions since the summer start of the Great Depression (1929-32).

The discussion of Table-1 ends with a full summary of the conclusions of the Study by Conover, Dubofsky, and Wiley mentioned earlier.

We note that the official designation of Recession comes from the National Bureau of Economic Research (NBER), as represented in Table-1. The one Recession that appears to have had a small market gain was that of 1945. However, the consensus of economists combines the 1945 Recession together with the 1948-49 Recession because both were directly related to the end of WWII. Treated as a “single Recession,” it lasted 37 months, and the S&P 500 Index fell 29.6%.

NBC.com discusses this period in its “Historic Bear Markets” report under the Stocks & Economy section (2018):

Less than a year after the end of WWII, stock prices peaked and began a long slide. As the postwar surge in demand tapered off and Americans poured their money into savings, the economy tipped into a sharp inventory-recession in 1948.

Even if we call the eight-month Recession of 1945 a miss, in that it shows a stock market gain vs. decline, it still means that, for 13 of the 14 Recessions (92.9% of the time), a portfolio shift away from stocks to bonds would have greatly benefited investors vs. riding through the 14 Recessions and their connected Bear Markets or Corrections lasting longer than the average (since 1928) of 3.37 months, with the average decline of -33.2% (i.e., range: -13.6% to -86.1%).

There have been an additional three Bear Markets since 1929 that were unrelated to Recessions:

First—The Cuban Missile Crisis (Oct. 1962), with a Market Decline (Dec. 1961 to Oct. 29, 1962) that involved a -35.2% S&P 500 contraction.

Second—The “Baby” Bear Market (so-called) caused by a Credit Crunch in the Municipal Bond Market (June to Sept. 1966), with a -22.3% decline.

Third—The 1987 Market Crash (Aug. to Dec. 1987), with a loss of -33.5%. On Oct. 19, 1987, the S&P declined -22.6%—a single day’s loss!—the greatest in market history. Cause: The misnamed “portfolio insurance” (i.e., extensive use of options and derivatives) accelerated losses. Regulators have worked to correct the structural flaws with reforms.

If we add these three unrelated Bear Markets to the 13 consensus Recessions, we still have a high probability of success in avoiding the damage of behavioral errors (13 of 16, or 81.3%).

When we examine the record since 1969, when “Nowcasting” data began to be available, we find that “Nowcasting” called all 7 Recessions and the 7 Recoveries (100% warning of Bear Markets connected to Recessions, and then of the subsequent

Recoveries). Moreover, if we add the single miss since 1969 of a Bear Market that was not connected to a Recession—the massive market liquidity failure in the 1987 Crash—the odds of successfully avoiding major behavioral errors still remain highly attractive (i.e., 7 out of 8, or 87.5%).

To summarize Part-A, we present below the conclusions of the Study, *Does It Pay to Forecast the Business Cycle?*

Based on “Nowcasting,” the following results took place (1970-2015):

- 1a. The Average Returns when invested in stocks during Expansions and in cash during Recessions = 11.0%
- 1b. Excess Return (Alpha) = 2.01% (when in cash during Recessions) compared to benchmark (8.99%)—(i.e., 11.0% minus 8.99% = 2.01%)
- 2a. The Average Returns when invested in stocks during Expansions and in bonds during Recessions = 13.26%
- 2b. Excess Return (Alpha) = 4.27% (when in bonds during Recessions) compared to benchmark (8.99%)—(i.e., 13.26% minus 8.99% = 4.27%)
3. Average Time Economy in Recession = 14.88%
4. Average Time Economy in Expansion = 85.12%
(Note how much of the 45 years of the Study an investor could, in fact, confidently “buy and hold”—85.12%.)

We note that our firm of Clutinger, Williams and Verhoye, Inc., began business in June of 1970. The one Bear Market unrelated to Recession in our operating history was the Crash of 1987. Due to our continuous work in the field of Technical Analysis (i.e., decisions based in analyzing statistical trends and patterns of price movements and volume), clients of our firm owned no stock at the time of the Crash in October of 1987, and stock was reacquired in the Spring of 1988 to take advantage of the recovery.

Thus far, we have discussed how to make investment decisions using indications of economic health (i.e., whether the economy is expanding or contracting). We have said that simply knowing the current direction of the economy makes it possible to largely ignore the many stock-market short-term declines as well as intermediate corrections, and to concentrate on avoiding those Bear Markets that typically accompany Recessions and that, when not evaded, can—and most frequently do—decimate long-run performance.

Part-B. Efficient Diversification—Size Matters

In our September 2017 letter, Sub-Section II.B, Make Portfolio Construction Mean Something, we raised the question of whether or not the benefits associated with Diversification come at perhaps too great a cost to performance. We answered, “We

believe over-Diversification has become the cost of the perceived benefits of Diversification, with the unintended consequence for Active managers of underperforming the Indexed (i.e., Passive) measures of performance.”

