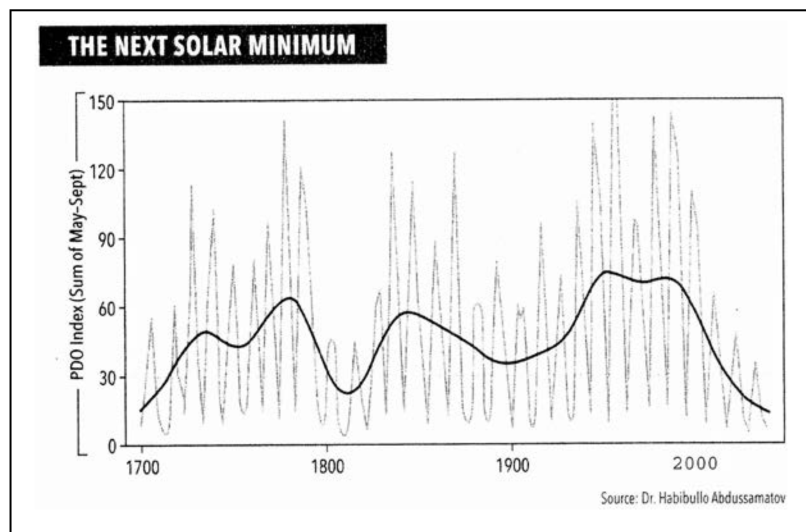
PERKINS CAPITAL MANAGEMENT, INC.

April 21, 2015

Dear PCM Clients and Friends:

Well, that was quite a winter, not just the snow in some places where it is expected, but in many other parts of the U.S. where it is not expected. The East Coast often gets a lot of snow, and it is expected, especially in Buffalo and Boston, but not a new record of 110" in Boston where Perk's sister, Mary Ann, lives (actually Concord). She and other Bostonians were very unhappy. Minnesota, Wisconsin and other north central states are prepared, but many other states, especially in the southern tier, are not prepared, and drivers are unaccustomed to "black ice" which caused many multi-car pileups on the freeways, especially in the Mid-South, such that we could scarcely believe what we were seeing on television. It seemed like we should be asking Al Gore where the global warming is with all of the snow and cold.

Well, in answer to that query, we have been reading the new book "Dark Winter," by John L. Casey and believe this paragraph is a good time to summarize it. His theory, which resonates well with us as we are cycle fans—is that sunspot cycles are the causal factor in climate change, and thus a 206-year cycle from cold to warm, and then back to cold again, has always been present. We have been in the warm phase since about 1960, but are now entering the down phase of that cycle to about 2030/2040. This solar hibernation, as it is called, is a sunspot minimum. There is nothing that can be done about it; <u>it is beyond our control.</u> The first chart shows the coming solar minimum, which is approaching; chart 2 shows the 206-year cycle.



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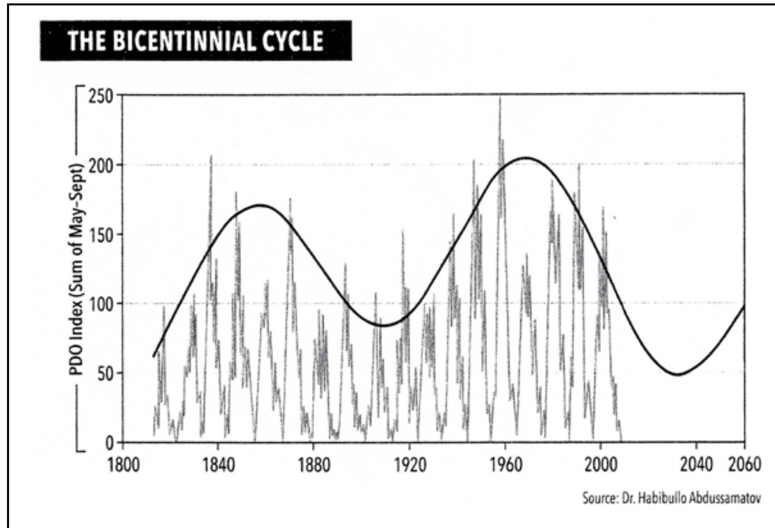


This does not mean that Al Gore's prophecy of gloom has been wasted, because last year wind-generated power reached nearly 370 gigawatts or over 10 times the prediction made in the year 2000. Likewise, solar power was 50 times that expected now per the 2000 estimates. So, Al Gore may have been wrong about the reason for climate change, but the result has been good. It is called unintended consequences.

