Rudolph
FINANCIAL CONSULTING

Newsletter – 2019 Predictions

My name is Max Rudolph. I consult with institutional investors, advisors, and other consultants about enterprise risk management, asset-liability management and strategic planning themes. I also do research projects and read quite a bit about financial and historical topics. I try to find examples of history repeating itself through similar cycles. I am a private investor focused on individual stock selection and value investing techniques. My background earning credentials from the Society of Actuaries and CFA Institute, combined with proximity to Warren Buffett and Charlie Munger through Omaha residence, has paid dividends. I believe you can reduce risk and increase return simultaneously using contrarian techniques. Recent interests include complexity theory, behavioral economics, and climate change. These are also the topics I occasionally tweet about @maxrudolph. In addition to client work, I develop and present continuing education programs and am an adjunct professor teaching online graduate level investment and ERM programs at Creighton University. I live in Omaha, Nebraska, USA, am credentialed as an actuary (FSA CERA MAAA) and hold a CFA charter. I have written a monthly newsletter since 2008 and each January post my predictions for the year. Late in the year I review and compare against what actually happened. Some topics are written at a high level, dealing with the general economy. Some are more detailed, covering specific topics like incentives or modeling financial assets. Most cover issues that I am stewing over and need to do a brain dump. In March I update my intrinsic value calculation for Berkshire Hathaway and in the fall I update the scenarios I think should be tested by financial institutions. I am a lifelong learner, and that impacts how my current thinking evolves. My newsletters are educational in nature and do not constitute investment advice. They are released publicly at www.rudolph-financial.com with a delay of several months after they are released to subscribers.

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Predictions for 2019

These are not really predictions in the classic sense. Treat them more like scenarios that you should build resilience against to survive over the long term.

Disclosure - please remember that these predictions are for fun and to encourage deeper thinking across topics and a longer time horizon. If I really knew what was going to happen I would not share that information with you! You must make your own personal investment and risk decisions, consider your unique financial circumstances, and not hold others (especially me) responsible for your own financial planning or lack thereof. If you don’t accept these conditions you should stop reading now. Keep in mind that this is NOT investment advice. For those still with me, Enjoy!

General happenings

The financial markets continue to confuse me. I see lots of warning signs; geopolitical risk, monetary policy tightening, reduced covenants, higher leverage (especially margin debt), warnings from pundits. In addition, we are now a year post tax reduction – the period when stimulus traditionally ceases to be effective. It feels like all we are waiting for is a trigger for a crash. What could cause emotions to turn against assets? A Presidential tweet, war in the Middle East, an implosion in Venezuela or North Korea could be all it takes. Trump has now completed two years, and it has been very stressful even for those of us who are not involved (I am proud to be an American and very concerned about the path we are on, both politically and environmentally). This makes it even harder to understand how the economy continues to grow so quickly. The lack of business investment, with companies preferring to pay out dividends or buy back shares, is a worrying development. It is a good time to pay down debt. Are we better off on auto-pilot with a nonfunctional political situation? Do human interactions reduce growth, so taking us away from decision making means better decisions are made?

The US tax plan has added to the imbalances in the system that needs so desperately to clear. Reducing regulations makes sense in some instances, but unwinding Dodd-Frank without discussion and shutting down EPA and DOE functions with no discussion is scary. Monetary policy should have tightened more last year (or in 2011), and continued dovish stance will make any recession deeper.

European and Japanese Central Banks have gone beyond buying government assets and now are major players in the equity markets. They will be challenged while unwinding those positions or getting in the middle of a proxy fight. I wrote an essay in 2018 titled Driverless Investing about my concerns.

I tend to think farther out on the time horizon than most, and I can see a scenario that scares me very much. One where bullies with guns take what they want with immunity, destroying the economy and civilization as we know it. The Fourth Turning shows additional signs of its appearance each year. Can moving away from gerrymandered districts create moderate candidates? We have populists at both ends of the spectrum, left and right, who back scary and poorly thought out policies. Some states should test a top-two election methodology. Those who do, and create moderates, may end up with outsized power as the brokers for change and lead other states to follow. Everything is cyclical.