We cited the results of the 2012 research paper entitled, *Diversification Versus Concentration . . . and the Winner Is?* conducted by Danny Yeung, *et al.* (University of Technology, Sidney). Figure-11 (Diversification May Be Achieved with as Few as 20 Holdings) presents their charted conclusion. It can be seen that specific risks (i.e., company financial risks) to the total portfolio are reduced sharply as the number of holdings increase; however, note that beyond 20-30 holdings there is little benefit to the reduction of portfolio risk. At 20-30 holdings, the portfolio risk shifts from being specific investment risks to systematic risks related to the macro-economic environment.

Part-C. Creating Portfolios That Capture Risk Tolerance

Here, we discuss the long-used measure of Relative Risk, called Beta, and the newer Dual Beta (i.e., Upside Beta and Downside Beta), which promises portfolio constructions that come closer to capturing an investor’s Risk Tolerance, once determined.

In finance, the Beta coefficient of an investment or of a portfolio as a whole indicates whether the investor’s choice of investment(s) will likely behave in a more or a less volatile manner than the market as a whole. The market as a whole used for comparisons is typically the S&P 500 Index. Of course, there are a number of sources that have computed Betas for large numbers of stocks. They include services like Yahoo Finance, Morningstar, and Value Line (Value Line measures nearly 5000 stocks).

The services begin by giving the measure of the market (i.e., S&P 500) a Beta of 1.0. A given security is then compared to the market and is determined to be either more or less volatile than the market. Knowing the relative performance of investable assets to the market gives an investor the opportunity to select assets for a given portfolio that collectively produce a portfolio that is constructed to more closely match the Risk Tolerance of the investor.

A more exacting explanation of Beta is offered in the following quote from Wikipedia:

A beta below 1 can indicate either an investment with lower volatility than the market, or a volatile investment whose price movements are not highly correlated with the market. An example of the first is a treasury bill: the price does not go up or down a lot, so it has a low beta. An example of the second is gold. The price of gold does go up and down a lot, but not in the same direction or at the same time as the market.

A beta greater than 1 generally means that the asset both is volatile and tends to move up and down with the market. An example is a stock in a big technology company. Negative betas are possible for investments that tend to go down when the market goes up, and vice versa. There are few fundamental

investments with consistent and significant negative betas, but some derivatives like put options can have large negative betas.

To illustrate, if a stock has a Beta of 1.25, for every 1% move in the benchmark, the stock will theoretically move 1.25%.

Traditional Beta calculation gives equal weighting to both upside and downside variance over a set period of time. Logically, however, it is unlikely that a stock would have equivalent-sized moves against those of the market for both upside and downside swings.

In a 2015 study entitled, *Upside and Downside Beta Portfolio Construction: A Different Approach to Risk Measurement and Portfolio Construction* (pub. in Vol. 5, Issue 4, 2015, of Risk, Governance Control: Financial Markets & Institutions), Austin Guy examined the concept of using a Beta for the upside and a second Beta for the downside, instead of the traditional single Beta calculation approach. He said:

It would be ideal if a stock had a large positive sensitivity but low negative sensitivity. Rational investors would invest in stocks that are more sensitive to upswings than downswings. Investors are more concerned with downside volatility, and should therefore be able to build a portfolio that contains stocks with less sensitivity to down markets, and stocks with more sensitivity to up markets. [Our emphasis.] This would allow an investor to maximize the capture of market upswings and minimize that of market downturns. In order to complete this, Upside and Downside Betas are used.

Guy went on to explain the different approaches to calculating each type of Beta:

Upside Beta

Upside beta is the stock beta measured for periods when the benchmark return is positive. This will allow an investor to understand which stocks have historically generated the highest returns during market upswings [our emphasis]. Here, the variance is defined as the variance for periods such that the market return is greater than zero.

Downside Beta

Similar to Upside beta, except this beta is calculated using periods of negative benchmark return. In order to minimize portfolio risk, investors should allocate a percentage of portfolios to stocks with low downside betas [our emphasis] to protect against market downturns. Here, the variance is defined as the variance for periods such that the market return is less than zero. Downside beta is a measure of stock sensitivity to market downswings.

Guy concluded that portfolios could, indeed, be created to more intelligently build Risk into a portfolio. His research showed that high-Beta stocks, overall, underperformed low-Beta stocks during periods when the S&P drops by more than 10%, and *vice-versa*.

We would summarize his conclusion by saying that, once it is understood that each asset has either greater volatility (i.e., risk) or lower volatility than the S&P 500 Index (or other suitable benchmark), investors are in the position of constructing portfolios with greater or lower Risk relative to the market.