MESSAGE FROM PERK

It is déjà vu all over again. Here we are nearly 20 months away from the presidential election scheduled for November 2016 (unless postponed) and Hillary Clinton, the presumed Democrat nominee, has just now declared her intent to run. This timing gives us—let's see, six more client letters where we can watch our most unfavorite former First Lady and Secretary of State put her foot in her mouth again. As a recent *Time* magazine cover article noted, the Clintons write their own rules, and the question is: Will it work this time? And then recently Romney, in an interview, stated "There is always something with the Clintons." And yes, there is, going back all the way to Arkansas when Bill was governor. There is no point in bringing up the shenanigans all the way from Mena to Whitewater, as we will hear about them as time progresses.

As you can imagine, it takes a lot for Hillary to be civil to President Obama, who stole the presidency that could have been hers. It is now or never, and Bill will be at her side doing what he has always been good at—schmoozing everyone. Hillary has a lot of old baggage herself that she must deal with, not to mention the new Servergate, where she deleted all emails from the server that she should not have been using in the first place. Done for convenience, as she explained, but we don't agree for as Maureen Dowd wrote recently it was about expedience, and not convenience. So Trey Gowdy is totally flummoxed as to what to do now. But by the time you read this, we may have found out. And even Hillary's old friend, James Carville, in a recent MSNBC interview commented about living through a decade's worth of scandals surrounding the Clintons, although, of course, he blamed the news media for irresponsible reporting. He asked "Do you remember Whitewater? Do you remember Filegate? Do you remember Travelgate? You remember Pardongate? Do you remember Benghazi?" Well, James, of course we remember them and can only hope that there are enough voters who do. Trouble is, many young voters don't have a clue about the past shenanigans of the Clintons, and the national news media ignores them. That

leaves Fox, but I am sure we will hear again about Mena, Whitewater and all of the "Gates," hopefully, on national media. Hopefully.

All of this may give the Republicans a shot at the presidency if they can get their act together. There is a rabbit warren full of contenders, several of whom have already announced their intention to run. I have said for months that it is preordained that it will be Jeb Bush for a final Bush/Clinton contest. Seems only fair, don't you think?

MARKET SCOREBOARD

Ranked by Q1 Return Indexes	% Return Q1 2015
Russell 2000 Total Return	4.32
S&P Small-Cap 600 Total Return	3.96
NASDAQ Composite	3.48
Value Line Composite	1.87
Russell 3000 Total Return	1.80
Russell 1000 Total Return	1.59
Wilshire 5000	1.28
NYSE Composite	.55
S&P 500	.44
Dow Jones Industrial Average	-.26

Clearly, this scoreboard shows that small-cap stocks did best in the first quarter of 2015, with the Russell 2000 up 4.32%, and the S&P Small-Cap 600 up 3.96%. The Dow, all large-caps, was off slightly, while the S&P 500 was up slightly. As we also point out in the section on the market, the Russell 2000 has been consolidating for a year, but has now broken out to the upside. Not all small stocks have participated yet, but their trend is clear. The message here is that we need to move out of large-cap stocks when they look as if they may be slowing down, moving the money to small-caps.