Climate change will continue to be a major topic for as long as I can see. Humans have created change at such a rapid pace that plants and animals can’t keep up. Species are being eliminated so quickly that we will have to carefully choose which ones to retain since we can’t save them all. I will be talking publicly about climate change in a webinar for Actex Learning on March 5 where I will share some of my thoughts about what each of us can do to help.

I continue to believe that the underlying world economy never cleared the imbalances built up over the past 20 years (starting with the Fed's reaction to Y2K, and arguably earlier than that based on *After the Fall* that goes back to Continental Illinois). Even worse, we have entered a new Gilded Age where everything is pay to play and inequality gets worse.

Central banks need to push back on politicians who act as if they can spend all they want because they want you to think that the Fed drives the economy. Monetary policy only works when fiscal policy is reasonable and debt/GDP is below 90% (per Reinhart/Rogoff *This Time is Different*). We need infrastructure spending but political posturing is just that.

I see similarities to 1938 moving into 1939, when the Great Depression was reenergized by the Fed and fascism had gained momentum. War soon followed. 1973 and the nifty fifty have many similarities with the current environment, with guns and butter making a comeback in economic analysis. Deficits cannot continue without ramifications. There are also similarities to other 4th turning cycles such as right before the Civil War.

Trump's appointments include many who are unqualified, and others who care more about their own earnings than whether the next generation gets a fair shake. New judges are particularly scary as they are lifetime posts.

In 2019 the Fed will back off its tightening schedule as it reviews the post-tax reduction cycle. It will be interesting to see if tax refunds appear as expected. I know I'm very uncomfortable with the withholding put in place early last year. I would not be surprised to see a European financial crisis kick up soon, perhaps triggered by Brexit. Southern Europe would be better off out of the EU. Germany would not.

In the US velocity of money may have bottomed, but it doesn't feel that way.

Fracking will eventually find itself more noted for the water it wastes and the loans it defaults on than being able to make the US energy dependent.

This late in the cycle individuals should be looking closely at the debt in companies they buy. Reduced covenants in bonds will also be a problem, along with anything collateralized. Keep it simple at this point in the cycle. Don't be the sucker at the table. The US continues to live off their reserve currency status, and this gives politicians an excuse to spend and blame the fallout on others. They make fun of modern monetary theory (MMT), as they should, but how is what they are currently doing any different? Active investment strategies will do better over the next few years than passive ones do as a recession hits, but only when value strategies are followed. Those running after last year's best performers will not do well. Subsidies from both fiscal and monetary policy remain in the system. Investors should become versed in MMT and the impact it could have (bad) if implemented.

Will passive strategies create their own form of bubble? Yes, but it is not clear what it will look like. Many ETFs carry basis risk by not investing in the entire group they represent. This is a concern since a selloff won't be evenly distributed across all assets, but will be driven by those with the most leverage trying to sell their most liquid positions.

Risk appetite is not constant; it varies with volatility and the length of time since the last correction. If someone is honest they will admit that they were scared to death in March 2009 and willing to accept the extra risk for return proposition in 2006. How did those decisions work out? Or someone who took all their money off the table in 2006 but has not yet reentered the market? Their risk is one of omission.

When everyone is on board with culture, and everyone agrees, is anyone really on board? If contrarian views are missing, then a period where risk is growing ensues.

Russia, China and India continue to accumulate gold as if a new Bretton Woods is on the horizon. Tariffs and a haphazard trade policy make it hard to tell if the dollar will rise or fall, making it very hard for exporters. The investments to look for are companies with US monopolies once imports are turned off. This should result in pure profit for them as prices can rise with no increase in quality or volume. Warren Buffett's Berkshire Hathaway should do well, using volatility to buy back shares while it waits to deploy capital (over $100 billion).

