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Economic and Market Outlook

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Perceptions

Section I. On the Verge of a Productivity Boom

Part A. Connecting the Physical World

The eye sees only what the mind
is prepared to comprehend.
--Robertson Davies

Many, if not most, believe that Gross Domestic Product (GDP) will only return to, and possibly exceed, its historic growth rate of 3.2% if President Trump's economic initiatives on taxes and infrastructure spending pass into law.

But It Does Not Require Passage! While such fiscal action would be additive, we reiterate what we pointed out a year ago in our September 2016 report entitled, Deconstructing Growth, that the growth rate of GDP was already in the process of accelerating due to the net impact of exponential innovation.

We also said that we believed we were on the cusp of a protracted productivity recovery.

In that same report, we wrote how, despite a continuing drag on the economy from an aging labor-force, GDP was about to return to a normal, or even above-average, growth rate.

We argued that, despite a 1.2% annual drag on GDP growth from the mass retirement of War-Baby-Boomers (born 1946 to 1964), a dramatic and counter-force (i.e., technological innovation) would permit productivity to return to 2.5% versus near zero. Moreover, after 2020, the annual drag on productivity resulting from mass retirements would fall to 0.6%, permitting productivity to rise above 3%.

We predicted the jump in productivity would permit GDP growth to return to above the 3.2% norm annually between now and 2020 and 4% between 2020 and 2026, when the drag from retiring Boomers passes into history.

Today, one year later, we remain confident that a Secular economic and stock-market expansion remains in place. We are more confident than ever that the exponential growth we see in innovations will continue to feed the Secular expansion well beyond the decade ahead.

Is it possible that in the near-term the economy could experience a Cyclical recession (i.e., approximately 1 year in length)? Of course, the answer is Yes! If the Trump-administration's problems (i.e., delays in economic initiatives and spreading investigations) result in an erosion of consumer and business confidence, an interruption to the Secular advance could take place.

However, in the absence of a significant loss of consumer and business confidence, investors should not conclude that a recession will happen anytime soon.

Be assured that, if we see confidence wane to the point that our forecasting tools indicate a Cyclical recession is probable, we will respond!

Returning to the key subject of the day—a Productivity Boom—we point to a new study which offers solid evidence that such a Boom is underway.

The study from the Technology CEO Council (public policy advocacy organization comprising Chief Executive Officers from America's leading technology companies), released in March of this year, entitled, *The Coming Productivity Boom*, suggests that our September 2016 prediction that productivity gains of at least 2.5% annually would return beginning in 2017 may be low by up to 0.7% more per year.

The Council also picked 2017 as the start of the Boom. If they are correct that we could see productivity of 3% in 2018, rather than our forecast of 2020, then 4% GDP growth may actually begin two years ahead of our forecast.

To sense the excitement of Michael Mendel and Bret Swanson, authors of the study released by the Technical CEO Council, we begin with their presentation of the changes expected (i.e., opportunities):

The great American economic imperative is to accelerate Growth. There is good news. With the arrival of powerful new technologies, we stand on the verge of a productivity boom. Just as networking computers accelerated productivity and growth in the 1990s, innovations in mobility, sensors, analytics, and artificial intelligence promise to quicken the pace of growth and create myriad new opportunities for innovators, entrepreneurs, and consumers.

In their paper, they draw a distinction between digital industries and physical ones. The distinction was drawn because nearly all of our productivity growth in the 1990s came from rapid changes to the digital industries, which represent but 30% of GDP.

They contend that the next wave of productivity growth will come from the much larger physical industries (70%).

They defined physical industries to include: “agriculture, mining, construction, manufacturing (except computers and electronics), transportation and warehousing, wholesale and retail trade, real estate, education, healthcare, accommodations and food services, and recreation.

They defined digital industries as those whose “main output can be easily provided in digital form and can be readily delivered anywhere in the world via the Internet.” Such industries include: “entertainment, publishing, telecom, search, social media, finance and insurance, professional and technical services, and administrative and support services, many of which are IT-based.”

The extended quote that follows is but a single illustration of their review of the physical industries. We chose the Healthcare Industry for their discussion because it is 17% of GDP today and is expected to reach 20% in about five years.

We begin the extended quote by saying that the authors point out the irony, “No sector of the economy is poised for a larger productivity surge [our emphasis].” They cite a four-faceted transformation for the Healthcare Industry from low to high productivity:

1. **Smartphones and Personal Technology Supercomputers** in billions of individuals’ pockets (and on their wrists and in their brains and intestines) all connected via broadband networks, will enable cheap, anywhere, all-the-time diagnostic tools and communication and data collection capabilities. Smartphones will be used not only for direct communication with physicians and nurses, substantially reducing the ubiquitous office visit. They also will be used as tools to diagnose ear infections, monitor heart rhythms, remind us to take medication, and detect emergent maladies by sensing chemicals in our breath and noticing changes in our retinas. They will connect to a host of sensors and drug dispensers that will meander through our bodies.
2. **Big Data, Social Data.** With the collection, coordination, sharing, and analysis of unimaginably large troves of specific data about patients, treatments, physicians, environments, and facilities, researchers and patients themselves will dig deeper and make more connections than ever before. IBM’s Watson Health is already successfully analyzing libraries of medical images, patient histories, research papers, and genetic data to assist doctors by identifying evidence-based, personalized treatment options for cancer patients.

Some of the algorithms at the heart of today's deep learning technologies were developed 30 years ago. But we didn't have enough computing power or sufficiently large data sets to make them useful. Now, with millions of times the computing power and data sets trillions of times bigger, that is changing. The accumulation of data and speed of discovery will produce a virtuous circle that will make today look like a dark age of medicine.

One surprising development is that individuals with no medical background are using the Internet, which has democratized medical knowledge and expertise, to make significant breakthroughs in their own health and that of others in their networks.

3. **New Cures.** The truly radical new understanding of biological information networks, including genomics and proteomics, will yield personalized molecular medicine. Cracking this "code of life" is the most fundamental application of information technology at the heart of the health information revolution ... and it is happening. In 2001, the cost to sequence one genome was \$100 million. Today, the cost is just \$5,000—and the cost is dropping rapidly toward \$1,000. "The vital core of medicine," writes Peter Huber in *The Cure in the Code*, "is now on the same plummeting-cost trajectory as chips and software."

Computational bioscience will combine our knowledge of this biocode with exploding empirical data to clear the way for scientists to design new therapies in the cloud. This should dramatically reduce the cost of pharmaceutical development and greatly expand the number of therapies that can be created and tested by moving medical research away from a hit-and-hope world of trial-and-error guesswork. Immuno-oncology is just one promising field in which scientists are already designing anti-cancer drugs using knowledge of specific cellular mechanisms and bio-information networks to, in effect, reprogram the body's own defense systems. But it is still early days. Understanding the code of life will also enable us, within just the next few years, to begin manufacturing artificial human organs on a large scale.

