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## **Are you that financial Doubting Thomas? Herein, a seasonal metaphor and new opportunity.**

By Alan Snyder

A Doubting Thomas is the skeptic who refuses to believe without personal experience. The Apostle Thomas wouldn't believe that the resurrected Jesus had appeared to the other 11 Apostles until Jesus also appeared to him, as told in the Gospel of John. However, given the breadth of the investment universe, a financial Doubting Thomas loses out on many attractive opportunities by demanding direct experience.

Thirty-one months ago, we finished a lengthy white paper on cryptocurrencies (see our website <http://www.shinnecock.com/#articles>). The howls of derision were many from the Doubting Thomas clan. We proposed that there was substance in what was happening, although investing in cryptocurrencies was too aggressive for us at that time. Wow, were we wrong. However, Blockchain, the underlying currency, did capture our imagination and dollars. The experience has been rewarding. Fasten your lap straps because here we go again.

The *Ghostbusters* theme song lyrics captures the essence of this writing:

*If there's something strange in your neighborhood  
Who you gonna call? (ghostbusters)  
If there's something weird  
And it don't look good  
Who you gonna call? (ghostbusters)*

*I ain't afraid of no ghost  
I ain't afraid of no ghost*

Maybe you won't call us, but we want to share our thoughts about a transformational change, a financial disruption that will move markets, and a way to participate before it is totally old news, only to be used for wrapping not Christmas presents, but day-old fish.

Alright, suspend your disbelief for a moment, cut us a bit of slack, and read on.

## A farrago of facts<sup>1</sup>

1. In a 1900 picture of the New York Easter parade, there was one car – all the other transportation vehicles were horse-drawn. Thirteen years later, the picture was all cars and one horse buggy. Thirteen years only!
2. In 1985, AT&T was wondering what to do with that handheld brick called a cellular phone. They asked the brilliant experts to forecast the future. McKinsey, for a tidy sum, stepped up and projected there would be 900,000 in use by the year 2000. Actually, there were 109 million. Oops, their estimate was wrong by 120x. Even former Microsoft CEO Steve Ballmer weighed in noting that the iPhone had no chance of gaining significant market share.
3. In 2000, Kodak reported record earnings. How many financial prognosticators would have guessed bankruptcy by 2012?

Without belaboring the point, experts and ourselves struggle to anticipate high-change events. Technological advances are accelerating. Four touchstones:

1. Technology cost curves – think of Moore’s Law on computing power.
2. Technology convergence – photonics, biotech and genomic breakthroughs, cell phone graphics with computing power, etc.
3. Exponential S-curve adoption rates viz. color TV (took ten years to overwhelm), telephony with video, etc.
4. Business model innovation – Airbnb, cloud computing.

## Mutton dressed as lamb? (South African expression)

Driverless cars, or autonomous vehicles in general, are “gonna” happen faster than we think – no mutton here. The impact will be extraordinary and widespread. We ask you to ponder the following:

- Energy storage disruption is being driven by intense demand from power generators, electric cars, power grid costs, and distribution challenges of fossil fuels (electrons are much easier to move). Demand fuels supply. Battery costs are declining approximately 20% per year. Moreover, Tesla committed to solving Australia’s energy storage problem in weeks and months, not years or the system would have been free. And, they did it.
- Electric vehicles (EVs). Every automobile manufacturer has pivoted. An internal combustion engine (ICE) powered car has roughly 2000 moving parts whereas, an electric car has approximately 20 in related engine and drivetrain componentry. The maintenance differential is obvious.
- EVs have a target lifespan of 500,000 miles, climbing to a forecasted million miles by 2021 or so. At this rate of improvement, EVs will be 4x to 10x cheaper than ICE vehicles within five years.
- Technology continues its march forward. Autonomous driving uses laser/radar (LIDAR) for navigation. In 2012, the estimated cost to equip a vehicle with it was \$70,000. Now it’s \$90 with a forecast of \$25 in four to five years or less. Chip companies like Autoliv,

Qualcomm, Intel, Nvidia, Blackberry, etc., lead the way. Parking lane assist, self-parking and distance control are the warm-ups to full autonomy.

- Transportation as a service – Imagine a fleet of cheap-to-operate and long-lived electric cars available on demand in densely populated geographic locations. Who would want a car when the cost of car ownership is about \$10,000 per year? Millennials have already crossed over with driver licensing sharply down. Ask your own kids; Uber is “it” and will get much cheaper with autonomous cars. Of course, we haven’t even mentioned trucking. We know the owner of a national and large trucking company who can’t wait to start using electric trucks. He believes they, too, will be transformational.
- Computing power – Autonomous vehicles eat computing power and demand high speed networks (5G?). We have all read about Teraflop capacity increasing dramatically at ever cheaper costs, i.e., dropping exponentially over the past ten years.

Is this real? Singapore is doing it today. Pittsburgh is experimenting with self-driving Uber vehicles. Other cities, too numerous to detail (e.g., Portland, OR; Santa Monica, CA) are vying to get in early. Some estimate takeoff is by 2020; others predict 2025. Either way, the future is now.

## **Precarity**

With a soon-to-be-witnessed disruption, who or what gets dislocated, hurt, or squashed? Imagine the significant decline in vehicles, given longer life and transportation as a service (i.e., “ride-hailing”). Auto insurers, auto manufacturers, parts suppliers, rental companies (already impacted by Uber and Lyft), parking garages, energy (OMG – oil pricing), gas stations and pipelines.

Trent Eady estimates that 14% of the land in Los Angeles is devoted to parking structures and will become empty, only to be repurposed. Developers are already planning ahead. Recently, we met with a developer building a high rise with many floors of parking, who was already hedging his bet. Instead of slanted floors, each floor will be level allowing for conversion to additional office space, as warranted.

## **Intriguing Positives**

While the march to autonomous vehicles, we believe, is real, the exact timing is unknown yet “soon.” Getting started means careful consideration of chipset manufacturers/innovators, battery manufacturers, rare earths for batteries (lithium and maybe cobalt), 5G broadly rendered, rare metals (dysprosium, neodymium, terbium and related miners), graphite, nickel, battery recyclers, etc. Looking further out means picking venues for fleet operators and related technology.

Hopefully, we have engaged, if not challenged, your thinking. All comments are welcome. Not to be remiss, isn’t there a parallel in alternative lending, its disruption with FinTech, and capturing extremely attractive yield, TODAY?

In the meanwhile, all of us at Shinnecock Partners wish you and your families a joyous holiday season and a safe and prosperous New Year.

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<sup>1</sup> Source materials include Tony Seba's books, noteworthy research reports from UBS including their "Electric Car Battery Commodities" published December 2017, several TED talks, etc.

## Upcoming Events

See attached schedule of industry related events at which Shinnecock will be sharing more in-depth information and let us know if you'll be attending so we can look for you!



## Upcoming Events

Shinnecock will be in attendance and/or speaking at the following events. We'd be happy to have you join us!

**January 31 - February 2, 2018** – Miami Beach

*Context Summits Miami 2017*

Fontainebleau Hotel

4441 Collins Ave., Miami Beach, FL 33140

For information and registration: <https://contextsummits.com/miami/>