

ICM

Institutional Capital Management, Inc.



Quarterly Economic Commentary

The Supernova

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The Supernova

NASA tells us; “A supernova is the explosion of a star. It is the largest explosion that takes place in space. A supernova happens when there is a change in the core, or center, of a large star.” A supernova results in a release of energy greater than any other in the universe. It rages brilliantly for but a moment, propelling its elemental remains across our ever-expanding universe.

Craig Mundie is Chief Research and Strategy Officer at Microsoft. Craig’s team is tasked with designing the technologies and computers of the future. Craig uses the term “**tech-supernova**” to describe the accelerating revolution in technology. He draws one important distinction between the outer-space and terrestrial versions. In space a supernova produces a short burst of unfathomable energy while here on earth the **tech-supernova is continuously releasing energy, at an increasing rate.**

Change is a constant part of life. Mostly change is manageable, moving apace with our daily rhythms. But when the second derivative, **the rate of change**, quickens exponentially it can disrupt lives, societies, economies and governments. Syndicated columnist Fareed Zakaria wrote that “Future shock is when the global system is so complex and changing so fast it outpaces any ability to analyze or understand it.” Moore’s Law and an accompanying parable will sharpen my point.

Moore’s “Law” – a Chessboard and Quantum Physics

One of the quickest ways to grasp the impact of Craig Mundie’s **tech-supernova** is to remember Moore’s Law. Gordon Moore along with Andy Grove co-founded Intel. In 1965, Moore observed that the number of transistors on a chip doubled every 2 years. Moore postulated that the exponential growth rate would continue for decades. He was being conservative. Moore’s Law held through 2012, slowing just a bit since. Now for the chessboard....

As the old parable goes the game of chess was invented by the Wazir of the court of King Shiram. The King loved the new game and offered the Wazir any reward he could name. The Wazir suggested a reward of rice. Beginning with a single grain on the first square of his new chessboard and doubling each successive square until all 64 were covered with twice the amount of the rice of the preceding square, the Wazir would have his just prize. Shiram thought this a meager reward for such a great achievement, not realizing he would owe the Wazir just a tad over 9 Quintillion grains of rice. 9,223,372,036,854,775,808 grains to be accurate.

While the exponential arc of Moore’s Law may flatten, developments in **quantum computing**, the application of quantum physics to computations, promises leaps in speed and capacity that will usher in a wave of innovation yet to be imagined. History will thank Gordon Moore as it has Thomas Edison and quickly move on.

Applying the improbable power of exponential growth to the pace of technological advancement hints at how we have moved from telephones bolted to the kitchen wall to cars that drive and park autonomously. The huge supercomputer of my youth is now a phone/camera/ television/ theater, navigational device (and who knows what else) that fits in the pocket of your kid’s jeans.

Thank You for Being Late

Some books we read, some we devour. Some are cast aside and others are filled with notes written in black ink. Tom Friedman's latest is entitled, *Thank You for Being Late, An Optimist's Guide to Thriving in the Age of Accelerations*. I removed this book from my nightstand not due to boredom or disappointment but instead because reading it kept me awake. I suggest this book enthusiastically for the curious mind seeking common sense answers to perplexing technology questions. Tom explains the impact of Moore's Law by applying the concept to a VW Bug.

If the modern descendent of the 1971 Volkswagen Beetle were benefitting from the same rate of evolution as the microchip it would travel at 300,000 miles per hour, cost 4 cents and use one tank of gas in a lifetime. Friedman believes we are on the second half of the chessboard and the advances in technology will disrupt all we know at an increasingly accelerated rate.

A powerful take away from this book pertains to the advantages of practicing "dynamic stability" and avoiding "active inertia." In past writings, we have explored the potentially fatal shortcomings of active inertia; the tendency to revert to solutions that have worked in the past when attempting to solve new and evolutionary challenges. Friedman writes instead of maintaining dynamic stability. Two examples may help. The first and simplest; it is easier to maintain one's balance on a moving bicycle. The second, more dynamic example will be clear to anyone who has paddled a canoe or kayak through rapids. The boat must move at least as fast as the water for the pilot to maintain control. We all must adapt to our changing environment, adapt or perish.