North Korea seems to accept its role as a distraction, but the real risk is in China and the Middle East. The South America issues will cause some problems in the US, mainly in Florida and any groups with exposure to Citgo. Housing bubbles are growing everywhere, especially where airports have direct flights to China (US, Canada, Australia especially). Venezuela has imploded, but other South American countries are stabilizing.

The world is susceptible to novel viruses, especially now due to warming temperatures. Anthrax has already appeared in decaying animals that had been frozen (recall that Alaskan permafrost was visited to capture H1N1 from 1918). The Middle East remains unstable, and growing populations in Africa either need something to do or somewhere to go. Climate change and other sustainability issues are making water and other resources the driving force behind regional conflicts. This will only get worse, and an isolationist US is not going to help. The 2020 election will be interesting, and the Democrats have, in my opinion, made a mistake by moving further to the left. A moderate candidate would more easily take votes from the Republican base. I still expect Nancy Pelosi to have a succession plan in place, and perhaps implemented, by the end of the 2020 primaries.

Climate change is real and scary. I learn more about it every year. It is fascinating how little we really know about how it will play out, and how often when something new is learned that it makes things worse. The shrinking Arctic ice sheet's impact on jet stream and ocean currents, the sinking of the ocean floor due to the heavier weight on top of it as glaciers melt and water expands, and the important role of methane in global warming.

There are NOT two sides to the science. It is real, and those who say otherwise should produce their tax returns to show who is paying them.

It is too late for a carbon tax to work by itself, and I wish we were spending money and resources to develop cost effective methods to scrub carbon from the air and oceans. The problem is that the rate of change is destroying biodiversity (plants and animals can't evolve quickly enough to survive). Where should you buy if you are a billionaire? Do I want the fresh water of the Great Lakes, or the desert of Montana? The climate is evolving, but not always as expected. Tornados were expected to move north as temperatures increased, but instead they have moved east and north as the plains became more dry.

Extreme events happen every year. They are rarely identified in advance. Scientists are better able to show what has happened in the past, and many have turned these findings into documentaries. Earthquakes, volcanos, tsunamis, fires, floods, and tornados have all been subject to the small screen, and the big screen can be expected to see more climate related fiction in the future.

Tariffs and heated rhetoric, tied with the government shutdown, make it hard to interpret data in 2019. Fiscal policy remains stimulative, even as the economy is strong. This is a concern as fiscal policy is the signal, with monetary policy only noise. The high current debt levels mean that minimal growth is added by stimulus. We will see individuals and companies avoid locales where public pensions are underfunded. This will play out over many years. Don't move to such an area today if you can avoid it.

Outlier (Qualitative) Scenarios

Here are some outlier scenarios I think are more likely to happen than consensus in the next several years (some may not happen for a decade or more). Due to the long-term nature of these scenarios, in some years they might not change or only slightly be tweaked. Examples focus on the US but these are worldwide risks.

- Cyber-terrorism impacts the banking system or shuts down the power grid
- Space junk knocks out a satellite used for public communications
- Atmospheric river hits California and dumps rain on the west coast for a month – seems more likely as jet stream weakens
- A severe earthquake (or volcanic eruption) hits California, St. Louis or Seattle
- Super-volcano becomes active somewhere in the world (US option is Yellowstone): longer time horizon
- Magnetic poles will switch between north and south: longer time horizon
- Carrington event knocks out electronics on a wide scale (EMP: naturally occurring electromagnetic pulse)
- Fracking is declared illegal due to environmental impact
- China erupts in civil war or regional conflict with a neighbor over resources – most likely fresh water or sea-going route

