



Summer Essays

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1 Bubbles Again: Setting Up for a Deal Frenzy

Despite a shocking 2.9% setback in first quarter GDP (quarterly decline at annualized rate), the extent of which was forecast by no one, and despite a substantial decline in NIPA corporate earnings, the market has climbed slowly but steadily in recent months. Market volatility has declined to very low levels despite these setbacks and despite Middle Eastern problems. (The negative January Rule this year has, for that matter, also been ineffective so far.) So, all is apparently well, as we have arrived within three months of the dreaded (by bears) Presidential third year. Accordingly, my recent forecast of a fully-fledged bubble, our definition of which requires at least 2250 on the S&P, remains in effect.

What is worse for us value-driven bears, a further bullish argument has struck me recently concerning the probabilities of a large increase in financial deals. Don't tell me there are already a lot of deals. I am talking about a veritable explosion, to levels never seen before. These are my reasons. First, when compared to other deal frenzies, the real cost of debt this cycle is lower. Second, profit margins are, despite the first quarter, still at very high levels and are widely expected to stay there. Not a bad combination for a deal maker, but it is the third reason that influences my thinking most: the economy, despite its being in year six of an economic recovery, still looks in many ways like quite a young economy. There are massive reserves of labor in the official unemployment plus room for perhaps a 2% increase in labor participation rates as discouraged workers potentially get drawn into the workforce by steady growth in the economy. There is also lots of room for a pick-up in capital spending that has been uniquely low in this recovery, and I use the word "uniquely" in its old-fashioned sense, for such a slow recovery in capital spending has never, ever occurred before. The very disappointment in the rate of recovery thus becomes a virtue for deal making. Previous upswings in deals tended to occur at market peaks, like 2000 and 2007, which in complete contrast to today were old economic cycles already showing their wrinkles. Worse than being in full swing, they were usually way over capacity. Thus, 2000 was helped along by the bubble in growth stocks to over 60 times earnings, allowing companies like Cisco, possibly correctly, to believe they were dealing with a near-zero cost of capital in making deal after deal for their massively overpriced stock.

In 2007 the housing bubble led to an extra one and a half to two million houses being built, with all the usual accoutrements of furniture sales and more jobs for realtors, bank officers, and Goldman Sachs designers of ingenious new ways to be of service to real estate speculators. Now that the smoke has cleared, the 2007 economy at its peak looks to have been 2% or so above trend capacity (allowing, incidentally, for the overstating of the U.S. long-term growth capability, a misjudgment that is still hanging around).

If I were a potential deal maker I would be licking my lips at an economy that seems to have enough slack to keep going for a few years. Also, individuals and institutions did feel chastened by the crash of 2009 and many are just now picking up their courage. And as they look around they see dismayingly little in the way of attractive investments or yields. So, the returns promised from deal making are likely to appear, relatively at least, exceptional. I think it is likely (better than 50/50) that all previous deal records will be broken in the next year or two. This of course will help push the market up to true bubble levels, where it will once again become very dangerous indeed.

My final thought on this issue is the following point, which I failed to make in my bubble discussion last quarter: perhaps the single best reason to suspect that a severe market decline is not imminent is the early-cycle look that the economy has. And even Edward Chancellor last quarter conceded that there was as yet no sign of a bubble in the quantity of credit that was being created.

Post Script

In early July, Janet Yellen made an admirably clear statement that she is sticking faithfully to the Greenspan-Bernanke policy of extreme moral hazard. She will not use interest rates to head off or curtail any asset bubbles encouraged by the extremely low rates that might appear. And history is clear: very low rates absolutely will encourage extreme speculation. But Yellen will, as Greenspan and Bernanke before her, attempt to limit only the damage any breaking bubbles might cause. Well, it is a clear policy and in my opinion clearly wrong. I had thought that central bankers by now, after so much unnecessary pain, might have begun to compromise on this matter, but no such luck, at least in the case of the Fed. The evidence against this policy after two of the handful of the most painful burst bubbles in history is impressive. But not nearly as impressive as the unwillingness of academics to back off from closely held theories in the face of mere evidence. This affirmation of moral hazard – we will not move to stop bubbles, dear investors, but will help you out when things go badly wrong – should be of great encouragement to speculators and improve the odds of having a fully-fledged equity bubble before this current episode ends.