In addition, 3D bioprinting of human tissue and organs is envisioned for use in clinical trials of new drugs, instead of human trials, which could improve patient safety, reduce costs, and accelerate time to market. Likewise, 3D printing already is improving customization and reducing the time and cost of making artificial limbs.

4. **The App-ification of Healthcare.** Healthcare is too often a closed and stagnant system. For all of the new health information technologies to truly

flourish, the economic model of healthcare must change. Instead of a centralized, opaque, top-down system of big hospitals, big insurance, and big government, we need an entrepreneurial model of numerous firms and technologies (healthcare “apps”) delivering better care at lower prices to patient-consumers. Healthcare should be more like the smartphone ecosystem—a platform that empowers millions of diverse apps, products, and services created by other people and firms, targeting the needs of individual consumers.

This new model will include Uber-like “doctor on demand” platforms. It will include a multitude of personalized, affordable insurance products. It will promote real and knowable prices. It will encourage far more participation by technologists and entrepreneurs to deliver new therapies and health services to consumers who are far more interested in value. It will mean a far greater focus by healthcare providers on innovation, efficiency, and cost reductions. It will reduce unnecessary tests and office visits. But at the same time, this new model will entail more preemptive diagnostics, preventive care, and health maintenance, rather than post-symptom acute care. (For example, some believe that with better early detection tools, we could cure 80% of cancers with today’s therapies.) The potential is enormous, but a successful reorganization of healthcare delivery will be limited mostly by the extent of improvements in tax and regulatory policy.

Imagine the productivity boost we would enjoy simply by reducing the number of cardiac office visits by two-thirds, as one Stanford cardiologist assumes we will. Imagine walking into a pharmacy, getting your blood analyzed on the spot, and walking out the door with a 3D-printed pill customized to your needs. Or what if you could do all that in your home? Now imagine the productivity boost we would enjoy by doing something really big, like curing Alzheimer’s disease.

Part B. Productivity—The Cycle Reverses

Chart-1 (Productivity Growth) illustrates the long cycles of productivity growth. The Chart creates a question: Has the cycle finally turned upward? We have answered, Yes, drawing upon studies examining both the abundance and acceleration of labor-saving inventions, together with the rapid spread of new management practices, like collaboration, which rejects the concept of vertical integration, where a company seeks to control all phases of the production of goods and services internally. Collaborations use collective brainpower both internally and externally to create, thereby both reducing costs of research and development and increasing the chance of discovery.

Recently, two studies by groups from opposite political stances have reached the same conclusion. A study authored by J. W. Mason, of the Roosevelt Institute, a liberal think tank, and a second study authored by Glenn Hubbard, John B. Taylor, and Kevin

Warsh, of the Hoover Institute, a conservative think tank, both concluded that productivity is poised to rebound. The most unusual thesis came from J. W. Mason, who argued that productivity is about to accelerate because of the increasingly tight labor market, which he believes will induce companies to invest more heavily in new labor-saving innovations. In addition, he says, “If you look at long-term patterns of productivity growth, they roughly fit this idea that a booming job market tends to be followed by a productivity boom, and that deep recessions are followed by productivity slumps.”

Chart-2 (U.S. Future Inflation Gauge) and Chart-3 (Out of Reach) both use the trend of inflation expectations as well as reported inflation to corroborate the view that the cycle of productivity growth has, in fact, turned upward.

In Chart-2, we see a chart drawn from data provided by the Economic Cycle Research Institute (ECRI). The conclusion drawn by ECRI is that inflation expectations are once again falling, which forecasts a renewed decline in the actual rates (i.e., Personal Consumption Expenditures Price Index [PCE and Core PCE]), seen in Chart-3.

Chart-3 also shows the failure of the Federal Reserve to achieve, and then keep, the rate of inflation at their 2% target level, which is believed to be necessary for GDP to reach back to a 3% historical rate of growth.

Declining inflation rates are normally positive for the economy and the stock market. Declining inflation (i.e., costs of production) means greater profits and makes exports more competitive.

However, declining inflation is not always positive. For example, if inflation falls from 2.5% to 1.5% as a result of falling aggregate demand, the decline may be forecasting slowing economic growth and possibly recession.

On the other hand, if inflation falls because of increased productivity, the economy benefits from lower inflation and higher growth.

So—which is it? Falling inflation as a forecast of slowing growth or a forecast of accelerating growth due to rising productivity?

Chart-4 (Consumer Price Index and PCE Price Index) shows that, normally, falling inflation is connected to periods of economic advances (i.e., periods of prosperity). The Chart also shows periods when the rate is below 2% (i.e., the Fed’s Target Rate). Every time it falls below 2%, the Fed worries, not about recessions, but depressions resulting from too little inflation.

Still, the long period of deflation following the Fed’s engineered recession in the early 1980s led to one of the longest recorded expansions in the history of the United States (1983 to 2001, interrupted by a brief recession in 1991 when GDP fell only 0.26%).

Returning to the Fed’s current worry (i.e., inflation below 2%), the question is whether the current decline in inflation is a forecast of economic weakness (i.e., decline

in aggregate demand) or of an advance about to accelerate due to an upturn in the growth of productivity.

Chart-5 (Conference Board Leading Economic Index) begins to tell the story evident in our seven leading forecasting tools—the story is growth not slowing but accelerating.

With inflation falling and growth accelerating, the appropriate conclusion is that the growth of productivity has begun anew.

Part C. The Economy Is Still About Boomers

In the discussion that preceded, the indication was that Healthcare will increase from 17% to 20% of GDP in about five years.

Why? The answer, of course, is the rapidly aging population.

As investment advisors, we have always followed the consumption needs of the War-Baby Boom, simply because of its size (i.e., 90.7 million, or 28% of the population).

To show where the spending in the economy comes from today, *USA Today* reported, in an article entitled, “The Economy Is Still All About—Who Else?—Boomers” (July 17, 2017), that in the first quarter of this year, “Americans 55 and older accounted for 41.6% of consumer spending, up from 41.2% late last year and 33.5% in early 2007. Toss in 53- and 54-year-olds, and the Boomer-and-older set comprise about half of all consumption”—see Chart-6 (Baby Boomer Spending Power). Note: adding 53- and 54-year-olds belongs since the Boomers were born between 1946 to 1964—now between ages 71 and 53. The article continues, “Even though Boomers spend somewhat less than they did when they were younger, they spend far more than predecessors.”

Investors should be vitally interested in Boomers’ spending patterns. While they buy fewer material things—such as cars, new homes, clothes, jewelry, etc.—than younger groups, they spend more for healthcare, travel, entertainment, dining out, home repairs, financial services, etc. According to Visa, Boomers accounted for 57% of credit spending at hotels.