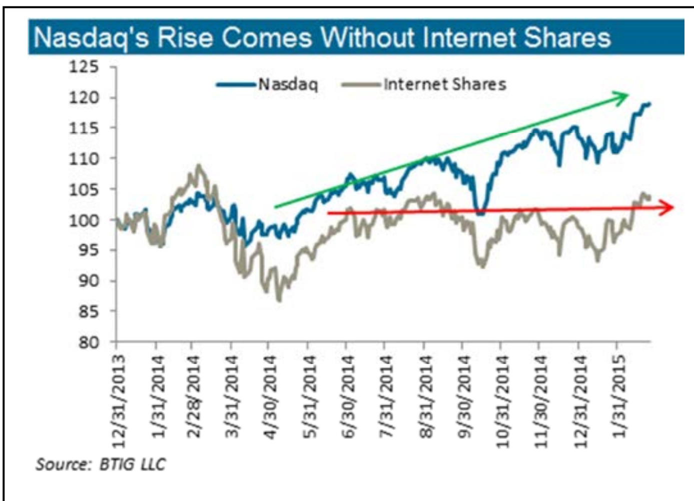
NASDAQ 5000 AGAIN—NOW WHAT?

Top 10 Stocks in the Nasdaq in 2000 and 2015

2000		2015	
Company	PE Ratio	Company	PE Ratio
Microsoft	57	Apple	15
Cisco	127	Google	19
Intel	43	Microsoft	16
Oracle	103	Facebook	39
Sun Micro	85	Amazon	–
Dell	57	Intel	14
MCI Worldcom	22	Gilead	11
Chartered Semi	53	Cisco	13
Qualcomm	123	Comcast	17
Yahoo!	418	Amgen	17

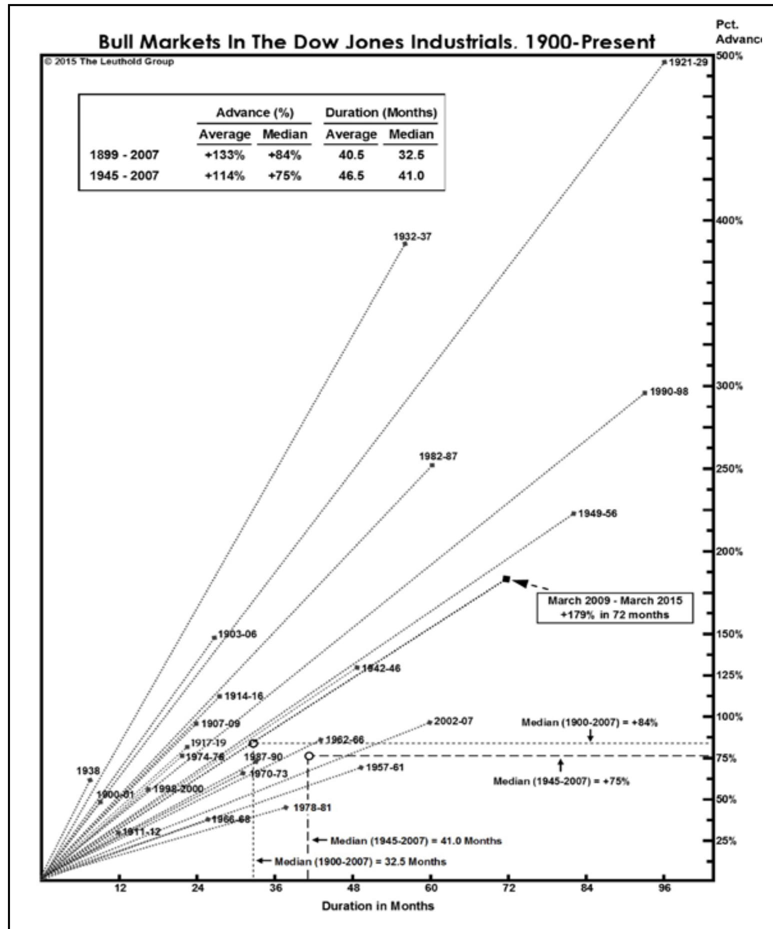
Source: Factset, Bloomberg, Barrons, BTIG LLC