- Eurozone breaks apart – could be north/south, poor countries/rich countries or just kicking out individual members
- Venezuela erupts in violence, shutting down their oil industry and leaving South America a regional hot spot – **this has already started**
- A severe virus develops drug resistance and becomes transmissible by air
- Antibiotics fail to work against a common bacterial infection
- Iran encourages regional conflict and becomes the Middle East's consolidating superpower against Saudi Arabia
- Water resources trigger a regional conflict (likely Himalayas, Middle East, or Europe)
- S&P500 down 30% from high point, combined with double recent bond defaults and real estate collapse in the largest coastal cities. (increase until it becomes a solvency event so you can strategically determine hedging strategy)
- GDP down for 3 consecutive years.
- Climate change leads south Florida to become unlivable and becomes a leading indicator for other changes (reduced biodiversity, sea level rise, increased strength of convective storms): slow, painful, and so far mostly unimagined by the market
- Insect biodiversity reduction leads to unanticipated consequences

While I tweaked some of these, there were no major additions.

These predictions were made in January 2019.

- Politics and currency wars: Prediction – 2019 is a set up year, so the Democrats will face off while Trump fights off Mueller and other investigations. This likely means that something unexpected will happen, rather than having an easy year. The US is likely to fall into recession, and the tariffs will create many economic casualties to put on TV as examples of Republican policies. The Fed will back off but look for opportunities to move closer to clearing the system so they have some bullets when they are needed. Brexit and the Middle East are the prime candidates for a trigger. China overall is the biggest concern as they face economic slowing growth along with rural unrest. Investors should reduce margin and invest in companies with low debt. Look for a cyber-attack to show international actors are capable of doing so at will.
- Geopolitical: as the US looks inward in some ways while trying to dominate in others, this will confuse the world order. More countries will feel able to test out regional conflicts. Security in South America should be a focus, and not just in Venezuela.
- Stocks and general economic conditions: The late 2018 correction is likely not enough. More drops will occur going forward. It was not a bottom. The tariff war says you should avoid businesses that rely on retail exports from the US as that market will shrink. It's a poor way to adjust international trade. I continue to avoid bonds, expecting a spike before demographics overwhelm the data and rates fall. Japan is only the beginning. I prefer to use highly rated dividend stocks for income, with yields above 2%. I see the economy contracting by the end of 2019.

We may continue to see consolidation in the insurance industry as foreign buyers seek diversification and US domiciled firms seek to exit interest sensitive lines. The S&P 500 closed 2018 at 2,506.85, down 4.38% (total return) for the year. With money market funds at 2% I am strategically using them again for the first time in many years.

- Unemployment: Employment statistics have changed. The gig economy, along with changes to two worker families and health insurance variations makes it harder to go between jobs (locked into mortgage or health insurance, concern about future layoffs). How pensions have destroyed themselves is very disappointing. Public plans will impact moving decisions for decades to come. I expect the unemployment level to rise by the end of the year from just under 4% in 2018.
- Residential home market: US regions continue to have lower correlations with each other, but coastal cities with direct flights to China and South America continue to heat up. Australia may be the next bubble to burst. With climate change giving Miami a death sentence, you wonder why other cities have not become hot with South American money seeking safety.
- Volatility: The VIX closed 2018 at 25.42. I find it impossible to predict VIX but I think a reasonable "normal" range when debt is this high would be at least 20-25. A single digit VIX is definitely too low and above 35 is too high, but as usual I see more possibilities for a higher result going forward, especially if we experience both a recession and 20% drop in the stock market. I am not an options expert but wonder if this assumption has undervalued the cost of volatility in those markets. There must be a better metric to reflect risk.
- Oil: WTI oil at the end of 2018 was about $55 per barrel, ending the year not far from where it started but experiencing volatility and supply manipulation during the year. I have no ability to predict the price of oil, but the combination of OPEC limits and frackers close to or below breakeven makes it likely that the next spike will be due to a geopolitical event. Currency wars also play havoc with the oil price. Energy is about as complex as financial markets get.
- Credit risk: I am worried about frackers and low BBB bonds, with potential spillover effects as margin calls and redemptions are satisfied with quality assets. At some point US Treasuries will recognize the higher risk they now possess. At some point the US will have to declare them worthless due to high debt levels.
- Currency/Inflation/Interest rates: IF a country adopts a realistic monetary policy it will strengthen. In the meantime it's hard to predict currencies. In the long run demographics are destiny. We should be encouraging immigration, keeping the best ones, rather than pushing all away.
- Fed policy: Due to lack of proactive planning, made worse by the current administration, the US is susceptible to a large catastrophe, financial disaster, or armed conflict. Puerto Rico still needs infrastructure, we are threatening Venezuela and Cuba, and we keep pushing to be insular. Eventually the fiscal policy that is the signal will blow up. Monetary policy is secondary, but politicians act as though it is primary. The best monetary policy would be to clear