Clearly, where and on what they spend should be of major interest for investors acquiring positions in consumer spending.

It should also be noted that today’s older-adults are healthier and live longer than those in the past, which has permitted later retirement or re-entry into the labor force. Either action continues their wealth and spending advantages over younger-age groups. In fact, the only real income growth in the last thirty years has been in the over-65 age group—see Chart-7 (Median Real Household Income Growth by Age Bracket). Note that since the Great Recession ended in March of 2009, the income growth gap of the

over-65 group has widened over other groups; especially noteworthy are the 45-54 age group and the 25-35 age group, who normally propel consumer spending.

Over the next five-to-ten years, Boomers' consumption will remain of major importance to investors' portfolios, in particular, their spending on all aspects of healthcare from medical-technological breakthroughs to assisted-living community-development.

The importance of Boomers obviously lies not just in their collective financial health, but in where they spend. Simply stated, the economy continues to shift towards one that is service-based, not in manufacturing.

Part D. Peering into the Present

In what follows, we update the state of the economy and the stock market.

The current status of the seven economic indicators, or forecasting tools, used to predict both Recessions and Bear Markets are given below (repeating the Summary Table from our June report, with updated Charts):

Summary Table of Charts 8-14

<u>Indicator No.</u>	<u>Chart</u>	<u>Indicator Name</u>	<u>Status</u>
(1)	<u>Chart-8</u>	<u>Civilian Unemployment Rate</u> (Current vs. 12 Months Moving Average)	Positive
(2)	<u>Chart-9</u>	<u>Real Retail and Food Service Sales</u> (Percentage Change from Year Ago)	Positive
(3)	<u>Chart-10</u>	<u>Industrial Production</u> (Percentage Change from Year Ago)	Positive
(4)	<u>Chart-11</u>	<u>Real Personal Income Excluding Transfer Receipts</u> (Percentage Change from Year Ago)	Positive
(5)	<u>Chart-12</u>	<u>All Employees: Total Nonfarm Payrolls/Civilian Labor Force</u> (Percentage Change from Year Ago)	Positive
(6)	<u>Chart-13</u>	<u>10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity</u>	Positive
(7)	<u>Chart-14</u>	<u>Smoothed U.S. Recession Probabilities</u> (Percent)	Positive (low prob.)

Concerning the indicators listed in the Table above (see Charts 8-14), it is important that any decision to reduce the allocation to stocks due to an expected Recession depends on sell signals from a majority of the seven indicators.

In effect, four of the seven must be negative and, at the same time, the market direction must be negative (i.e., the 40-Week Moving Average of the S&P 500 Index must be greater than the current week).

It is clear from the Summary Table's Status column above that we are nowhere near meeting the required forecast for a Recession, nor has the market's 40-Week Moving Average turned negative, as needed in support of a Recession forecast.

What follows are a few added comments on the Employment outlook, which is the earliest of the indicators that will ultimately warn about a possible Recession. Future reports will discuss other of the economic categories in greater detail.

Chart-15 (Average Number of Days to Fill Vacant Jobs) indicates that it now takes 31 days to fill a vacant job, up from 23 days in 2006-07. As the Chart also indicates, the 31 days is the longest time ever. This suggests a serious labor shortage. In fact, nearly one-third of small-business owners report job openings could not be filled—the highest since 2000, according to the National Federation of Small Business (NFSB).

Chart-16 (Job Openings vs Hires) shows the growing gap (i.e., shortage of labor). Chart-17 (Number of Job Openings per Industry) shows the widening shortage of labor across industry lines. Finally, Chart-18 (Scheduling Shifts) shows that, since the Great Recession ended in June of 2009, the number of full-time jobs has grown steadily. The three-month moving average now shows a growth rate above that of part-time employment growth.

Such a healthy growth rate speaks well for the future of Consumer spending.

However, different regions, like different industries, have different challenges.

Cutting back on labor from immigration, both skilled and unskilled, will increase labor shortages in many areas.

Certainly, the shortages of skilled labor tell us that education is key to meeting labor needs. We have suggested before that the development of apprenticeship programs modeled on Europe's are needed and needed now!

The *Fiscal Times* reported on August 29, 2017, that the total U.S. employment-growth rate has been about 2% lower since last January than it was during the previous six-month period, and 9% lower than 2016 as a whole. The release continued:

More recent Labor Department data tells another important story. Regional disparities in job creation continue to be a serious problem, and they appear to be worsening. State-by-state employment data just released on August 18 shows that five states—Kansas, Montana, New Mexico, Wyoming, and New Hampshire—have actually lost jobs since January, and in seven more—West Virginia, Indiana, Illinois, South Dakota, Delaware, Idaho, and Louisiana—job growth has basically been unchanged and well below the levels needed to keep up with population growth.

Further, a number of states that continue to experience some level of job growth during the Trump presidency have grown at a much slower pace. In Michigan, where Trump made his promise to boost the economy, employment

growth dropped from 7,850 jobs per month during the final six months of the Obama administration to only 2,550 per month during the first six months of the Trump administration. Pennsylvania, where payrolls had been expanding by about 6,000 a month, saw average monthly growth of only 4,000 a month during this administration

In Indiana, monthly payroll growth has basically stalled since Trump and former Indiana Gov. Mike Pence took office. It has averaged 667 jobs per month since January, but saw monthly job growth of nearly 4,000 per month in the final six months of the Obama administration.

The Manufacturing Institute, a nonprofit research affiliate of the National Association of Manufacturers continues to point out that, as workers retire (i.e., War Baby Boomers), it is becoming harder to find people with even traditional skills let alone advanced technological skills.

The condition, as seen in Charts-15 through -17, has only gotten worse since the Manufacturing Institute's 2015 study. Manufacturers are now finding major shortages among such skills as pipe fitters, mechanical engineering (technicians), welders, machinists, electronics assemblers, etc. Apprenticeship programs to have knowledgeable workers pass on their skills before they retire would certainly help.

The Institute predicts a shortfall of 875,000 such workers by 2020.

Section II. White Paper: Aspects of Investing (Continued from **Section II** of our June 2017 report)

In the field of common stocks,
a little bit of a great many
can never be more than a poor substitute
for a few of the outstanding.

--Phil Fisher

Preface

“There are two important steps in the investment process: Ranking the stocks in your investment universe (Stock Selection), and then combining them to form an investment portfolio (Portfolio Construction).”

The above quote comes from a 2012 research paper entitled, *Diversification versus Concentration . . . and the Winner Is?* The research was conducted and reported by Danny Yeung, *et al.* (University of Technology, Sydney).