After 15 years, the NASDAQ composite crossed back over 5000 again on Monday, March 2, actually closing slightly above 5000. That number is about the only similarity between the March 2000 list of the top ten NASDAQ stocks and today's charts. There are a few duplicates—Microsoft, Cisco, Intel, and one that has disappeared altogether—WorldCom. The big difference is valuation, for as the first chart shows, then there were only two price/earnings ratios below 50x, and four at over 100x. Today there is only one over 20x (Facebook) unless you also include Amazon which has no earnings, and therefore, a theoretical P/E of infinity! Furthermore, the "market drivers" were different back in those heady days when the frothy internet stocks drove it higher, while the new high this time has not seen broad participation by the internet stocks as shown here in the second chart.

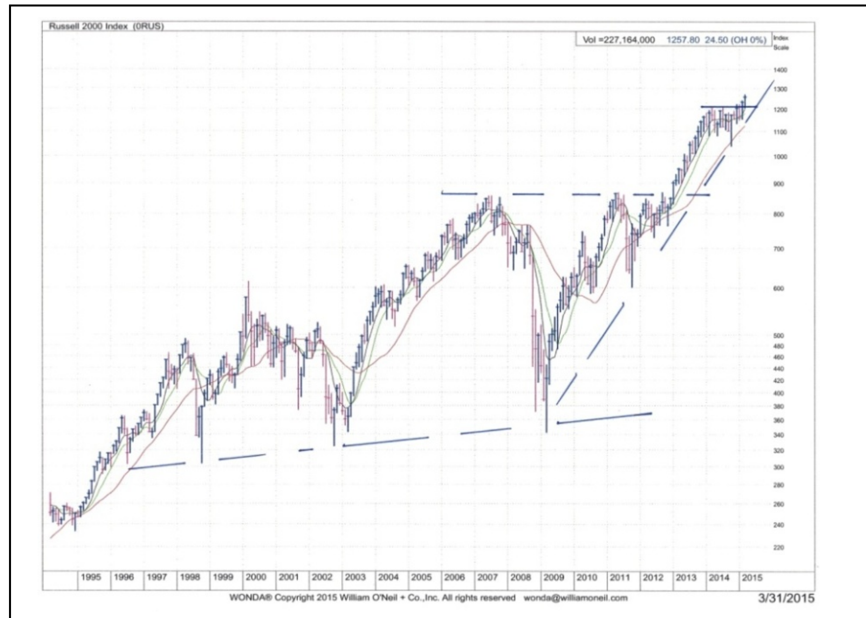


The NASDAQ today has had an angle of assent much less than the parabolic run of the previous peak area, especially without a final sprint to the top. The overall stock market today has had to crawl ahead on the proverbial wall of worry, having done a good job of leaving many nonbelievers behind, fearful that it would end almost any day. But seldom does that happen, as most markets don't end with an October 1987 type crash. Those are called "black swan" events that are basically unpredictable.

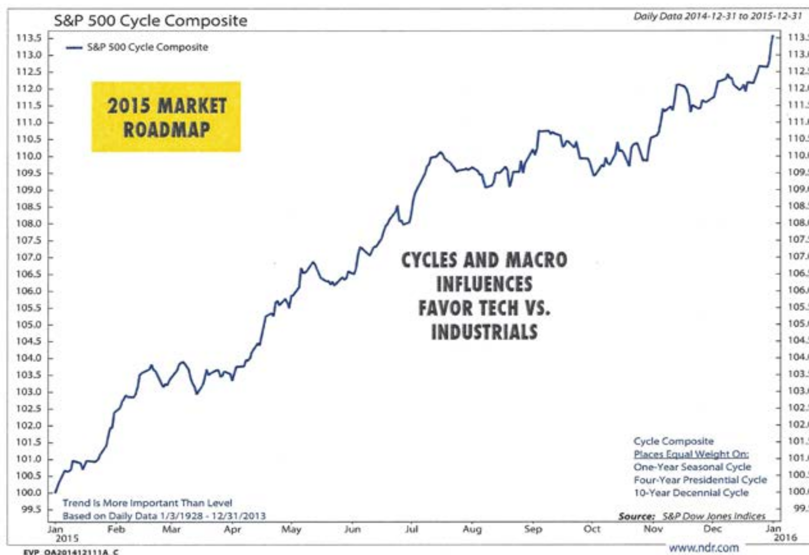
Most market tops take weeks, if not months, to form as stock after stock loses its momentum and the market slowly forms a top. At this point in time, we see few stocks with



