December 3, 2015

Fade Disruption

"It's tough to make predictions, especially about the future."

"The future ain't what it used to be."

–Yogi Berra

How will the future look in fifty years? In his latest book, Antifragile, Nassim Taleb gives us a clue: Assume that most of the technology that has existed for the past fifty years will serve us for another half century. And assume that recent technology will be passe in a few years' time. Why? Think of these inventions as if they were species: Whatever has held its own throughout centuries of innovation will probably continue to do so in the future, too. Old technology has proven itself; it possesses an inherent logic even if we do not always understand it. If something has endured for epochs, it must be worth its salt…Fifty years into the future will look a lot like today…

When contemplating the future, we place far too much emphasis on flavor-of-the-month inventions and the latest "killer app" while underestimating the role of traditional technology. In the 1960s, space travel was all the rage, so we imagined ourselves on school trips to Mars. In the '70s, plastic was in, so we mulled over how we would furnish our see-through houses. Taleb traces this tendency back to the neomania pitfall: the mania for all things shiny and new.[1]

--Rolf Dobelli

In our December 2012 Commentary featuring our expectations for 2013, our last chart series started with the following:

> We are living in the technology age, yet for some reason, no sector in the stock market is more unloved than technology. In fact, industrials, perhaps due to the natural gas renaissance in America, are far more loved at the moment.[2]

How far things have come: today the exact opposite is true. If you noticed a theme in our extended lede, you might think this could not possibly be a commentary written by the very same people who

---

[1] *The Art of Thinking Clearly*, by Rolf Dobelli. Page 207.

[2] http://www.rgaia.com/wp-content/uploads/2013/08/December-2012-Investment-Commentary.pdf

professed their love of technology just a few short years ago. As often happens, the pendulum of sentiment has swung from one extreme to the other without even a brief stop in the middle.

Two years ago when we professed our love for technology, people were gawking at the perceived lack of innovation. Peter Thiel wittily summed up this notion with his quip that "We wanted flying cars, instead we got 140 characters"—a reference to how in his childhood people dreamed of flying cars, yet the most profound innovation at the time seemed to be Twitter.[3] Fast forward to today and people are talking about the imminence of self-driving cars, artificial intelligence overtaking human thought and drone delivery.

Self-driving cars is an area close to heart given we own a leader in self-driving car technology (Google) and a mass-market automaker (Fiat-Chrysler). We find the rhetoric on the imminence of disruption particularly extreme. Not long ago, our long-term holding in Google was admonished for "betting the farm" on "speculative" projects with self-driving cars the poster child.[4] Just a few months ago, an auto analyst we greatly respect proclaimed that Tesla should be worth $60 billion on account of a possible self-driving Uber-like service.[5] In other words, the rhetoric has shifted from suggesting that a multi-million dollar bet at a centibillion dollar company with a modest valuation (Google) was impairing its long-term value by billions of dollars to the potential for another company (Tesla) to do the very same thing doubling its already lush valuation. All it took was three years and a creative imagination.

We like that Google is making these kinds of investments for how it leverages their strengths in data aggregation, organization and analysis, so we certainly will not complain about a future with driverless cars. Google is a great vehicle for gaining exposure to these kinds of asymmetric opportunities. They have a cash cow in the form of search, a growing one in YouTube and a slew of high risk/high reward bets where the wagers are quite small relative to the company's value, but rewards enormous. We are optimists who love seeing innovators dream big, yet we think the enthusiasm with which people see the future of disruption has taken a turn for the misguided in the stock market.