In this landmark study, the researchers established that “concentrated portfolios were superior to widely diversified.” Moreover, they also concluded, “The stock selection skills of the managers may be lost by their portfolio construction efforts.”

In the Segments that follow, we explore what should be the Best Practices for construction of portfolios.

In the process of the exploration of Best Practices, we will come to understand that Best Practices are not widely used, or even appreciated. The failure of Active Managers to embrace some or all of the Best Practices that we will examine has historically resulted in the underperformance of Actively-Managed Funds versus Indexed (i.e., Passive) funds.

Sub-Section II.B. Make Portfolio Construction Mean Something!

Segment 1. Are Superior Actively-Managed Portfolios Possible?

Part A. Too Much of a Good Thing—Diversification

As time goes on, I get more and more convinced that the right method of investment is to put large sums into enterprises which one thinks one knows something about and in the management of which one thoroughly believes. It is a mistake to think one limit's one's risk by spreading too much between enterprises about which one knows little and has no reason for special confidence. --John Maynard Keynes

Until the 1950s, the approach Keynes advocated, called Concentration, was widely praised by some of the greatest investors in history, such as Benjamin Graham, Warren Buffet, Charlie Munger, Phil Fisher, Peter Lynch, George Soros, Bill Miller, Jesse Livermore, and, of course, John Maynard Keynes himself. They all believed in creating portfolios of a small number of high-conviction investments.

Over the past sixty-plus years, theories put forward, now called Modern Portfolio Theory (MPT), by Harry Markowitz, Burton Malkiel, William Sharpe, *et al.*, grew to dominance.

Part of MPT's many challenges to investors was the concept of Concentration. The Concentrators fell out of favor when MPT demonstrated the advantages of diversifying asset holdings. The MPT people proved that, by diversifying, an investor could reduce the risk of holding assets.

Money managers gradually moved to holding widely-diversified, "risk-controlled," portfolios (i.e., they switched from being Concentrators to Diversifiers).

It is this debate—Concentration vs. Diversification—that we will be examining in the early part of this study. The question here is whether the benefits associated with Diversification came at perhaps too great a cost to performance. Our analysis concludes: Yes!

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.

Simply put, the pendulum swing from Concentration to Diversification has gone way, way too far.

In the same 2012 report from Danny Yeung, *et al.*, cited in the Preface, their research demonstrated that, beyond 30 positions, additional diversification has minimal value.

Exhibit-1 (Risk Reduction Rate Slows with More Stocks) graphs the results of the Yeung, *et al.*, study. The graph is presented by Lazard, an Investment Banking firm, in their February 2016 report entitled, Less Is More: A Case for Concentrated Portfolios.

In sum, Lazard's report fully agreed with the earlier work by Yeung, *et al.*—30 is enough!

In Exhibit-2 (Total Returns – Full Sample), we see the performance of Concentrated portfolios, ranging in size from 5 stocks to 30 stocks, as well as all funds in their study, and the same funds when excluding the top 30 (i.e., called Own Index).

Similar to Exhibit-1, as the number of stocks in the portfolios increase, the rate of return falls. The Standard Deviation (i.e., a measure of risk) shows what would be expected—higher returns involve accepting higher risk. However, the Sharp Ratio (i.e., used to determine risk-adjusted returns, and calculated as total return of the portfolio less the risk-free return of Treasury Bills divided by the Standard Deviation) increases as the number of stocks in the portfolio falls.

In effect, the Sharp Ratio tells us that Concentration provides, not only higher absolute returns, but higher risk-adjusted returns as the portfolios continue to get more Concentrated (i.e., 30 holdings down to 5).

This result was a very positive surprise. A second surprise concerns the Standard Deviation itself. Note that the Standard Deviation was nearly 50% with 1 stock, but dropped dramatically to 26.33% with a 5-stock portfolio. The key point to note is seen in both Exhibits—little risk reduction occurs between 20 and 30 stocks. In the graph (Exhibit-1), note that beyond 30, nearly no further improvement occurs. Also note (Exhibit-2) that, when compared, the record of All Funds (most hold 200-300 stocks, or more) versus the record of the same funds surveyed, but excluding the top 30 stocks (i.e., called Own Index), again shows only minimal risk reduction.

The study cited above, by Yeung, *et al.*, involved examination of 4700 Diversified U.S. equity Mutual Funds over a 10-year study period (1999 to 2009).

More recent studies suggest even lower levels than 20-to-30 stocks will diversify-away specific stock risk.

Exhibit-3 (Total Portfolio Risk as a Function of Number of Stocks Held), presented by RS Investment, owned by Guardian Life Insurance (2011), covering 1000 Actively-Managed Funds, concluded that a number of 15-to-20 stocks was sufficient for Diversification.

Still more recent, a 2015 study by Provident Investment Management entitled, Academic Validation, also suggests that 15 to 20 is sufficient (see Exhibit-4 [Effect of Diversification]).

The point has been made! Beyond 20-to-30 stocks, a portfolio is Diversified against all but the Systematic Risk of the market.

Part-B. Concentration Is Not Enough—High Conviction Needed!

Once investors adopt the principles behind utilizing a greater degree of Concentration, they need to narrow the universe of investment choices to those that represent only their High Conviction, or Best Idea, selections in areas of corporate and economic opportunity.

Exhibit-5 (High Conviction Funds Have Outperformed Peers and Benchmarks – Across Market Caps and U.S./Non-U.S. Strategies) makes clear that stock-picking skills exist; moreover, inside smaller, more concentrated portfolios, the performance shines by outperforming the S&P 500 Index, the Russell 2000 Index, the Russell Midcap Index, the MSCI EAFE Index (i.e., non-U.S. stocks), the non-High-Conviction stocks--and by derivation, the Indexed, or Passive, Funds.

In Exhibit-6 (CIMM Return Advantages [CIMM stands for Collective Intelligence Market Model]), we see the remarkable results of this study, conducted by C. Thomas Howard (Emeritus Professor, University of Denver).

Howard's study covered a period of 13 years, ending in 2015. In the study, he compared the annual return of T-Bills; the S&P 500; Truly-Active Funds; and Best Idea, or High-Conviction, stocks.

Truly-Active Funds selected for study were funds whose managers were allowed strategies that drift or move about the equity universe versus being locked into specific strategies—like only investing in Value, or Growth, or Momentum securities; or only investing in small-, or medium-, or large-cap stocks (cap refers to shares outstanding times price—measuring size). In effect, the managers are permitted to fully respond to changing economic and market conditions.

The study went further by concluding the best performers are not just those that adopt a fully flexible investment strategy, but also construct portfolios that concentrate on selecting Best-Idea, or High Conviction, stock selections.