What follows presents the results of this study, analyzing three types of portfolios:

Portfolio-1 Glide Path (i.e., Target-Dated Portfolio)

- a) Stocks 90%—beginning 1983—slides to 20% by 2013.
- b) Remaining 10%—Other (U.S. Bond, Int'l Bond, Gold, Real Estate [i.e., REITs])— increases to 80% by 2013.
- c) 90% stocks are allocated based as follows:
 27.5% upside Beta (highest quintile of upside Betas)
 62.5% downside Beta (lowest quintile of downside Betas)

d) Outcome over 30-year Study (1983-2013):

	<u>S&P 500</u>	<u>Portfolio</u>
Avg. Return	12.80%	14.81%
StDev	16.88%	11.27%
Risk Free	5%	5%
Sharpe	0.46	0.87
Best	37.20%	51.92%
Worst	-36.55%	-12.39%

- e) Comment—The Portfolio, compared to the S&P 500, generated an Average Annual Return of 14.81% versus 12.80%, with a Standard Deviation of 11.27% versus 16.88%, representing increased returns with lower risk.
- f) Note that the Sharpe Ratio is higher than for the S&P 500—meaning the average return from the Portfolio, in excess of the Risk-Free rate per unit of volatility (StDev), or Total Risk, is greater than that of the S&P 500 ($14.81 - 5.00 \div 11.27 = .87$).
- g) Sum—Portfolio compared to the S&P 500:
 Return higher; Total Risk (StDev) lower, Risk-Adjusted Return higher.
 Finally, note the worst drawdown year was about 1/3 that of the S&P.

Portfolio-2 Fixed Asset Mix (Adjusted Annually)

- a) Portfolio: 100% allocated:
 Stocks—Downside Beta: 35%
 Stocks—Upside Beta: 25%

U.S. Bonds: 20%
 Int'l Bonds: 10%
 Gold: 5%
 Real Estate (REITs): 5%

b) Outcome over 30-year Study (1983-2013):

	<u>S&P 500</u>	<u>Portfolio</u>
Avg. Return	12.80%	15.10%
StDev	16.88%	12.21%
Risk Free	5%	5%
Sharpe	0.46	0.83
Best	37.20%	39.01%
Worst	-36.55%	-18.08%

c) Comment—This second Portfolio, compared to the S&P 500, is again a clear winner, with an Average Annual Return of 15.1% vs. 12.80% for the S&P. Note, too, that the Standard Deviation is lower and the Risk-Free Adjusted return (Sharpe ratio) is higher. Also note the best and worst year comparisons favored the portfolio.

Portfolio-3 Greatly Increased Risk (Beta-Driven, All-Stock Portfolio)

a) Portfolio: 100% stocks:
 50% upside Beta (highest quintile of Upside Beta)
 50% downside Beta (lowest quintile of Downside Beta)

b) Outcome over 30-year Study (1983-2013):

	<u>S&P 500</u>	<u>Portfolio</u>
Avg. Return	12.80%	20.17%
StDev	16.88%	20.38%
Risk Free	5%	5%
Sharpe	0.46	0.74
Best	37.20%	58.91%
Worst	-36.55%	-31.99%

d) Comment—The All-Stock, Beta-Driven Portfolio (50/50 model), compared to the S&P 500 and the other two Portfolios, is also a definite winner, with an Average Annual Return of 20.17% vs. 12.80% for the S&P, and 14.81% for Portfolio #1 and 15.01% for Portfolio #2, but it comes with a notably higher Risk. The Standard Deviation of

20.38% is higher than the S&P's 16.88% and the Risk-Free Adjusted return (Sharpe ratio) of 0.74 is higher than the S&P's 0.46. But note that the best and worst year comparisons with the S&P 500 not only favored this Portfolio, but the best year of 58.91% outstripped the 37.20% of the S&P 500, as well as both other portfolios (#1=41.92%; #2=39.01%). The worst year had significantly more of a drawdown, at -31.99%, than the other two portfolios (#1=-12.39%; #2=-18.08%), yet it still beat the -36.5% loss of the S&P 500.

Part-D. Downside Protection Matters

To this point, we have discussed the following topics:

- 1) The Record of Investors
- 2) The Fallacy of "Buy and Hold"
- 3) The Mitigation of Behavioral Errors
- 4) The Importance of Knowing Concurrently the State of the Economy
- 5) Using "Nowcasting" to Arm Long-Term Performance
- 6) Using Dual Beta to Help Capture Personal Risk Assessment in Portfolio Construction. (Note: Many Risk-Tolerance questionnaires are available to aid investors in determining their appropriate Risk.)

In closing this Section, we offer a quote from Russell Investments (a global asset management firm, wholly owned by TA Associates, one of the oldest and largest private-equity firms in the world). This comment appeared in September 2017 on the Russell Investment's web site:

To achieve long-term growth, it is inherently important to not only grow the upside, but is arguably even more important to protect the downside [our emphasis].

To help visualize this point, we also offer Figure-12 (The Upside of Downside Protection), which simply shows what it says:

LOSING LESS MEANS LESS UPSIDE RETURN NEEDED.