2 Another Look at Malthus: Where Said To Be Wrong, He Was Right. And, Vice Versa.

The essence of Malthus' work (1798 and later) was that humans, like all other creatures, would tend to grow in numbers up to the limit of their ability to find food. Perhaps he should have left it there because that seems like a reasonable proposition and clearly defines the first 200,000 years of our existence. But he tried to define this equation more mathematically by saying that our potential breeding rate was exponential, or compound, compared to our food production rate, which was arithmetic. Arithmetic growth, he argued, would allow for, say, 500 pounds more grain per acre, per year, which would become a smaller and smaller percentage gain. His simplification was that food production would proceed in the series 1, 2, 3, 4, 5, etc., where population would grow in the series 1, 2, 4, 8, 16. You can see the problem. And it is precise enough to describe the rat population problem in the Back Bay in Boston. You can't control them by rat traps – they can out-breed your traps – but you can limit them by restricting their food supply.

Through the 20th Century and until recently Malthus' critics said, yes, okay, the world's population has indeed been growing fast, and if anything at an accelerating or hyperbolic rate, but, no, the food supply has not been arithmetic but has compounded and kept up with the people. Q.E.D. Malthus was wrong.

Well, it turns out that the criticism is short-term in its focus and also wrong. Agricultural progress is by nature arithmetic and Malthus, living in a farming community, knew that. If compound growth were possible in

grain productivity, then eventually a single corn plant would have to produce a ton of food, or, in human terms, 6-foot tall Dutch women one day be 40 feet tall. Each species has a limit that tends to be approached at a decelerating rate. More convincingly, a recent report in *Nature Communications*¹ proves the point. The authors looked in great detail at all of the important grain-producing areas by individual grain – wheat and corn in the Midwest, wheat in Ukraine and Australia, rice in Japan and Thailand, corn in Brazil, and so on. They studied the progress in productivity year by year and attempted to describe each grain area as best they could mathematically. To get to the bottom line, not a single one could be described in exponential (or compound) terms. At best they had a steadily declining percentage gain or an arithmetic (or linear) increase. Even less encouragingly, many grain areas were best described as asymptotic to zero: that is, clearly heading eventually toward zero. Therefore, Malthus in this key component was perfectly right. So, how come we aren't all starving? Well, we had not one, but two, non-repeatable windfalls. First, there was new land. Malthus had no idea that west of the Mississippi, in Australia, and in parts of South America there were vast new agricultural lands to exploit. Second, there was a realization that adding more nitrogen, potassium, and phosphorus could remarkably increase output, especially in the depleted soils of Europe, coupled with the discoveries of how to make nitrogen fertilizer and where to mine potassium and phosphorus. The use of fertilizer since 1950 more than quintupled per acre but today often reaches limits beyond which production actually falls. The increased use of fertilizer is also unsustainable in that environmental damage is often severe and the mined resources are, of course, depleting. In recent decades, despite the increased use of genetically modified crops and related technologies and continued progress in more traditional plant breeding, the growth rate in the productivity of grains is steadily declining (as described in the *Nature Communications* article mentioned above). So, surprisingly perhaps, and despite two stays of execution from new land and fertilizer, Malthus was right in one of his two basic propositions despite continued comment to the contrary. The implication of this from an investment point of view is that we should count on a steady, if erratic, rise in the price of food. This in turn will work to suppress economic growth – a small amount in the case of rich countries and a dangerously large amount in the case of poorer countries.

We live, though, in a strange and complicated world and Malthus' second proposition of the compound growth of population, which traditionally was accepted because the data so obviously confirmed it for 160 years, turned out to be totally wrong. Since 1961 that accelerating compound growth has stopped and has so sharply decelerated that it appears nearly certain to go negative within the next several decades: the number of new babies globally has in fact already started to decline. ("Peak Babies!") This dramatic shift in population prospects, discussed in several previous quarterlies, which will dramatically shift the distribution of age-related consumption, was never imagined for a second by Malthus, the dignified clergyman, whose belief in our species' carnal drive was profound. So, Malthus was wrong after all, but for a reason completely unanticipated by his fans and critics alike, and whether we entirely escape his gloomy end game of periodic starvation is still not certain for we have other problems, separate from population, that we have to overcome, with which readers of my letters will, I hope, be familiar.

3 Two Afterthoughts on the Risks and Return of the Keystone Pipeline

The XL Pipeline has become an intense issue in which facts tend to be swamped by political leanings and financial interests. Everyone can recognize that in a perfect environmental world there would be no pipelines; it is hard to argue that they improve nature. But they are a necessary environmental evil to facilitate a modern economy. As always, it is a question of degree: how bad is this particular pipeline and how useful is its construction to the health of the U.S. economy?

¹ P. Grassini, K.M. Eskridge, and K.G. Cassman, "Distinguishing Between Yield Advances and Yield Plateaus in Historical Crop Production Trends," *Nature Communications* 4, Article #2918, December 17, 2013, <http://www.nature.com/ncomms/2013/131217/ncomms3918/full/ncomms3918.html>.