The best results came, in Howard's words, from the “best managers with the Best Ideas.” Their performance exceeded the S&P 500 by a staggering 6.9% annually over the 13-year study.

The study defined “Best Idea,” or “High Conviction,” selections by surveying the performance of the top 30 positions (whatever % of the portfolios that represents) of the Truly-Active Funds.

Part C. It Does Not Have to Be!

Given the research that is available concerning Best Practices for portfolio construction, we have to ask why such a large percentage of Actively-Managed Funds underperform the S&P 500 and the Passively, or Indexed, Managed Funds.

Bill Miller, the legendary portfolio manager of the Legg Mason Opportunity Trust Mutual Funds, in an interview conducted by Barry Ritholtz for Bloomberg (October 28, 2016), said:

About 70 percent of all active managers are really closet indexers [i.e., perform like benchmarks, such as the S&P 500] because many of them pile into the same stocks as their benchmarks—just like an index fund [our clarification and emphasis].

Miller believes the key reason for Active Management's underperformance is job preservation. He feels that job security has become dependent on “Hugging the Benchmark” (i.e., constructing portfolios using algorithms that duplicate the performance of a measure of the market—the S&P 500 or other Indexes). Of course, we note that, even if these portfolios exactly duplicate the chosen Index, when the fees for management are taken out of the return, the result will underperform the market.

Miller goes further by suggesting the fear underlying the need for job security has resulted in a new herd mentality, whose mantra is “Track the Market.”

While Miller's view seems more-than-a-little cynical, his opinion has become part of the explanation for why Actively-Managed Funds have broadly underperformed Indexed (Passive) Funds.

Part D. The Case for Longer Holding Periods

Still another cause of Active Management's underperformance is what can be called "Short-Termism," which can be seen in Exhibit-7 ("Short-Termism": The Average Holding Period of Stocks on the NYSE Has Steadily Declined).

Remember what Charlie Munger reminded us, "Compound interest is the eighth wonder of the world (Einstein); never interrupt it unnecessarily."

In looking at Exhibit-7, we see the holding period by Active Managers is in the process of becoming a joke! At the peak, around 1953-54, the average holding period of a stock listed on the New York Stock Exchange (NYSE) was over 8 years. By 2010, it had become 7 months.

By 2016, the holding period for Actively-Managed Mutual Funds had inched its way back to 8 months.

How can "the eighth wonder of the world" (i.e., compound interest) have time to work if the holding period is only 8 months?

Perhaps Active Managers believe *active* means, "Don't just sit there, do something!" instead of meaning *work to meet client-investors' long-term financial goals*.

Exhibit-7 strongly suggests that Active Managers are chasing performance.

Reversing "Short-Termism" is absolutely critical to better performance.

We have briefly reviewed the four main reasons for Active Management's underperformance:

1. Overdiversification vs. Concentration in High Conviction stocks.
2. Failure to adopt a fully flexible investment strategy.
3. "Hugging" Benchmarks, or Closet Indexing.
4. "Short-Termism"

Embracing Best Practices in portfolio management would involve avoiding all four of these errors. Our answer to the question posed for Segment 1 is, certainly, Active Managers' investment performance can be superior!

Segment 2. The Utility of Active Managements

In economic theory, the utility of a commodity or service is based upon the power of a commodity or service to satisfy human want.

In this segment, we explore the significance of the role played by an Active Advisor relative to an investor's financial goals.

Part A. Mitigating Financial Behavior

Portfolio construction requires more than security selection, and more than understanding the Best Practices of constructing a business-and-economically-sound design for growth.

Building a sound and successful portfolio must include the Why of its being conceived at all.

Answering the Why of a portfolio requires knowledge of the client's financial circumstances (current and prospective); their goals and objectives; the time horizons to their needs; their risk-bearing tolerances; something of their passions and social causes; and more.

In short, answering the Why of a portfolio obviously starts with the client.

Moreover, the process requires the Advisor to help a client set realistic expectations; it also requires the client to permit the Advisor the operational flexibility to respond to changing economic conditions.

Because portfolio construction starts with planning that requires client-based communication, to be successful, the Advisor must understand that meeting long-term goals will absolutely fail if the level of trust is insufficient for the client to allow the Advisor to help mitigate the errant financial decisions that will be made by investors.

Behavioral Finance studies agree in telling all Advisors the following:

The single most important role of an advisor is often managing a client's behavior, not his or her portfolio. Nick Murray in his recent newsletter writes: "The essence of personal investment advisory is the management of the proclivity to panic. For many of us, the essence of long-term, real-life investment success will turn out to be the suppression of our own impulse to panic. This leads directly to the conclusion that, if we doubt our own capacity single-handedly to overcome our deep susceptibility to panic, the highest and best function of our financial advisor isn't to forecast the markets—something neither she or anyone else can consistently do—but simply to talk us in off the ledge."

The above quote comes from The Boston Foundation, in their Summer 2.10 issue of *Philanthropic Advisor*. The primary quote included is from Nick Murray, who is known as The Advisor's Advisor. Murray's simple message: Manage behavior. Murray has been a financial advisor for 50 years and can be read on NickMurray.com.

The following points are tidbits from Murray (ThinkAdvisor, March 2015 [with our emphasis]):

1. All financial success comes from acting on a plan.
2. If you can't find out what people's emotions are about money, what they dream and what they fear, I don't know how you can build a relationship or create a plan.

3. Doing a plan serves as a good way to engage the client and build the relationship. It's the only way to engage the client. Everything else is sand.
4. What can advisors do to obtain clients? Give Seminars.
5. Are robo-advisors a threat to traditional advisors? No, because they can't relate on a human level, and that's drop-dead critical. It's all that matters.
6. What value is behavioral coaching to clients? It's a major element of an advisor's capability. He can add significant value—and further enhance his value proposition—by helping clients not to react inappropriately to market volatility.
7. It's critically important that the advisor set the agenda because in its absence, the client will set it unconsciously—and in the wrong terms. Ninety-nine times out of a hundred he'll set it in terms of one-year investment performance, and that's when all the lights start to go out. If the advisor lets the meeting degenerate into comparing the investments to benchmarks over a year, he's digging his own shallow, unmarked grave.
8. The moment the focus goes off the plan and onto the portfolio, it's the beginning of the end. The question is: What did the advisor claim to be responsible for? Alpha or the outcome? If you denominated even subtly that your value proposition is investment performance, this is where you reap the whirlwind because nobody can constantly deliver alpha. Instead, if you said what you're managing through planning, perspective and behavior modification is the outcome—the number that the client actually gets in the long run—then [be] proud to stand on the plan.

As it turns out, investment results in meeting financial goals are more dependent on investor behavior than they are on the performance (i.e., as Murray calls performance, the alpha) of a constructed plan.

The simple truth is that a long-term plan is only as good as the investor's ability to stick with it.