those characteristics. As bull markets go, the one we are in is longer than many, but also shorter than five in terms of both duration and percent advance. This is shown in the graph, and certainly is longer and exhibiting a greater advance than the median or the average of other markets. The causal factors are still here as the Fed has not succeeded in getting out of the proverbial rock and hard place in which it has been stuck for several years. Indeed, the bull market exists to a large extent because of the Federal Reserve's quantitative easing, which while purchases have ended; the Fed has not seen the kind of numbers on growth or inflation that would encourage an increase in interest rates. So here we sit in limbo with no encouragement from the Fed to suggest that an increase in rates is even imminent; quite to the contrary, there are small signs of just the opposite, although some of the recent economic shortfall may be weather related or certainly pinned on the energy employment slowdown. Stocks are still the only game in town, many with both growth and yield.



What is clear to us, however, is the bullish configuration in the Russell 2000 Index, which represents, as you know, the smallest 2000 capitalized stocks of the Russell 5000 Index, which is home for many of the small-cap stocks which we own in client portfolios. And after consolidating for most of 2014, they are clearly on their way up again as the



accompanying chart shows. Certainly part of the reason is the dramatic rise in the dollar versus other currencies, as the impact is greater on larger companies which typically rely to a greater extent on foreign revenues than small companies. This could ultimately affect our large-cap component holdings and more likely will cause them to lose some momentum while allowing money to begin to flow more easily into the smaller-cap stocks where a rising dollar has typically had less of an effect. The individual chart patterns likewise confirm this to be the case as most small-caps are in solid uptrends or breaking out of lengthy consolidations, some a year or more forming. The market roadmap is set to go up, with a slowing area in the summer.

So while we are clearly optimistic, for the moment, we perhaps should engage in a "what if?" exercise as in "What if there is a fly in the ointment?" Our forefathers used this as a question whereas today the modern version is often "Is there a black swan out there somewhere?" In other words, what are we missing? What are we not seeing? Dr. Hyman Minsky long ago pointed out stability leads to instability, i.e., that the more comfortable we get with a certain condition or trend, the longer it will persist, and then when the trend fails, which it ultimately must, the more dramatic the correction. We are all too aware of the ISIS gallop across the Middle East and the potential for war there, but that has seemingly been ignored by the market so far. As we look at the charts of all of our account holdings, as we do every weekend, we see a few tops, and we find others which we own and some which we don't own which have developing consolidations, which are usually a prelude to higher prices. So, what are we missing? There will need to be some catalyst to set the market on the path toward an interim correction, and one thing that would do that, aside from a war, is a fear of higher interest rates, which could only come from a fear of inflation. To hear the Fed speak today, and with seemingly only deflation in the cards, there is little potential for inflation, and thus, it looks as though we may be looking at low interest rates for some time to come. This is expected by everyone, so is the unexpected rise in rates the "black swan" hiding in the background?

WILL APPLE SHINE IN THE DOW?