Understanding Change

We generally see change as cyclical, the swinging of a pendulum from left to right in politics or from expansion to contraction in business. Sometimes change is structural, forcing industry and institutions to bend with the wind lest they snap and die. Finally change can have a temporal component. Secular change lasts a long time, generations perhaps. To put things in perspective, remember that Detroit, Michigan was the Silicon Valley of the 1950's. The best and brightest engineers flocked there to design futuristic cars with fins and wings and white-wall tires.

The tech-supernova is overwhelming cyclical change because it has introduced profound structural change in the most fundamental of societal foundations. The relationship between labor and capital has been disrupted by technology with terrifying results for America's working and middle classes. Our political institutions are struggling to meet the challenges, trapped in the "active inertia" of partisan politics and the restrictive "box" of old time thinking.

Convergent thinkers like it inside the "box" and divergent thinkers fancy themselves "outside the box." Successful navigation of the tech-supernova will require recognition that **there is no box**.

The Humbling of Davos Man

Davos Man, you may recall from earlier writings, is a member of the global elite who frequents a most exclusive club, the World Economic Forum. The WEF meets each January in Davos,

Switzerland to plot the future course of commerce and humanity. In January, 2016 the elites confidently entitled their confab, “Mastering the Fourth Industrial Revolution.” The agenda was filled with highbrow discussions of how the elites would structure commerce, society, education and government to manage the impact of the “tech-supernova” for the rest of us. Davos Man had no idea what awaited him just a few short months ahead.

Brexit, Bernie and Trump

Signs that Davos Man had been blinded by hubris emerged during 2016. A referendum was held on June 23rd in the United Kingdom to determine if Great Britain would remain part of the European Union. Meanwhile across the pond Americans hoisted two unlikely candidates to prominence. Bernie Sanders, an Independent Senator from the tiny state of Vermont and a professed Socialist, battled tooth and nail with party favorite Hillary Clinton for the nomination of the Democratic Party. Donald Trump, a political outsider vanquished party regulars in a series of televised debates to secure the Republican Party nomination.

To the surprise of many the Brexit vote was 52% in favor of leaving the EU. New Prime Minister, Theresa May moved quickly to invoke Article 50 giving the separatists a fast track to political and economic divorce. Bernie Sander’s campaign created a big ripple but eventually fizzled. Clinton emerged as the candidate of the status quo. To the dismay of traditional Republicans Donald Trump would be their party’s nominee. In a split decision, winning the Electoral contest while coming up short in the popular vote, Donald Trump was elected the 45th President of the United States.

A simmering populist uprising reminiscent of the 1930’s boiled over in both the United Kingdom and its former colonies. Davos Man was shown the door.

The “Future Shock” produced by technology and globalization had rewarded too few and harmed too many. Global elites, be they politicians, billionaires or business tech gurus were told in no uncertain terms that the system was unbalanced, unfair and unacceptable. The institutions of governance and industry would be held to a new standard. **The status quo remains under populist attack!**

What might this uprising mean for local government?

When citizens are presented with stressful change, challenges they are unprepared to meet with no solution in sight they turn to their government. In America, we are experiencing a push to downsize and decentralize government. The Trump Administration and many in the Republican party are committed to this goal.

Citizens will be encouraged to seek more of their answers at the local level. Unfunded liabilities handed down from Federal to State to local government means we will be asked to do more with less. The demands for a better quality of life in our communities will increasingly fall upon city and county officials.

The status quo will not be good enough. Many are viewing our institutions of industry and governance as obsolete, serving masters of a time past with terrible results for the working and middle classes.