Planning, preparing, and reviewing are the best defense an Advisor can provide in mitigating behavioral errors through time—therein lies the utility of an Advisor.

B. Evidence of an Advisor's True Utility

Exhibit-8 (Investor Returns) illustrates the importance of an Advisor's challenge: "Manage behavior." (Note: Please ignore the circles in the Exhibit, as they relate to the Investment Company Institute's accompanying discussion, and are unrelated to our analysis.)

The greatest opportunity for an Advisor is not outperforming the market by some (X) amount (i.e., alpha), but by planning and preparing a client to stay with the plan.

The horrible performance of investors who have acquired either Actively or Passively (Indexed) Managed plans is nothing short of a financial-goals killer.

In examining Exhibit-8 (source: Investment Company Institute), we find:

First— Investors not only underperformed the equity market (S&P 500), but (as the Investment Company Institute, in their discussion accompanying Exhibit-8, added) investors did so despite the fact that a significant percentage of the Active and all of the Indexed (Passive) funds they owned during the periods shown matched or exceeded the S&P 500 performance.

Second— Investors badly underperformed in every time period surveyed.

Third— Even less explainable, investor's performance in bonds (i.e., Fixed Income Funds) compared to the bond-benchmark (i.e., Barclays Aggregate Bond Index), was nothing short of terrible. And still worse, when adjusting for inflation, the return from bonds was not a gain, but a loss.

Investors did not choose, nor were they advised, to buy funds with such a poor record because the funds themselves did not have such a poor record. The results had to be a function of behavioral mistakes.

To help understand the rate of return differences revealed in Exhibit-8, the following two examples are shown, using the data presented by the Exhibit:

First— Assume \$100,000 was invested for the 30-year example in equity funds. The annualized return experienced by the investor was 3.66%. At that rate, the \$100,000 grew to \$299,316.

Second— Assume \$100,000 was invested for the 30-year example, but this time in the S&P 500 as a simple buy-and-hold investment. The annualized return experienced by the S&P 500 was 10.35%. At that rate, \$100,000 grew to \$2,201,400—some 7.5 times more than the actual experience of investors over the last 30 years.

The undeniable conclusion of Exhibit-8 is that investor behavior, not the investments available, determine whether or not financial goals are to be realized.

Thus, the primary utility of an Active Advisor is not beating the market. It is, instead, helping the clients meet the goals of their plans!

Segment 3. Planning and Preparing

Part A. The Act of Creating

As we said earlier, the best approach for an Advisor to assist clients in achieving their financial goals is to Plan, Prepare, and Review.

Peter Drucker, the most famous consultant, educator, and author on Management Theory (1909-2005), once said about planning and preparing:

Strategic planning does not deal with future decisions. It deals with the futurity of present decisions. What we have to do today is to be ready [prepare] for an uncertain tomorrow. [Our emphasis and clarification.]

To address the fundamentally uncertain future, the most successful Active Advisors utilize such techniques as Horizon Scanning and the development of Scenario Alternatives.

Defined by AT Kearney Global Business Policy Council (March 2017), *Horizon Scanning* involves “scanning diverse sources of information and intelligence to systematically collect events and trends and analyze their impact.” The purpose is to detect early signs of important changes in the environment that directly reflect on the “futurity of present decisions,” as Drucker put it.

Scenario Planning, also defined by the AT Kearney Council, requires Advisors to “develop engaging narratives of possible futures based on key uncertainties and identify actions that can be taken in order to prepare for or shape the future.”

The act of preparation is critical to developing a sufficient level of trust to stay the course. By rehearsing plausible futures (i.e., the kind of events that are likely to take place), the client understands the most probable action that will be taken in the event of the onset of Recessions; or an acceleration of Inflation or Deflation; or the approach of a Cyclical or Secular Bull or Bear Market; or the sudden development of a Crisis Event; or simply a normal, but worrying, market decline (Correction).

Each type of event needs rehearsal so that the client understands that there is someone there who understands the proper level of response to protect or enhance the future outcome of the plan.

Of the typical events mentioned above, we wish to discuss a Crisis Event separately here because it is among the hardest to deal with (i.e., to avoid making a behavioral error). Such events are serious in that they result in sharp, but short, market declines. However, the decline is normally fully recovered within a couple of months. The client needs to understand this. The response of the client can be the very over-reaction that causes great damage to the financial plan longer-term.

Historically, Crisis Events have included such diverse events as the start of the Korean war; the Cuban Missile Crisis; JFK’s assassination; President Nixon’s resignation; the 1987 Crash; the Gulf War Ultimatum; and, more recently, the terrorist attacks of September 11, 2001. There have been 19 such events since 1940, following World War II. The average recovery took two months after a decline of approximately the same length.

A Crisis Event is so hard to deal with because it feels so serious, and yet, unless the shock connected to the event erodes confidence to the point that a Recession begins to develop, the market’s sharp response should not lead to panic behavior.

Part B. A Chance for Meaning

We end the second-half of this White Paper: Aspects of Investing by saying that the investor performance results shown in Exhibit-8 did not just happen!

The results seen are a clear indication of the investors' mistaken behavioral responses to changing political, economic, and stock-market developments.

- Nick Murray once said that Advisors are the insurance against the “Big Mistake.”
- Lou Holtz, famous football coach, once said, “You don’t need the big plays to win; you just have to eliminate the dumb ones.”

The message to the Advisor and Client alike is clear—the greatest value of an Advisor is not in seeking greater returns than the market, nor in designing the most technically-efficient portfolio; but rather to create a thoughtful and caring financial plan, to earn the trust of the client through communications, and then to help the client stay the course.

Section III. The Link Between the Stock Market and the Business Cycle— An Update

Part A. On Finding the Direction

The real voyage of discovery
consists not in seeking new landscapes,
but in having new eyes.
—Marcel Proust

We have previously discussed at length the link between Recessions and investment returns.

We concluded in our June report entitled, Facts-on-the-Ground: “Because the economy is the key driving force for the market, we argue that the stock market should not be considered overvalued or undervalued based on ratio analysis alone (including the market’s P/E Ratio).”

In an article for *The Capital Spectator* (July 25, 2017), James Picero reports that a new study conducted by James A. Conover, David A. Dubofsky, and Marilyn K. Wiley, of the University of North Texas, demonstrated that superior stock market performance comes not only from forecasting the beginnings and endings of recessions, but also is achieved by simply knowing the economy’s current direction.

The study’s authors’ first finding concerned the results from forecasting economic expansions and contractions. During the 45-year period of their study (1970-2015), investment returns were dramatically enhanced relative to the Benchmark Return (i.e., S&P 500) by investing in stocks five months prior to the end of a Recession and switching into bonds four months prior to the peak of the economic Expansion. The excess return (annually) amounted to 4.96%.