In mid-March the component stocks of the Dow Jones Industrial Average were adjusted for the 51st time since the Dow started on May 26, 1896 with 12 component stocks, consisting of the leading companies at that time. Of these, only one—General Electric—is still in the

average today, 119 years later. The changes over time have been made in an attempt to keep the average of the present 30 stocks "current" reflecting the companies that drive the present-day economy, rather than the one of a hundred years ago. The Dow's selection committee has a history of being behind the curve, as many companies are selected at their peak or well past their prime. This is the debate today regarding the addition of Apple. Will it be another AT&T, Intel or Microsoft? These were added on November 1, 1999, and are down 35.8%, 19.2% and 2.4% respectively, versus a 65.7% gain in the Dow since then. But worse mistakes have been made. The all-time record of poor stock timing took place on March 14, 1939 when IBM was taken out of the average and replaced by AT&T. We have no idea what the reason behind that was, but on June 29, 1979, 40 years later, IBM had become such a success that it was put back into the average. During this period AT&T only rose 104%, whereas IBM was up 21,843%. Is that switch of IBM for AT&T being repeated today with Apple being added after a 14,714% increase since 2003 and AT&T down 35.8% since 1999? A similar thing had happened a few years prior when RCA was removed in May 1932 right at the low of the market following the great crash and Nash Motors was substituted for it. RCA, which had gone from $500 to $5, ultimately went on to be one of the great electronic companies of this century, whereas Nash Motors went out of business 30 years later. The question is, of course, where would the average be today if these mistakes had not been made?

Because the Dow is a price-weighted average rather than capitalization weighted, like all the other averages, the price level of each stock is important, because a $1 change in price is a lot easier for a high priced stock than a low priced one; a $1 move in a $100 stock is 1%, but a $1 move in a $10 stock is 10%, yet each are counted as equal. This is part of the reason for the volatility of the Dow. In the beginning, the price of the stocks were added then divided by the number of stocks in the average (12 in the beginning, but now 30) to determine the price. Over time, however, because of stock splits, and substitutions of one component stock for another, that divisor has moved from 1 to 1, to 1 to .149858890301777 so that if each of the 30 component stocks moves up $1, the Dow is up about 6.66 times 30, or 200 points. It follows, therefore, that since most of the component stocks are high priced (only 7 of them sell below $50 per share, and 12 above $100 per share, with 11 between $50 and $100) with potential moves of $2-$4 a day each, the resulting move in the average can be several hundred points easily. Therefore, we all need to accept the fact that wide-swinging price movements in the Dow are a direct corollary of its structure and not some extraneous factor, as the news would have us believe.

Now this gets us back to Apple, which would have been a problem to add in recent years because of its high price, until it split 7-1 recently making its addition possible, while at the same time removing another high priced stock, which happened again to be AT&T. To be fair we must note it was split 2-1 in February 2005 when it sold for about 10, but it could have been added anytime after 2003 at a relatively low price. But, there are those who see the irony of adding Apple even with its new split price. The list of the world's 20 largest companies shows Apple at $750 billion, over two times the value of many others, including Berkshire Hathaway. At this size, one wonders if it can continue to grow as it has, for as Mike Moe pointed out in a recent issue of his *A 2 Apple* newsletter, if Apple's