The bad news about the diluted bitumen (or dilbit) that would come from the Canadian Tar Sands to fill the pipeline is that it is not crude oil. It is more toxic than crude oil, far heavier, and more expensive to clean up. We have good data on this because of a major leak in 2010 into the Kalamazoo River from a pipeline carrying dilbit. The first problem came from the benzene, a light petrochemical that is added to the dilbit, without which the dilbit is too thick to actually move along a pipeline. After the leak of over a million gallons, which ran for 17 hours before pumping finally stopped, the benzene evaporated into a brown poisonous gas, necessitating the immediate evacuation of all neighboring houses. The second problem was that after the loss of its benzene the diluted bitumen became just plain bitumen – close to the tarry stuff that goes on roads – and sank to the river bottom, where it bounced slowly along, creating lasting damage for scores of miles. The cost so far, for work that still continues two and a half years later, has reached an estimated \$1,000 a gallon, over 20 times the already heavy cost of dealing with regular oil in a river leak. These details can be checked in a detailed report that won last year's Pulitzer Prize for American Journalism from InsideClimate News.²

So much for the risks. Now what about the rewards? The main potential reward, especially in an economy that is having the slowest recovery ever recorded, is in job creation. Job creation turns out to be an incredibly complicated economic issue, depending on the unique circumstances of each project and how it interacts with competing projects. If there were armies of unemployed welders and other construction workers sitting around, one could easily imagine that almost every job needed would draw from the unemployment pool and would be true job creation. But what if there were intense competition for every welder, every oil worker, and most heavy construction workers? Then we would not be in the job creation business but in the job competition business, deciding which potential employer will bid up wages and which will go without workers. A recent Bloomberg article opened with the question, "How high is the demand for welders to work in the shale boom on the U.S. Gulf Coast?" It then answered, "So high that you can take every citizen in the region of Lake Charles between the ages of 5 and 85 and teach them all how to weld and you're not going to have enough welders," citing a source from Huntsman Corp. "So high that San Jacinto College in Pasadena, Texas, offers a four-hour welding class in the middle of the night" because the equipment is finally available then.

The article points out that in the Gulf area shortages of welders, fabricators, pipe fitters, and oil and gas workers are pushing up wages so fast that expansion projects are running well over budget already and some, like a \$20 billion gas-to-liquids plant slated by Royal Dutch Shell Plc for Louisiana, have already been canceled. Labor conditions in the Gulf Coast will be especially tight in 2016 and 2017 and projects along the Houston Ship Channel alone are expected to employ more than 250,000 workers, according to the Port of Houston Authority.

Attempts to calculate investment opportunities opened up by cheap local supplies of natural gas or to estimate the time it will take to absorb the current surplus will have to take into account this chronic shortage of workers with the required skills. In this area – oil and chemicals in the Gulf – as in many others, the shortfalls in the quantity and quality of U.S. training programs are playing a painful role.

Considering the above, it is clear that the XL Pipeline will not "create" jobs. Every one of its potential workers, almost all of whom already travel widely for jobs, could get a job several times over if given an hour on the telephone. What is happening here is an allocation of limited manpower resources: will we use them to extend chemical plants to capitalize on the incredible U.S. advantage in cheap natural gas; will we extend our fracking of U.S. sweet crude; or will we transport Canadian diluted bitumen, the most dangerous and toxic of all fuels, in order to increase the price for a handful of Canadian Tar Sand producers who currently suffer from constrained delivery capabilities and hence lower local prices? Even ignoring the severe environmental risks, it should be an easy decision on economic grounds alone.

²Elizabeth McGowan, Lisa Song, and David Hasemyer, "The Dilbit Disaster: Inside the Biggest Oil Spill You've Never Heard Of," InsideClimate News, June 24, 2012.