the system and force the Treasury to get their act together. The Middle East could blow up at any time.

- Tax policy: There is growing pressure to address inequality, with taxes leading the list of desires. It will likely be a key 2020 election issue, but Democrats should be wary of going too far. If they get a clean sweep in 2020 expect this to be a key issue for them to follow through, along with guns and climate change.

Emerging Risks - Concerns

- Infectious disease - increased resistance to antibiotics (e.g., tuberculosis, staph infections or pneumonia), coronaviruses, Ebola (and similar), avian flu types that are transmissible by air. Permafrost melting may have additional surprises for us. Mosquito borne diseases are moving north and west in the US.
- Global warming – unexpected side effects like new viral/bacterial attacks, along with coastal flooding, wildfire/flooding combinations, record cold and heat, more concentrated coastal storms at unusual times of year, stronger and more frequent convective storms, and shifting weather patterns that impact farming through changes to the jet stream due to the shrinking Arctic ice flow. It is going to be increasingly difficult to be a farmer over the next 50 years as climate warms and modifies. It could be worse in Europe due to weakening ocean currents that carry warm Caribbean water to the UK and Scandinavia. Whether we like them or not, genetically modified foods may be the only thing that adapts quickly enough. We'll continue to see extinctions as conditions change too quickly for most species to adapt and biodiversity shrinks. Record high temperatures for the planet persisted post el Nino – this is a very bad sign (we are again seeing recent el Nino peak results as a reason why the earth was cooling – look how high this data point is relative to today). Look at a graph of all data points rather than comparing single year data points to avoid cherry picking. It makes it too easy for climate deniers to lie with statistics. Statisticians need to police the use of statistics to align incentives. The solar cycle has been weak and would be cooling the planet. The real estate market in Miami should blow up in the near future, but to date shows no signs of doing so.
- Earthquakes and hurricanes – the US is overdue for a major quake on the west coast and areas not normally thought of for seismic activity due to long dormant periods (e.g., Seattle, St. Louis, New York City) are well into their cycle. The weaker jet stream is leading to more atmospheric rivers, and combined with the wild fires will create havoc. There is no longer a season when wildfires are not common in California and Australia, and other regions in the US are also at risk due to the pine beetle infestation. Due to warmer air, more moisture is held by the atmosphere. Apparently this breaks up hurricanes but leads to stronger convective storms and nor'easters). The weak jet stream leads to hurricanes and lesser storms sitting over a single spot and inundating it while no moisture is felt just a short distance away. The additional weight of the warmer water causes breaks in the earth's crust under the ocean, adding another risk to fracking beyond the earthquakes caused in areas such as Oklahoma (where the Ogallala aquifer, at risk of depletion, is being used for shale oil production).

