**Greetings!**

Many Americans are pouring their hard earned savings into robo-advisors or putting their money in the hands of financial advisors who blindly follow simple financial and market models. **Many otherwise brilliant minds are putting their life savings in algorithmic and quantitative investment strategies without fully checking under the hood of these vehicles such as ETFs to understand what they really own and on what assumptions the models were generated.** Yet, any good engineer and business analyst knows the core tenet of data analytics: **GIGO. Garbage In, Garbage Out.** Below I delineate how the most prevalent models are inadequate and, therefore, predict inflated returns for their clients and inflict a false sense of security.
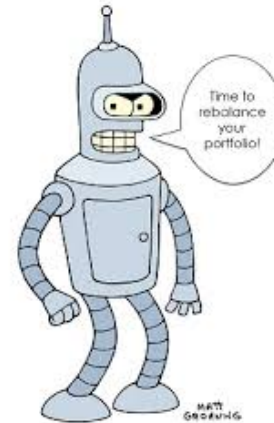
Almost all financial firms use the same disclaimer: "Past performance is no guarantee of future results." Yet, the financial models used by most if not all of robo-advisors and banks, use historical returns as the main premise to forecast future returns and invest your money accordingly. **Artificial intelligence is still rudimentary and these models do not recognize the impact of historical anomalies, inflection points, and composition changes when predicting the future, resulting in a bevy of flawed assumptions and overly rosy projected returns.**

Here are particular examples of how most robo-advisors and financial models miss the mark:

1. Not as diversified as they seem

Many financial and robo-advisors claim their strategies are based on Modern Portfolio Theory which was first developed in 1952 by Harry Markowitz. This Nobel Prize winner's theory in part stated that an investor can reduce the overall risk of a portfolio by diversifying – i.e. buying investments with low correlation.[1] From 1995-2000, U.S. large company stocks had a .66 correlation to emerging markets stocks, according to Schwab.[2] Correlations have risen and emerging market stocks now have a .82 correlation to U.S. large company stocks.[3] Therefore, the different indices that robo-advisors and financial advisors place you in are so highly correlated that the benefits of diversity are overstated.

Source: Scott Adams. *Dilbert.*

2. Missing emerging market indices' composition changes

As stated in my white paper "Misleading Emerging Markets Funds,[4] MSCI and other benchmark companies have drastically changed the composition of the emerging markets index in the past decade. Therefore, it is inaccurate to use past returns of emerging markets' indices to project future returns.

Historically, emerging market indices were dominated by developing countries like the BRICs – Brazil, Russia, India, and China. I worked in London during the 2008 financial crisis advising emerging markets fund managers on which companies to buy in Russia and Sub-Saharan Africa. China was a small part of the index but it now dominates the index along with South Korea and Taiwan. In the last decade, the bulk of the emerging market index was comprised of countries which were net oil and commodity exporters. Now, it is dominated by oil importers and Asian tech stocks. Extrapolating from historical data about emerging markets is misleading because the composition has been radically changed. GIGO for

those models. Nonetheless, investors are chasing returns and put over $8 billion into one of the biggest emerging market ETFs – IEMG. These investors have lost 5% in 2018 so far. [5]

3. Bond, cash, and interest rate forecasts often are based on anomalous years of hyper-inflation, leading to overly rosy forecasts

US 10 Year Treasury Rate
Source: www.ycharts.com.