4 Investment Lessons Learned: Mistakes Made Over 47 Years

Chapter 2

In business school I was lucky enough to get a great summer job in the oil department of Arthur D. Little, which, in my opinion, was the place where you were likely in those days to get the best technical consulting advice. It was stacked with wise and very experienced oil men. I, and another Englishman from business school who had as sketchy an oil background as I, had the summer to make a forecast for European oil demand (me) and supply (Phillip...How are you, Phillip?). A *real* job for a summer job is more than one could ask and this one paid us at an \$8,000 annual rate, four times what we had been earning in England. (Now, by the way, salaries are very similar.) We were both living very cheaply, so what were we going to do with this sudden excess? Yes! Invest it and turn it into the beginnings of a fortune. Phillip introduced me to the *Wall Street Digest*, which, amazingly to me, had all of this seemingly priceless information – the best research (presumably) that Wall Street had to offer. And it was all free in our business school library, along with a fair fraction of all of the research out there. So we researched away, compared the most mouthwatering tips, shared a stock broker, and invested. And most of our stocks went up. Seduced by a bull market, we thought that either our advice from Wall Street was superior or we were, or, more likely, both. So time passed to the summer of graduation, which found three of us with an even more ridiculously high-paying summer job, in this case working directly for the CEO of a large fertilizer company extending a business school course. The net effect was that at the end of summer, as I started my new job at a dignified consulting firm in Manhattan, a check for \$6,000 arrived, which, put into perspective, was enough then to pay for a full year at business school and, interestingly, exactly what I owed on my parents' mortgage. Paying off the mortgage seemed out of the question because it was by then clear to me that I must have the touch for short-term investing. Living in an L-shaped, one-room apartment located almost in the Midtown Tunnel in Manhattan with a recently-acquired working German wife (met in England two years earlier) and spending nothing, the plan was to suffer and save and invest brilliantly in order to be able to return to Europe rich, or nearly so, and in a hurry. And because this could not be done with \$6,000, it was necessary to borrow some more. Fortunately (or unfortunately, depending on the time horizon), there was a loan loophole that allowed you to pledge mutual fund certificates (the old type that you could actually touch as opposed to electronic impulses) and borrow 80% of their face value for "home improvements." Well, mine were for home improvements alright, but just not quite then. So, I borrowed and, after a little more good fortune, brought the new certificates to the bank and took another 80% against them too.

By now my consulting job with that dignified firm began to feel awfully tame. The classmates who were having the most excitement were clearly those in the investment business. So, I was quite efficient for one of the two or three times in my life and ran a comprehensive job-seeking program aimed at London, New York, and Boston. After several interesting near misses in London and New York, and after a refusal by Fidelity (said to run then an impressive \$1.9 billion) in an interview in which a then-famous fund manager could not stop looking at stock prices on his new Bunko-Ramo desktop device, I was offered a job at Keystone Funds (running an almost identical \$1.8 billion – but what a difference in long-term outcomes, clearly a case of *sic transit gloria*). I joined the loose association of classmates scattered around the industry who had been sharing ideas for the critical 18 months I had wasted in consulting. Late 1966, 1967, and 1968 featured a normal bull market in large stocks, a real bull market in smaller stocks, and an epic silly-season bull market in tiny, under-the-counter pink sheets stocks. Most were newly minted and almost all ceased to exist in a few years. Many ventures had great names like "Palms of Pasadena." With our buying and touting to all who would listen, our favorites tended to rise rapidly at first: rocket stocks that, like other rockets, would end up crashing back to earth quickly enough.

The defining event for me was in the summer of 1968, when my wife and I took a three-week holiday back in England and Germany, shortly after joining Keystone. Lunching with some of the hot shots – being a newbie

I was by no means a fully-fledged member – I was fascinated, indeed, almost overwhelmed, by the story du jour: American Raceways. The company was going to introduce Formula 1 Grand Prix racing to the U.S. It had acquired one existing track and had one race, hugely attended out of novelty as well as genuine interest. With a few more tracks we could calculate how much money – a lot – the company could make. It seemed to me as a foreigner to have little chance of failure. With noise, speed, danger, and even the ultimate risk of death, it seemed, well, just so American. And every Brit's hero, the then current champion Stirling Moss, was on the Board. So I bought 300 shares at \$7. (For defining events in your life you do remember the details. Sometimes even accurately.) By the time we returned from our vacation – in those days we were never in touch with business, it was just too difficult – the stock was at \$21! Here was my opportunity to show that I had internalized early lessons; to demonstrate my resolve. So I did what any aspiring value-oriented stock analyst would do: I sold everything else I owned and tripled up! Nine hundred shares at \$21, mostly on borrowed money. In a Victorian novel aimed at improving morals, ethics, and general behavior, this is where tragedy follows hubris. But real life is more confusing as to how it delivers lessons and it likes to tease, apparently. By Christmas, American Raceways hit \$100 and we were rich by the standards of those days, and certainly compared to my expectations. You could still buy a reasonable four-bedroom house in the London suburbs for £10,000 and in Boston for \$40,000, and we had about \$85,000 after margin borrowings and before taxes due. But, the possibility of continuing the storyline by cashing in our chips and going home to England quickly became more complicated: a year after joining Keystone in April 1968, I left with one of the fund managers, Dean LeBaron, to start a new investment management company. We started a reconnaissance patrol in mid-1969 and by January we had an office in the Batterymarch building on Batterymarch Street in downtown Boston, bearing the unsurprising name of Batterymarch Financial Management. In deciding to leave Keystone, my new nest egg of late 1968 played a key role even though it had begun to decline some in early 1969.