- Levees in California, water poisoning in big cities, cyber hackers, transportation of oil and oil based products via rail through urban centers (e.g., downtown Chicago) are all regional risks.
- Malthus – too many people, not enough resources – How do complex systems interact based on changing and fast moving inputs? Is it really so bad to have aging demographics, changing immigration trends, and shrinking populations? Should we look at GDP growth by splitting it between population growth and productivity growth? In the long run we are more susceptible to war, famine and disease through population growth, and this interacts with climate change issues.
- Student loans – not only will millennials default due to student loans, parents who co-signed for them will as well. This situation is having adverse consequences with substandard car loans too.
- Concentration risk – this will be a hot topic over the next few years. Whether it is power at the top of an organization (moron/hubris risk), short term liquidity, geographic focus or silo risk focus, too much concentration in too few entities or people is a great risk. Eventually it will take you down, especially if leverage is involved. Margin debt is at record levels, not a good sign. Identifying concentrated exposures should be a focus during strategic planning efforts at companies. Concentration risk also increases contagion risk. Less focus should be put on fancy econometric models and more on simple exposures and their downside impacts. Clustering, where several events that are independent occur within a short period of time, will drive solvency of insurers.
- Terrorism – in the US, political extremists may become active leading into the next election cycle. It amazes me that we have not had more attempts to injure politicians, especially with the lack of gun controls. This election cycle could be a dangerous one for politicians.

Top Actuarial Issues

- Defined benefit plan valuation – valuation methods need to be revamped to front end funding levels for both private and public plans. Assumed returns remain much too high. I would suggest using nothing higher than 5%, with a cap of the most recent 10-year geometric mean, and that might need to be lowered. Fiduciary standards should require conservatism in pension assumptions.
- ORSA/PBR implementation – ORSA, and rating agencies views of ERM, have both become less important. This won't change until the next blowup. Few companies want an honest opinion, preferring to get the good housekeeping stamp of approval from a large consulting firm members of their board are familiar with.
- Product design – gross exposure is more important during a crisis, while net exposure drives results in most circumstances. A concern I am seeing is that companies are adding the NAIC 1000 scenarios from the ESG (Economic Scenario Generator) to their cash flow testing because of the mean reversion feature. Results are better than from the NY7. As I've shown in my research papers, in this environment the ESG provides best case results.
- Obesity/smoking/biomed technology – how will the various drivers of mortality and morbidity interact (some good, some bad)? Opioid results are strengthening.

Initially regionally driven by states like Ohio and West Virginia, it will expand before we regain control. Smoking has stabilized and cancer deaths are lower.

- Health care – this is another election cycle issue. The measles outbreaks have made vaccines an issue. I worry that we are moving toward antibiotic resistant bacteria as research is discouraged, and we are definitely not prepared for an influenza pandemic. We should be focused on preventive measures.
- Systemic risk – I believe there is systemic risk in insurers, but only when they all play "follow the leader" with sales, investment, or product design practices. Many are currently adding longevity risks by accepting payout annuities. A cancer breakthrough or low growth scenario could be solvency threatening.
- Over-reliance on the normal distribution – I would like to see life/health actuaries train with their casualty brethren and learn more about power laws that appear to represent the tail distributions better than bell-shaped, normal, distributions.

Predictions from January 2013

I posted my first annual financial predictions in 2007. Each year I will look back and share interesting comments I made that seem accurate in hindsight. I have deleted sections but not changed the wording in what remains.

These (mainly) economic predictions were made in January 2013. Recall that this year featured the first year of President Obama's second term.

- Politics: Prediction – Gun laws evolve but don't seem to stop massacres. I continue to worry about the mayhem unleashed when King Abdullah of Saudi Arabia dies. Europe continues to kick the can down the road.
- Stocks: As long as the Fed maintains artificially low rates stocks will outperform other asset classes. Over the next 10 years stocks will outperform both cash and especially bonds.
- The trend of young and old moving in with empty nesters will continue, much to their dismay.
- Oil: If oil prices fall below $50, political instability in Russia and Venezuela will quickly follow.

Top Actuarial Issues

- Defined benefit plan valuation – valuation methods need to be revamped.
- Obesity/smoking – how will the various drivers of mortality and morbidity interact (some good, some bad)?

Hopefully these annual letters look at things from a slightly different perspective than you see from others and make you think. That is my goal.

Happy New Year!

Warning and disclaimer: The information provided in this newsletter is the opinion of Max Rudolph and is provided for general information only. It should not be considered *investment advice. Information from a variety of sources should be reviewed and considered before decisions are made by the individual investor. My opinions may have already changed, so you don't want to rely on them. Have fun!*