Their major point was made in a second finding—using the same strategy of switching from stocks to bonds and back, they found an excess return of 2.01% could be achieved even without forecasting, but based only on whether the economy was going up or down.

In effect, they demonstrated that excess returns could be realized by simply knowing concurrently whether the economy was expanding or contracting. For such knowledge, the investor could look to the Conference Board’s coincident indicators or to a set of coincident indicators that have been called “Nowcasting.” “Nowcasting” models that provide concurrent knowledge are offered by the New York Fed, the Atlanta Fed (calling theirs “GDPNow”), Chicago Fed’s National Activity Index (CFNAI), and the Philadelphia Fed, using the Aruoba, Diebold, and Scotti Index (ADS).

There was, however, also a third finding, one which we did not expect. The finding concluded with the following statement: “Our results confirm that it is more important to make the correct asset allocation decision before troughs than before business cycle peaks [our emphasis].”

We would have expected that the decision to sell stock before an economic peak would have been just as important as the decision to buy stock before the economic trough.

In effect, their work demonstrated the value of an old Contrarian Strategy, called “Bottom Fishing.”

Such a strategy is not for the “faint-at-heart,” because the final sell-off is generally connected to a panic environment, which simply invites behavioral errors.

Behaviorist studies are clear on the subject: investors are much more distressed by losses than they are happy about gains.

Because “Bottom Fishing” invites behavioral mistakes, and because performance studies indicate that simply knowing the economy’s direction is enough to generate excess returns in the market, it is not necessary that both the exit from the designated asset allocation to common stock follow the same approach as the reentry.

The choice of approach to reentry should depend on one’s attitude towards risk-bearing and long-term objectives.

The study concludes, “Some forecasting models appear to show accurate predictions of cycle turns from-1-to-9 months before they occur.” Having said that, the report continues by saying, “Concurrent knowledge is more likely.” We will discuss both model types in the balance of Section III.

The point authors of the study are making is that forecasting and/or simply knowing the direction of the economy are both valuable to achieving excess returns. We would go further. Behavioral Finance studies indicate that, while a Buy-and-Hold investor with the discipline to hold through economic recessions will fare well through history, the reality is that economic contractions motivate decisions that destroy long-term performance. Therefore, to factor in responding to the Business-Cycle risk (i.e., using economic timing) is critical, even if only to limit the damage that is likely to develop under a Buy-and-Hold strategy.

Part B. “Nowcasting”

In an article entitled, “What Big Data Can Tell Us About the Economy” (March 7, 2016), a writer representing BlackRock, the world’s largest asset manager, said:

Financial markets are ultimately a reflection of expected economic activity and current risk appetite. Unfortunately, economic data are released with a lag, meaning economists only know whether the economy has entered a recession after the fact. Most economic data give us at best a snapshot of what happened a few weeks or months ago and even that is subject to large revisions. Even

though the first quarter began January 1, ending on March 31, the initial estimate of Q1 GDP won't be released until April 28. What's more, a recession by definition is two consecutive quarters of negative growth. So are we in a recession? Ask me on July 29! Or maybe we aren't in a recession yet, but it will start next quarter; we'll know for sure on October 28 ... You get the idea. Collating all the data to calculate (or even estimate) GDP is a huge task - that's why the numbers are reported with a lag. But there are more timely pieces of data that can tell us what is happening in the economy *right now*. Just as you don't have to rely on last night's weather forecast to know whether it's raining - you can look out your window - we can use certain information to take the economy's pulse. At this moment, people are spending money in stores or online; passengers and cargo are travelling by road, rail, sea and air; and individuals and companies are falling behind on credit repayments. "Nowcasting" aims at providing a timely measure of something that is not observable in real-time, such as aggregate economic activity.

Clearly, "Nowcasting," rather than waiting for the final call from the NBER (National Bureau of Economic Research) about the official beginning and end of recessions, is what the authors of the University of North Texas study were talking about—real time forecasts of "now."

It was such real-time data that the study used to determine buy and sell stock and bond allocations.

In the last few years, most of the Federal Reserve's research departments, as well as numerous private research groups, have worked on developing powerful predicting models based on sources of data well beyond those included in the typical leading economic indicators historically used by the government. These newer predicting models use numerous indicators of activity, including such things as delinquencies on payments to vehicle miles traveled.

Two such "Nowcasting" models are covered in Figures 1-A and 1-B, involving the Chicago Fed's National Activity Index, and in Figures 2-A and 2-B, involving the Philadelphia Fed's Aruoba-Diebold-Scotti Business Conditions Index.

These two models have been tested for the longest period and show strong results in making estimates of current- and next-quarter GDP growth, with the view of whether the economy is slowing down or accelerating, without waiting for the official NBER call.

Figures 1-A and 2-A— covering the historic period of 1967 through early 2009 (i.e., historic because it involved 6 of the 13 Recessions since 1928 and, alternatively, 6 of the 11 Recessions since the end of WWII)—are included because they represent a real-time documentation of the two models' having forecast the beginning and end of the Great Recession (December 2007 through 2009).

At the time Figures 1-A and 2-A were published online, both the Chicago Fed and the Philadelphia Fed had already correctly forecast the start of the Great Recession. The dashed vertical lines in each Figure show the forecasted peak of the economy (i.e., the beginning of the Recession). The NBER took eleven months to officially declare the same December 2007 as the Recession's beginning.

A publication by the Federal Reserve Bank of San Francisco (February 16, 2010) documented that both the Chicago and Philadelphia Indexes had already identified the end of the Recession as August 2009 (Chicago Index) and as June 2009 (Philadelphia Index).

It was not until September 20, 2010, that the NBER officially declared the end of the Recession was June 2009. This announcement came seven months (i.e., from February to September) after the Federal Reserve Bank of San Francisco had noted in their *Economic Letter* that the Chicago and Philadelphia Indexes had called the expected end date as June or August 2009.

The authors of the University of North Texas study, entitled "Does It Pay to Forecast the Business Cycle?" cited earlier, said of their study:

. . . [I]n general, returns are greater for an investor who can predict a recession in the near future and switch to short-term riskless bonds in advance, and who can predict an end to recession in the near future and switch to stocks in advance. Merely being accurate one month in advance increases the investor's arithmetic average annual return by 90 basis points (i.e., 0.9%) during the 1970-2015 period [our emphasis].

As said earlier, the study showed that merely knowing and acting on the current state of the economy (i.e., "Nowcasting" expansion or contraction) provides a superior, or excess, return of 2.01% per year, and if an investor could predict earlier, the superior annual return increases.

For those investors willing to take the risk of forecasting, not just "Nowcasting," additional excess returns are possible. In prior reports, we have presented seven tools that predict Recession prior to the timing of "Nowcasting."