A Brief Reminder

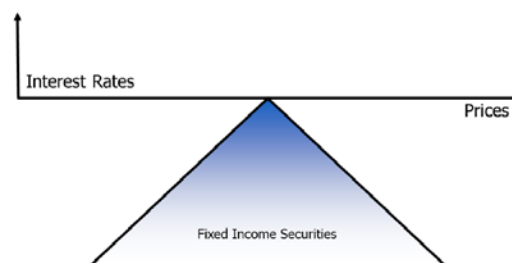
The Financial Crisis that crippled banks and economies around the globe forced the Federal Reserve to adopt radical experimental policies. These policies included public bailouts of private financial institutions and the auto industry. **But for our purposes the most onerous solution to the deep economic contraction that ensued was the reduction of both policy and market interest rates through massive central bank intervention.**

For seven years policy rates were held near zero and open market purchases called quantitative easing pushed market interest rates to record lows. We all became familiar with the term **financial repression. In an attempt to stimulate growth, savers were forced to subsidize risk assets like stocks and real estate.** Captive investors, those restricted by law and policy to high quality fixed income securities like US Treasury and Agency bonds were forced to accept artificially low yields. Insurance companies, pension fund – **and yes, local governments** – were forced to swallow the results of central bank intervention that would set the table for potential market value deterioration and in some cases, outright losses when the Federal Reserve decided to reverse course and allow interest rates to rise.

Financial repression, at least in America is beginning to unwind. The Fed has raised rates for the third time and is preparing markets for more to come. The Trump Administration has promised massive fiscal stimulation that may spur growth and federal deficits – both ingredients in a recipe to reflate the economy, will lead to higher interest rates.

Bond Prices and Interest Rates

There is an inverse relationship between bond prices and interest rates.



The graphic above demonstrates the risk faced by the sufferers of financial repression. When rates increase, bond prices decrease. This is a law of finance that cannot be subverted.

In an environment where constituents expect their public officials to protect their safety, jobs, homes and tax dollars, portfolio market values are set to decline.

In our increasingly politicized world public funds investors must engage in **preemptive education**. Finance and executive committees, County Boards and City Councils and the voting public need guidance to avoid misperceptions and costly mistakes. It is imperative that we understand and communicate that changing market values **do not represent realized losses**. **Our safe portfolios will not subject taxpayers to lost principal if securities are held to maturity. It will be encouraging to all who understand fixed income investing that our portfolios will weather the end of financial repression and produce increased income!**

Increasing income is a tangible, positive budget item. Fluctuating market values are transient and in the end, irrelevant.

Informed Portfolio Benchmarking and Preemptive Education

For decades ICM has emphasized the importance of identifying appropriate **cash flow** performance benchmarks for public funds portfolios. This means investing to maximize interest income and integrating budgets and investment strategies.

For too long local governments have benchmarked returns to the Merrill Lynch 1-3 Year Government Bond Index. Total Return Benchmarking has misdirected performance objectives to maximizing trading profits while largely ignoring income and timely liquidity. With the end of financial repression will come negative price performance. **Continued use of these inappropriate measures of performance will obscure the inherent safety in local government portfolios and ignore the most important factors of increasing income and targeted liquidity.**

Often political opponents search for a weakness, perceived or real, to base a campaign challenge against an incumbent. Proper interest income benchmarking will focus attention where it belongs; on Safety, Liquidity and Yield, not transient price changes.

Just as the path to financial repression was a policy choice beyond our control, so too is the path to higher rates.

Putting It All Together

We are experiencing the Tech-Supernova that will transform our local economies in unknown ways at a phenomenal pace. Robotics and artificial intelligence will cost jobs and suppress wages in vulnerable industries – both white and blue collar. It will be imperative that we understand **our most important portfolio, our portfolio of local businesses**. We measure the yield of this portfolio in terms of jobs, housing, tax revenue, schools, services and growth they produce. We will need to manage our financial and human resources in local government in ways that can be

demonstrated to improve life in our communities while protecting the taxpayer's interests. And we must manage our portfolios to produce more income and targeted liquidity and prove we are doing it! Proper benchmarking can help lead the way.

Cash Flow and Tax Base Analysis

Making the conscious transition from indexed investment objectives to community based goals will lead to a more efficient use of taxpayer resources. It will become clear that financial and human resources are managed not to decline less in market value than the Merrill Lynch 1-3 Year Index but to create a vibrant community that attract jobs and enhances the quality of life at the local level.

The tech-supernova has and will continue to produce change at the core of our industrial society. Remember the words of Ray Wang from his book, *Disrupting Digital Business*, **“Digital Darwinism will be unkind to those who wait.”**