In fact, in April 1969 came another nearly defining event: my wife and I fell in love with a charming three-floor Victorian house in Newton, Mass on a very quiet street next to an apple orchard and backing on to some undeveloped hillside. Asking price: \$40,000 (today's guess, perhaps \$1 million or more). Our family capital account after its then recent decline would still have allowed us to: a) buy the house without a mortgage; b) buy a new BMW 2002 (small, fast, not too showy, and remarkably cheap); and c) have a few thousand left over. But our \$37,000 offer was turned down and we backed off. And, even as we reconsidered, our stock began to crumble and I was lucky, with hindsight, to be able to say goodbye to all might-have-beens and to scramble out in the low \$60s a share. It turned out that American Raceway's original crowd was based almost completely on novelty and curiosity and had nearly no hard-core followers; Americans liked their blood sports to be in cars that looked not like real racing cars, but in cars that looked just like their own. Who knew? Well, I was neither totally broke nor fully chastened, and was eager to make back my losses. Naturally, I bumped immediately into a real winner. The new idea was called Market Monitor Data Systems and this really was a breakthrough technology, even with hindsight. It was going to put a "Monitor," an electronic screen, on every broker's desk, so that they could trade in options, making their own market. This brainchild of a mathematics professor had only one flaw: it was way ahead of its time. Fifteen years later the technology was completely accepted. Oh, well. After a good rise it became clear to stock holders that expenses rose rapidly with monitors installed and no business followed. Almost none at all. And, following the developments far more hawk-like than was typical for me, I managed to leap out two weeks before bankruptcy with enough to pay down margin and bank loans, leaving me with about \$5,000. By then, however, I was in an entrepreneurial start-up that paid no salary and ended its first full year not with the \$1 billion under management that had featured in our spreadsheets, but with one account from a friend of Dean's of \$100,000. Fortunately, my wife had a job at MIT Press, which paid about what one would expect. So, the *Boston Globe* would only be bought after important Celtics games, absolutely no new clothes were allowed, and once a week we would stock up on an all-you-can-eat meal at the English Tea Room in Back Bay. But, oh my, did I have lots of painful lessons to absorb and at least one not so painful.

First, my wife had not been amused by the frugality that characterized our 18 months in New York, a city then and now where some spending money makes a big difference in the quality of life. For her, to go home with a nest egg was maybe worth it. Maybe. Her biggest gripe was cooking in almost every day after work. No working wife today would stand for it, and rightly so. All I can say in my defense is that that was the style in the 60s. Very weak, I know. But, when confronted with the total loss of our savings and therefore our main plan – saving to go home well-off – my wife said nothing. And I mean nothing at all. She put herself to the task of keeping our financially leaky boat afloat. My wife, however, accrued an inexhaustible supply of IOUs. Well, inexhaustible for the next 46 years anyway. So ...

Lessons Learned

1. You can't know how people who are important to you will behave under pressure. And if you have to pick one who will outperform, pick your wife.
2. Local cultural differences can be very enduring even between Britain and the U.S. Formula 1 is trying again in the U.S. as I write, 46 years later. Soccer here has also been just around the corner for 50 years.
3. Sometimes even a great idea will fail, like Market Monitor, because the technology infrastructure is just not there; that it is simply ahead of its time.
4. Much more importantly, investing is serious. It can and often is intellectually compelling. But it should not be driven by excitement, as it is for many individuals, and when treated that way will almost always end badly. My experience with American Raceways and Market Monitor and, more importantly, my experience at painfully wiping out myself and my wife financially did far more than teach or re-teach some of the basic rules of investing. It turned me profoundly away from the speculative and gambling possibilities of investing and turned me permanently, and pretty much overnight, into a patient, long-term value investor. Luckily, the new style fitted nicely with my natural conservative and frugal upbringing. The value perspective is pretty much baked into the Yorkshire culture. Happily, it also seems to work most of the time. Rolling the dice, however, was appropriate, it seems, when applied to the question of whether or not to start a new investment firm, for the period 1970 to about 1990 was particularly favorable to the start-up of new, small firms. For a while then, institutional investors actually seemed to prefer start-ups to the giant banks, which dominated the business but that had done so badly in the 1974 decline. And my willingness to take the risk of a start-up had been strongly influenced by the very brief existence of my substantial nest egg. So, once again ...
5. It is better to be lucky than good, but of course appropriate to aspire to both.

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