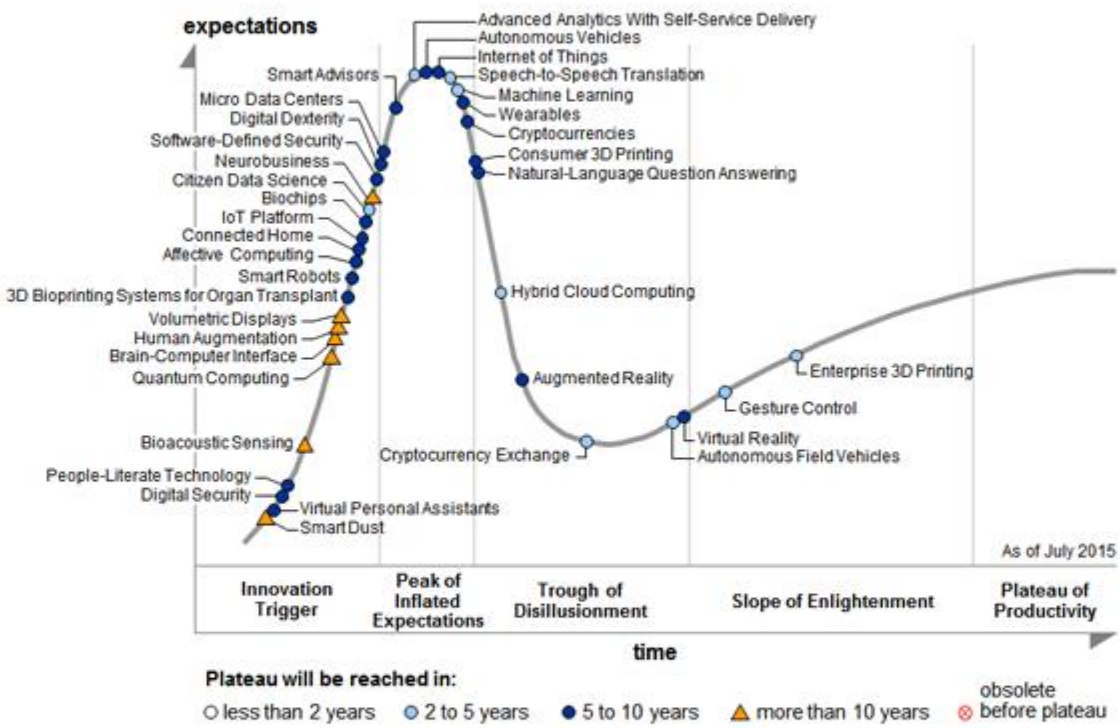
---

[3] http://www.newyorker.com/magazine/2011/11/28/no-death-no-taxes

[4] http://www.huffingtonpost.com/2011/06/03/google-larry-page_n_870797.html

[5] http://www.businessinsider.com/morgan-stanley-raises-tesla-price-target-2015-8

The hype cycle is a good framework through which to think about the relationship between expectations and reality:



[6]

Valuations in some pockets of tech stocks are now overenthusiastic to the point where success will be rewarded with little return for investors. Meanwhile, valuations of some old dinosaurs have become far too cheap amidst vague proclamations of disruption's imminence. When we are talking about issues over half a decade out, not only is there great uncertainty as to the "if" but also the "how." Even if we are certain that these disruptions are coming, we can never know in advance how they will change things. A few years into the iPhone's existence, no one would or could have predicted Uber.

We have twice highlighted the irrationalities of some valuations in the technology space. First, we broke down the speculative assumptions behind Tesla's valuation in our August 2013 commentary. Next, we

[6] https://www.pastel.co.za/blog/four-ways-the-gartner-hype-cycle-revolutionises-the-way-we-do-business/

pointed out the "pockets of momentum" in high growth stocks in February 2014.[7] [8] These commentaries focused on the excessive valuations in technology stocks, but through it all we remained heavily allocated to the technology sector. This is unlikely to change. However, in the meantime, there has been a profound change in how people are talking about technology and its impact on the future. Investors have become too blasé in dismissing a sector as bound to be disrupted without quantifying when and how that impact will take place.