Many robo-advisors use historical averages to predict the expected growth rate of cash and bonds. Some models assume long-term cash yields are 3% (I wish this resembled reality) and long-term bonds of 5 or 6%. This is because most models include a huge era of hyper-inflation and interest rates that hit 20% in 1980[6] due to the oil crisis and the impact of taking the dollar off the gold standard. This was a historical anomaly-- it is impossible to go off the gold standard a second time. Yet, this period is not excluded from the majority of financial models, leading to much higher cash and interest rate assumptions than is likely to happen in the future.
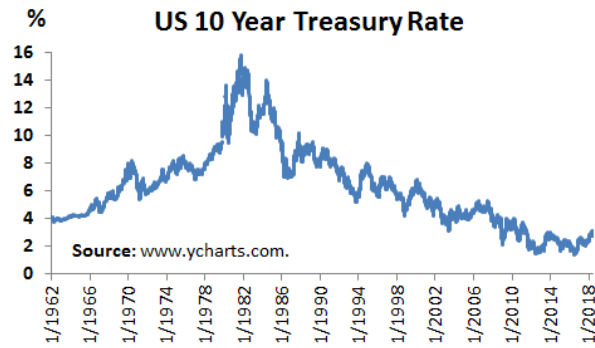
4. Conflating bonds with bond funds – Most robo-advisors and financial models average historical bond yields and then adopt these assumptions about bonds to place clients in bond funds. Yet, as stated in my *Wall Street Journal* article **"Bonds vs. Bond Funds: A Distinction Wealth Advisors Should Explain,"**[7] bonds are distinct vehicles from bond funds which do not offer principal protection or a stable cash flow. Therefore, it is inappropriate to use historical returns of bonds for bond funds. Investors, fueled by robo-advisors and models, pumped $4.5 billion into the biggest bond fund AGG year to date, which lost 3% so far.[8] None of the assumptions show negative numbers as a base assumption and most show the volatility of bond funds to be based on bond variability, which underestimates the real risk of these "conservative" investments.

5. Assessing interest rate levels but not deltas. As explained in my white paper "$4 Trillion in Bond Funds at Risk,"[9] basic bond math dictates that bond prices rise when interest rates go down and, inversely, bond prices fall when interest rates rise. A bond with a 3% coupon increases in values if interest rates fall to 2%, but that bond with the 3% coupon falls in value as interest rates rise. The Fed has telegraphed that they plan to increase rates, yet the current models do not account for that fact that interest rates are likely to rise and, therefore, bond prices are likely to go down with this level change.

Source: Adams, Scott. *Dilbert.*

Robo-advisors and quantitative financial models may seem cutting edge but have not been able to overcome the flaws in their statistical models. This has given clients a false sense of security as particularly bonds and cash forecasts are too high. Many firms claim they are most interested in helping clients achieve their goals and set an annualized target return of 7% or so. If a good portion is allocated to cash and bonds, the models' high assumptions are unlikely to be hit – and these firms are not giving their clients realistic assumptions but a false sense of security.

If you want to know how to get a more diversified, transparent, tax-effective investment portfolio with the potential to significantly outperform the market indices, please feel free to contact me.

Best regards,

Maya

maya@metapointadvisors.com
(415) 691-1062
(703) 944-1179

Sources:

1. "Modern Portfolio Theory". Wikipedia. **https://en.m.wikipedia.org/wiki/Modern_portfolio_theory**. Accessed June 3, 2018.
2. "Schwab Intelligent Portfolios Asset Allocation White Paper." **https://intelligent.schwab.com/public/intelligent/insights/whitepapers/asset-allocation.html**. Accessed June 3, 2018.
3. "Schwab Intelligent Portfolios Asset Allocation White Paper." **https://intelligent.schwab.com/public/intelligent/insights/whitepapers/asset-allocation.html**. Accessed June 3, 2018.
4. Joelson, Maya Marisa. "Misleading Emerging Markets Funds." January 2017. **www.metapointadvisors.com**.
5. ycharts. IEMG. Accessed August 16, 2018.
6. ycharts. US Interest rates. Accessed August 16, 2018.
7. Joelson, Marisa. Coppola, Alex. "Bonds vs. Bond Funds: A Distinction Wealth Managers Should Explain." *Wall Street Journal*. December 26, 2017.
8. Ycharts. AGG. Accessed August 16, 2018.
9. Joelson, Maya Marisa. "Is there $4 Trillion in Bond Funds at Risk?" . Fall 2017. **http://www.metapointadvisors.com**.

Marisa (Maya) Joelson
Founder of Meta Point Advisors

maya@metapointadvisors
415-691-1062

Maya is a Harvard-trained economist who leverages her two decades of top-level experience across Wall Street, the City of London, emerging markets, and advanced technology to devise investment strategies for her clients. She founded Meta Point Advisors after several years as a Financial Advisor at Merrill Lynch. Maya's clients benefit from her ability to provide savvy active management without the cumbersome costs and structure of mutual funds. She has been quoted in *The Wall Street Journal* and *Barron's*.

Marisa Joelson holds a MPA from Harvard Kennedy School, a MBA from Kellogg at Northwestern University, and a BA from Wesleyan University.