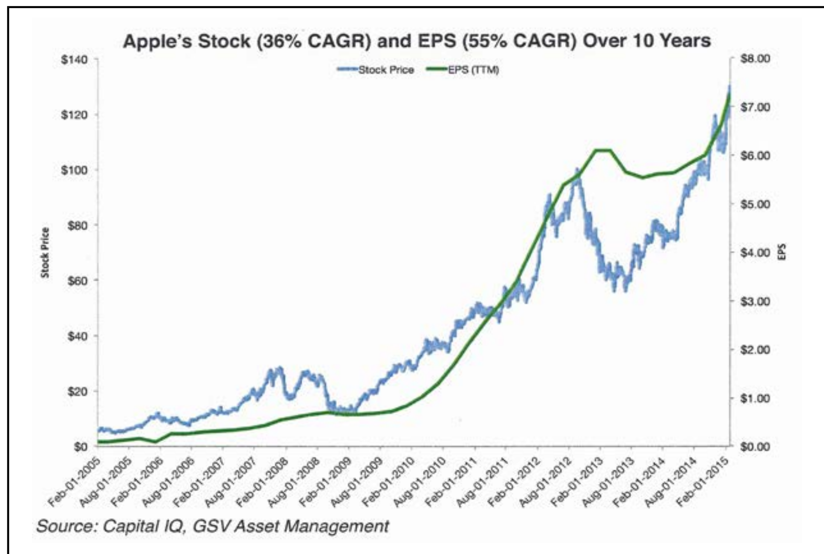
World's 20 Largest Public Companies

	Company	Market Cap ($B)
1	Apple (NasdaqGS:AAPL)	$754
2	Exxon Mobil Corporation (NYSE:XOM)	$381
3	Google (NasdaqGS:GOOGL)	$368
4	Berkshire Hathaway (NYSE:BRK.A)	$367
5	Microsoft (NasdaqGS:MSFT)	$360
6	PetroChina (SEHK:857)	$311
7	Wells Fargo & Company (NYSE:WFC)	$284
8	China Mobile Limited (SEHK:941)	$282
9	Johnson & Johnson (NYSE:JNJ)	$281
10	Wal-Mart (NYSE:WMT)	$272
11	Industrial and Commercial Bank of China Limited (SEHK:1398)	$257
12	General Electric (NYSE:GE)	$253
13	Novartis AG (SWX:NOVN)	$245
14	Nestlé S.A. (SWX:NESN)	$242
15	Roche Holding AG (SWX:ROG)	$232
16	The Procter & Gamble Company (NYSE:PG)	$229
17	Facebook (NasdaqGS:FB)	$224
18	JPMorgan Chase & Co. (NYSE:JPM)	$224
19	Pfizer Inc. (NYSE:PFE)	$218
20	Alibaba (NYSE:BABA)	$216

Source: Capital IQ

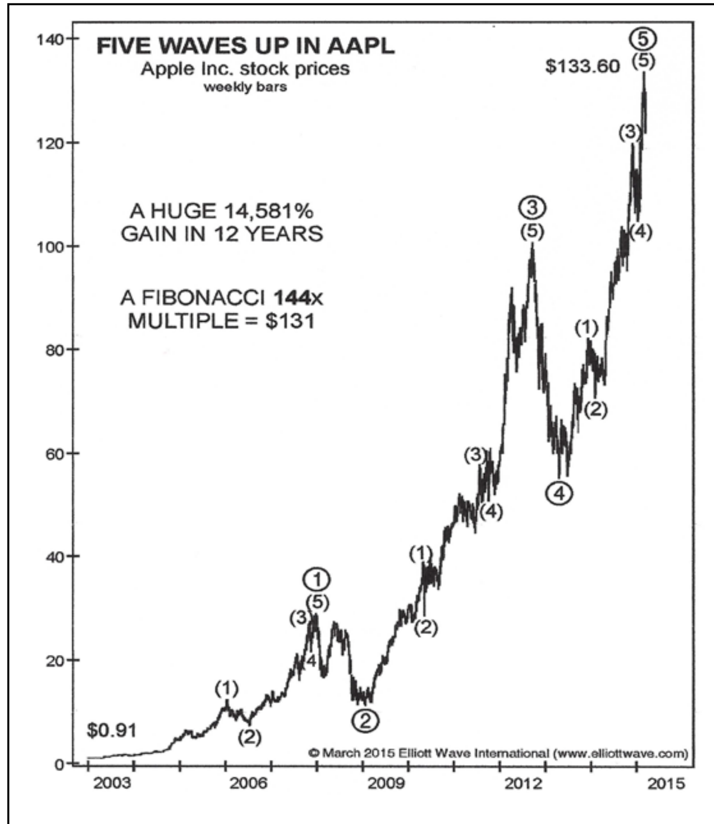
market cap appreciated at the same 36% CAGR for the next 10 years as it has over the past 10, it would be worth $3 trillion, or about 20% of what the entire New York Stock Exchange market cap is today. Only Jack's beanstalk grew to the sky! But Apple may have already seen its high, at least according to Bob Prechter, of *Elliott Wave Theorist*, who sees the recent price as the peak of 5 Elliott Waves up. If that turns out to be true it would be a case of extreme irony. However, we have to note that Mr. Prechter has in the past been wrong on his assessment of peaks and prices according to Elliott Wave theory.

