



Fourth Quarter 2016

We become what we behold. We shape our tools, and thereafter our tools shape us.  
- Father John Culkin

March 24, 2017

Dear Client,

During the fourth quarter of 2016, our average margin and cash accounts lost 3.27% and 2.62% while our average retirement account lost 3.95%. During the quarter, the S&P 500 gained 3.25% while the Nasdaq gained 1.34%.

At the end of the fourth quarter our average margin and cash accounts were up 5.01%<sup>1</sup> and 5.62% for the year while our average retirement account was up 6.64%. As of the end of the year the S&P had gained 9.54% while the Nasdaq had gained 7.50%. Please remember that these numbers are averages; the performance of your account differed.

Our accounts were doing fine until the market contemplated a Trump presidency. From the start of the quarter until FBI Director Comey's letter on October 28th, our average account was up almost 5%. After Comey's letter, old economy stocks gained while the new economy stocks we own declined, in some cases, dramatically. From October 28th to the end of the quarter, the blue chips of the new economy, Facebook, Amazon, Netflix and Google, lost 11%, 8%, 2%, and 3% respectively, while the S&P 500 gained 5%. As we wrote in our Q1 2016 letter last year, we sympathize with the market's negative reaction. Adjusting to the seismic shift in the structure of the global economy that President Trump seems to be agitating for will be complicated for our companies.

Internet companies have been among the greatest beneficiaries of decades of neoliberal foreign policy. A reversal of these policies will hurt innovation and reduce America's "soft power," harming U.S. companies that are, or seek to become, global enterprises. Because these headwinds are easier to overcome for larger companies, these changes may solidify the monopolies of existing technology franchises by hobbling attempts to compete with them. One example: while Salesforce and Google can hire the best engineers from Pakistan and Iran to work in their offices in Toronto and London, smaller younger domestic companies cannot.

So far, we have made only one adjustment to our portfolio in reaction to the election of President Trump. We sold Apple. We are tremendously excited about Apple's coming product cycle. However, because Apple is an American company that is inextricably reliant on China for production, and sells physical goods whose movement is easy to restrict, it has heightened exposure to a trade war between the United States and China. Also, we worry that because Apple's iPhone has become a popular tool for communication in China, there is a natural tension between Apple and a totalitarian regime which maintains political stability by controlling the public sphere.

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<sup>1</sup> The performance of our average margin account was overstated in our Q2 2016 and Q3 2016 letters by approximately 1.2%. The issue did not affect reported performance of individual accounts and has been corrected as of this letter. A single trade on the day of our conversion from JPM to NFS was temporarily processed incorrectly.

## **Mobile lunch**

While cautious about the political environment, we continue to find companies with exciting prospects that seem under appreciated. After the election, we invested in the fast food chain McDonald's and the semiconductor company Cavium. Last summer we learned from RFID company Impinj that McDonald's is embedding Impinj RFID chips in the register receipts at their European locations so they can track where customers sit and deliver food to their table. We bought the stock in December after learning about their plans for mobile ordering. In the United States, 70% of their business is drive-thru for which the average wait time is a little over five minutes. With mobile technology now ubiquitous among McDonald's customers, the company plans to let people order curbside, or even as they are still driving toward the restaurant. If this improves the throughput by 20 cars per hour, income of the US business will increase by about 12% or 500mm dollars. More transformative will be the gains from precision advertising. As we mentioned in our Q2 2013 and Q3 2013 letters, once people start ordering from their local McDonald's on their phones, the company will be able to target specific users in specific locations, dramatically improving the efficiency of their ad spend. For example, why not hit the person who is driving toward a McDonald's location at lunch time and has a history of ordering Big Macs with a picture of a Big Mac? Using Facebook's recent advertising formats, McDonald's could purchase these ads complete with an "order now" button in the advertisement! This shift away from spending millions of dollars on TV ads (on people who already had lunch) toward spending on individually targeted media should increase advertising efficiency for the chain, increasing sales, enhancing customer experience and enabling the chain to support more, more profitable locations.

## **The network is the computer**

Cavium designs microchips for network processing. Their historic business is a line of packet processors used in firewalls. Over the last few years they've invested aggressively in R&D to expand their products to include many other specialized chips for networking. Among these new products are their unique Fusion-M LTE basestation on a chip and Xpliant ethernet switch chip. While the elevated R&D spend has suppressed their earnings, they are now ready to sell the products they have been working on. The Fusion-M chip has been selected by the Indian wireless carrier Reliance which has extraordinary demand for the Jio LTE service they launched in 2016. Last month, Reliance delivered more LTE data than AT&T and Verizon combined and the company plans to increase their deployment of LTE basestations from 50k to 400k over the next few years - ten times the number of wireless basestations that Verizon operates and second only to China Mobile. McDonalds' mobile ordering application drives demand for ethernet switch chips because these applications are likely to be hosted in the cloud. But it's not just mobile ordering. In a recent conversation with Microsoft's Principal Engineer responsible for strategic computing architecture, we learned that Microsoft's internal goal is to almost double the number of servers in their Azure compute cloud each year for the next three years bringing the total from 1mm at the start of 2016 to 10mm by 2020. The transition of applications to the cloud creates demand for the networking chips that Cavium sells because companies can save substantial IT expenses by switching to the more flexible cloud architectures that Amazon AWS, Microsoft Azure, and Google Compute have designed. However, to achieve the increased flexibility requires increasing networking spend as a percentage of total data center spend from 5% to 15%.