We can do a little math exercise to give a general sense of how disruption impacts a dinosaur company's market cap today. Let's say a company has $100 in cash flow that will continue in perpetuity and a 10% cost of capital. This results in a net present value (NPV) of $1,000. Here is what that $100 cash flow stream would be worth if segmented into various time frames:

	NPV	Discount to Perpetuity
Perpetuity	$ 1,000.00	0%
5 yr	$ 379.08	62.09%
10 yr	$ 614.46	38.55%
20 yr	$ 851.36	14.86%
30 yr	$ 942.87	5.71%

The assumption here is that the $100 in cash flow will not grow over time. Further, the cash flow will not fizzle, but will simply drop to $0 in the stated year. If a disruption will hit a company in 5 years, that company today is worth 62% less than were it treated as a perpetuity. Meanwhile, were a disruption to take 30 years to pan out, it would only justify a 5.7% discount to the perpetual value. Another way of phrasing this is that disruption "a decade out" should result in the disrupted trading at about a 38% P/E discount to the market. With the market at approximately a 17x P/E then that justifies an 11x P/E. At an 11x P/E the implication would be that the disruption has a 100% chance of happening in a decade. Were the chance merely 50% instead, the justified P/E relative to the market would be 13.8x. The point here is rather simple but we think the illustration is powerful: the longer a disruption takes to actually come to fruition, the less it should impact the companies at risk of disruption. Further, the less certain the disruption, the less impact its potential should have on the disrupted's value. If something will ultimately "take decades" to happen (as the conversation about self-driving cars acknowledges), then its impact today is almost negligible on an old company compared to thinking about it as a perpetuity.

[7] http://www.rgaia.com/august-2013-investment-commentary-tesla/
[8] http://www.rgaia.com/pockets-of-momentum/

There are a few important qualitative points to make alongside this basic math:

- Disruption typically comes from where it's least expected. As such, predictions of disruption are often wrong. Such is the essence of disruption.
- A lot of what is presented as disruption today is merely using existing things in different ways.
- The expectation of disruption in a sector can change the behavior of management such that a company's business is more resilient to future threats.
- Conversely, when disruption does occur, institutional imperatives often result in companies burning cash rapidly to protect what is left rather than unwind the business and release its capital. Many of the risks of disruption thus result from human biases.

One of the points captured by the Rolf Dolbelli excerpt above is the power of inertia. Things that have worked for people for a long time, tend to continue working for a long time. Disruption is both a risk and an opportunity. Given this nature, we have wagers on companies that are disruptive forces in their sectors and an increasing number of wagers that certain areas will be disrupted far slower than the market expects to be the case. All involve a careful assessment of the value that is already attachable to the business' ongoing operations and the implied odds that disruption will derail the prevailing inertia. These are themes we will continue to spell out over time.

Thank you for your trust and confidence, and for selecting us to be your advisor of choice. Please call us directly to discuss this commentary in more detail – we are always happy to address any specific questions you may have. You can reach Jason or Elliot directly at 516-665-1945. Alternatively, we've included our direct dial numbers with our names, below.

Warm personal regards,

Jason Gilbert, CPA/PFS, CFF
Managing Director
O: (516) 665-1945
D: (516) 665-1940
M: (917) 536-3066
jason@rgaia.com

Elliot Turner, CFA
Managing Director
O: (516) 665-1945
D: (516) 665-1942
M: (516) 729-5174
elliot@rgaia.com

RGA
INVESTMENT ADVISORS LLC

[This Page is Intentionally Left Blank]

Past performance is not necessarily indicative of future results. The views expressed above are those of RGA Investment Advisors LLC (RGA). These views are subject to change at any time based on market and other conditions, and RGA disclaims any responsibility to update such views. Past performance is no guarantee of future results. No forecasts can be guaranteed. These views may not be relied upon as investment advice. The investment process may change over time. The characteristics set forth above are intended as a general illustration of some of the criteria the team considers in selecting securities for the portfolio. Not all investments meet such criteria. In the event that a recommendation for the purchase or sale of any security is presented herein, RGA shall furnish to any person upon request a tabular presentation of:(i) The total number of shares or other units of the security held by RGA or its investment adviser representatives for its own account or for the account of officers, directors, trustees, partners or affiliates of RGA or for discretionary accounts of RGA or its investment adviser representatives, as maintained for clients. (ii) The price or price range at which the securities listed.