When Steve Jobs introduced the Apple iPhone in January, 2007 a little over eight years ago, he said "This will change everything." Little did he know the revolution he was creating, nor of course did the Dow selection committee. At that time, Apple was $12 per share. As the chart shows, the stock price has had a 36% CAGR and the earnings per share have grown at a 55% CAGR since 2005. Today the Smartphone is ubiquitous, and last year over 1.2 billion were sold, produced by over 100 mobile phone manufacturers worldwide (although not all are "smart"). To boggle your mind even further, the App Store hosts over 1 million applications designed for IOS devices with about half specifically for the iPad, which was introduced in 2010. All of this has happened at almost lighting speed, so one cannot really blame the Dow selection committee for not being able to foresee what has happened. We can only wonder if Prechter's prediction of a price top in this price frame is correct; time will tell.



Source: Capital IQ, GSV Asset Management

But there are many fundamental reasons why Apple may have a long way to go. It has just announced the Apple watch, which is an entirely new category as it has the function of a medical device, and therefore, it is clear that Apple has its eye on the healthcare



industry. But the early comments are negative. We know that Apple is interested in streaming TV, and has announced that a web TV could be launched yet this year. This could be the first step into a TV product and as we know the LCD market is a $100 billion a year industry; an Apple TV might sell at a premium, the way Sony once did. Would you buy one for the name? Finally, we understand that Apple is working on designing an electric vehicle that is reported to begin production as early as 2020. WOW! These things may have huge potential, plus all of the "i" products from the iPhone to the iPad. But it will take a lot of products to create revenue well ahead of the $200 billion which Apple had last year.

But there is a negative too, and that is having too many pots on the stove at once, in other words, such over-diversification that it is really negative rather than positive as focus is lost. So, there you have it. A chartist says sell in the face of exceptional fundamentals, but a negative offset is valuation in the face of a potential loss of focus. Which way to jump? Forsake the greatest company we have ever had in favor of the chart?

PASSINGS

As investment managers, we must pay tribute to Irving Kahn, who died February 24, at 109. His obituary in the February 27 *New York Times* describes his interesting life as a disciple of Benjamin Graham, the "father of value investing," and a mentor of Warren Buffett. In a *New York Times* article, of the same date, Jason Zweig said he was one of the world's oldest professional investors and the most senior student of Benjamin Graham. He was the chairman emeritus of Kahn Brothers Group, a New York investment adviser. His story is absolutely fascinating; he started working on Wall Street in 1928 as a "runner," executing trades on the floor of the stock exchange. Later he became a teaching assistant to Ben Graham in the evening classes on security analysis that Mr. Graham taught at Columbia Business School. He notably also assisted Mr. Graham and Columbia professor, David Dodd, with research for the book "Security Analysis," which is the Bible of security analysis, published in 1934 and still a part of security research classes today. His main goal as an investor, he said is "To know much more on the stock you are buying as the man selling does." Another of his required goals was patience, as "You gain much

more by slow investing and concentrating on what you know," he said in 2012, "than on fast investing, which is nothing more than gambling." Like other legendary long-lived investors to whom we have paid homage in our Passings, he continued to go to his Manhattan office three days a week until late last year.

Philip Carret, you will recall, commuted from his home to his midtown office three days a week until his death at 101, in 1998. Likewise, Roy Neuberger, who passed away at age 107, went to his New York office every day until he was 99. Our comment is that when you work in the interesting investment business there is something new every day, and you want to be at work so you don't miss it and can take advantage of it.

We think the cartoon is appropriate, for we all remember what happened to Nixon after Watergate: At least he didn't erase the tapes.

Sincerely,

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