## **Fake news**

As amateur students of media, we were fascinated by the role of "fake news" in the Presidential election. The phenomena of fake news contributing to political change pre-dates the internet by at

least two hundred years; as historians such as Robert Darnton<sup>2</sup> have described, the French Revolution was enabled by libelous hacks publishing reams of pornography featuring the figures in power, most importantly Marie Antoinette and Louis XVI. This pornography, along with fabricated political scandals, did as much as the bread shortages to promote the public's hostility toward the monarchy. Comparing Darnton's descriptions of 18th century France to the interviews that we've read with managers of 2016's fake news mills gives the impression that both were driven by money, not ideology. Darnton describes his *libellistes* as failed academics publishing what would sell for a few francs. Similarly, today's "journalists" initially churned out stories about both Hillary Clinton and Donald Trump but quickly focused on Clinton because the fake stories about Trump didn't go viral.<sup>3</sup> In these cases, the mechanism that created the fake news wasn't driven by people seeking political change, but by an inherent tendency in the capitalist system to find opportunity for profit by playing on the subconscious desires of the population.

Since the French Revolution, pamphlets have become posts. The internet instantly distributes "fake news" to billions, enabling publishers to optimize the virality and click-through rate of their content, micro-targeting with the same powerful A/B testing techniques that Google uses to optimize adwords, the same techniques that will soon be available to McDonald's. Social media has also turned every consumer of media into a re-publisher of media, increasing feedback in the complex media system. The emergent behavior of these effects is a monster because it takes years for consumers of media to recalibrate how they perceive information in a new medium. Most of us know that a National Enquirer headline that reads "Hillary Clinton's Adopted Alien Baby" should be taken as entertainment, but we are only beginning to develop this sort of conceptual defense against fake stories shared by close friends in our Facebook feeds, the headlines and content of which are tailored to our individual proclivities specifically to maximize the chance we will click..... and subsequently re-share.

After the election, we shorted Twitter for a second time. Because Twitter doesn't require real names, it has been an especially proliferant breeding ground for fake news. The estimates that we've seen suggest 15 - 20% of active Twitter users are bots, and we know a number of people who have quit the social media network after being hounded by caustic trolls. Twitter's management will need to adjust the network to remove the negative effects of the bots and trolls before too many real users and the advertisers that seek them leave the service. Managing a transition that will cull a substantial portion of users from a social media network, without breaking the network, would be difficult for the best management teams and Twitter barely has a management team at all. Thirteen of the fifteen executives who presented at Twitter's last analyst day have subsequently left the company.

Recently, venture capitalist Marc Andreessen interviewed Reed Hastings, the CEO of Netflix. In the interview, Hastings recalls that the CEO of HBO once famously described the threat his company faced from Netflix as akin to the threat the United States faced from the "Albanian Army." Hastings theorizes one mistake that traditional media companies made was evaluating Netflix based on the current state of technology rather than on what they would be capable of when technology matured. Interactions between disruptive technology and evolving society are incredibly complex and very difficult to predict. For example, another interview we recently read suggested that Tinder is responsible for the increase in the percent of games won in the NBA by visiting teams from 33% to 43% in the last few years. The general manager of an NBA team theorized that while on the road his players are finding girls to meet up with on Tinder rather than going out to the clubs and drinking the night before the game.

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<sup>2</sup> For instance, in *The Literary Underground of the Old Regime*,  
<http://www.hup.harvard.edu/catalog.php?isbn=9780674536579>

<sup>3</sup> NPR: We Tracked Down A Fake-News Creator In The Suburbs - <https://goo.gl/6IOix5>

We are always looking for moments when new technologies begin interacting with society. These interactions are often too complex to predict with Wall Street's incremental models, but we can study the emergent behavior. By identifying these trends early and getting the measure of the opportunity right, we can make a substantial profit, because the market occasionally discounts the long term potential of these trends not by 20 or 30% but by 90 or 95%. Despite the headwinds from the changing structure of the global economy, we have faith in human ingenuity, and believe that by keeping our eyes open, pencils sharp, and gut strong we can continue to identify big ideas with substantial upside.

Thanks for your support,

A handwritten signature in dark ink, appearing to read "Alex Derbes", with a stylized flourish extending from the end.

Alex Derbes

Please remember that we use aggressive, high-risk strategies in our efforts to obtain long-term growth, so it is important that you keep us informed of any changes in your personal financial situation. Performance of our accounts includes the net impact of commissions, fees, interest and dividends. However, performance of the indices excludes the positive impact of dividends. Past results are not indicators of future performance.

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