What follows is our presentation of five tools that predict Expansion prior to the timing of "Nowcasting."

As mentioned above, the University of North Texas study found that ". . . it is more important to make the correct asset allocation decision before troughs than before business cycle peaks."

The use of forecasting for the higher return should only be attempted by those willing to bear the higher risk.

“Nowcasting” is a reasonable addition to asset allocation decisions because the tools to know important information about the status of the economy on a real-time basis has become abundantly available and because the strategy of working with the business cycle is superior to Buy-and-Hold. It is superior, at the very least, because it helps investors avoid behavioral mistakes, including the worst, called panic, in Bear Markets (i.e., Recessionary environments).

It is crucial to remember that, in the final analysis, what matters most is not to beat the market, but to earn an achievable long-term goal, which will not be possible with major behavioral mistakes. See again Exhibit-8 of Section II.

Part C. The Prediction of Expansions

While “Nowcasting” is clearly superior to economic/market asset allocation decisions based on the lagged information available from the NBER, research on economic forecasting rather than on “Nowcasting” requires additional tools.

Rather than identifying discrete Indexes that point to the moments when Recessions and Expansion begin, the newest research approaches forecasting by defining Recessions and Expansions as different patterns of economic activity. To forecast an Expansion involves finding common trends pointing towards an Expansion versus that of a Recession.

The words, “*different patterns*,” clearly mean that the seven tools we have used to forecast the onset of a Recession will differ from those used to forecast an Expansion (i.e., the end of the Recession).

The first two Indexes among the indicators for an Expansion are the two selected “Nowcasting” Indexes that signal ahead of the NBER that a Recession or an Expansion has a very high probability to have begun.

The next five indicators are our selections among the forecasting tools that indicate a significant pattern is present calling for Expansion.

In what follows, the two Indexes and five indicators will be listed with the rules under which they signal a buy (i.e., a switch from bonds back to stocks), and a reference to their Figure numbers.

The magnitude of the switch from or to stocks depends on risk acceptance analysis (i.e., ability and attitude towards risk-bearing).

List of “Nowcasters” plus Leading Indicators of Expansions:

1. Chicago Fed National Activity Index (CFNAI)
Optimal Threshold = 0.72 for sell and then buy.
See Figures 1-A and 1-B.
2. Philadelphia Fed’s Aruoba, Diebold, and Scotti Index (ADS)
Optimal Threshold = 0.80 for sell and then buy.
See Figures 2-1 and 2-B.

3. Industrial Production plus Real Disposable Personal Income
Buy Side only after Recession declared underway by CFNAI or ADS.
Buy when crossing zero from plus to minus.
See Figure-3.
4. All Employees: Total Nonfarm Payrolls
Buy Side only after Recession declared underway by CFNAI or ADS.
Buy when line reaches -2.25 going down.
See Figure-4.
5. Index of Aggregate Weekly Hours: Production and Nonsupervisory Employees: Total Private Industries
Buy Side only after Recession declared underway by CFNAI or ADS.
Buy when line reaches -3.0 going down.
See Figure-5.
6. 4-Week Moving Average of Initial Claims
Buy Side only after Recession declared underway by CFNAI or ADS.
Buy when line crosses 300,000 going from below to above.
See Figure-6.
7. Real Manufacturing and Trade Industries Sales minus Index of Aggregate Weekly Hours: Production and Nonsupervisory Employees: Total Private Industries
Buy Side only after Recession declared underway by CFNAI or ADS.
Buy when crossing zero from minus to plus.
See Figure-7.

Notes:

- a) Buy Side refers to acquiring stock for predicted economic expansion (i.e., recovery from Recession).
- b) Method of Calculation—see on left side of Figures-3 through -7.
- c) Figure 1-B differs from 1-A due to minor change made by Chicago Fed in optimal threshold since the 2007-09 Great Recession.

Like the two “Nowcasters,” the five leading forecasting tools for Expansion have a 100% record in identifying the seven on-setting Expansions since 1967. The difference is that, in the case of the leaders versus the “Nowcasters,” the leaders were ahead of the “Nowcasters” in forecasting the seven Expansions. The lead averaged 6.02 months.

Since the stock market is also a leading indicator of new expansions in the economy, it is important to note that the leading indicators called for a Bull Market ahead of, or at the same month as, the market’s upturn 85.7% of the time, and by an average of 2.8 months ahead of the market’s upturn.

However, the leading indicators' record concerning predicting the beginning of new bull markets was flawed because there was no Bear Market connected to the 1980 Recession. After a brief correction of 10.2%, the prior Bull Market simply resumed some two months (November 1979) before the Recession took place between January 1980 to July 1980.

Of the five leading indicators, Industrial Production had the longest average lead on expansions (7.4 months) and the longest average lead on the S&P 500 Index's March 2009 upturn (i.e., 11 months). That sounds great, but the amount of courage needed to "bottom fish" the Great Recession and its 56.8% decline was enormous.

This circumstance is exactly why using the "Nowcasting" signals to support the event of an actual economic turn, even though the market's upward turn may have already taken place, makes great sense. And from the point of view of mitigating behavioral mistakes by responding to the economic cycle versus panicking in Bear Markets, "Nowcasting" makes the greatest sense.

Part D. Changes in the Business Cycle—Pre-Planning

In this third Section, we have presented two strategies for dealing with changes in the business cycle: "Nowcasting" and forecasting.

We have also made it clear that Behavioral Finance studies conclude that, without assistance, a Buy-and-Hold investment strategy will not work for investors on their own; in fact, data on investor performance shows the concept to be a complete failure in practice.

Investors simply cannot deal with market declines of the magnitude of a Bear Market. The proof that declines of the magnitude caused by Recessions cause behavioral errors (i.e., panic) was presented in Section II and illustrated in Exhibit-8 at the end of this report.

What does work is pre-planning for such Business-Cycle events that will take place during the life of any investment plan. Avoiding behavioral errors can be mitigated by investors with assistance from their Advisors who understand how to respond to significant changes in the Business Cycle.

To pre-plan is simply to understand that all Recessions and Expansions must be responded to. Ignoring is not an option. Behavioral errors, such as panic, can be mitigated.

As shown in this Section, responding to the Business Cycle involves the rigorous application of both leading economic indicators and "Nowcasting" indicators.

Leading economic indicators for periods involving either Recessions or Expansions are our early warning tools; and "Nowcasting" indicators are the confirmations that action will be taken—that changes in the stock/bond allocations will be made.

Whether our response to the Business Cycle is primarily based on early warning forecasting tools or “Nowcasting” tools, or some combination, our responses will continue to depend on investors’ goals and their ability, as well as appetite, for risk-bearing.

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