How the Markets *Really* Work

July 2021 - Explorations

It's always a bit scary when going onto one of those travel sites, like Expedia, with the goal of booking a flight. It is an open secret that your data is being sold to pretty much every corporation out there. That supposedly anonymized data is then analyzed by increasingly sophisticated software. Pretty much everyone knows you are about to book a flight, where you are going, and preferred dates – perhaps even before you do[1]. Now imagine that as you clicked on a price to buy your actual ticket somehow the price moved $5 - $10 higher before you were confirmed - now you have a sense of the US listed market[2].

While working as a trader, portfolio manager and product structurer on the global capital markets desk for ING around the time of the 2008 financial crisis, I began noticing that when I entered a bid on a stock, any stock, all of a sudden the listed bid and offer prices would move around and take on a life of their own. Many times, when I went to take an offer or hit a bid[3], somehow someone else would beat me to the punch. Once in a while, I became frustrated enough to call the broker supporting the trading platform we used to no avail. It became obvious that I was fighting against algorithms, not actual real investor interest, so most of the time I would let the market come to me (meaning I would not adjust my bid higher or offer lower).

Flash Boys, a great book on market structure written by Michael Lewis[4], uncovers how I got beat to the punch when going to take that offer or hit that bid. Trading firms were literally paying billions of dollars in laying down direct lines to the exchanges and co-locating their technology in as close proximity as possible to the exchanges in order to shave milliseconds off their trading execution[5]. Despite my having an institutional level setup at a global bank, these trading firms were able to see my order coming in real-time and beat me to the punch by taking an offer or hitting a bid ahead of me. That sounds illegal, but somehow it is not.

Public Face of Markets featuring "Open Transparent Exchanges"

Colocation Servers in close proximity to exchanges temper that public image

[1] One may scoff but analytics allow computers to understand our patterns better than we do.

[2] Forget about the bond market, which is not exchange-based and was a significant source of market stress during the initial days of Covid – a topic discussed towards the end of this exploration where we discuss market structure concerns.

[3] "Take an offer" = buy at a price that was publicly offered for sale. "Hit a bid" = sell at a price that was publicly bid for purchase.

[4] Michael Lewis, a great writer, was our inspiration to explore market structure in a hopefully readable, exciting/interesting format.

[5] At one point, the book describes a $300 million cable laid in the most direct route possible from Chicago to NYC in order to shave nanoseconds off trade time delivery. This cable was laid in utmost secrecy.

It is a story similar to buying order flow, a practice that briefly caught the public's attention when Robinhood got swept up in Gamestop (GME) trading earlier in 2021. When a for-profit company provides free services, it is worth noting who the true client is. In the case of Robinhood, it is the high frequency traders buying order flow, not the users of the application. Robinhood generates 75% - 80% of their revenues through payment for order flow[6]. Selling order flow to a trading firm conflicts with the concept of truly efficient markets. It allows the trading firm to simply trade on the bid or ask, suppressing any natural order flow that may allow for a trade in the middle of the market. This limits the competition that could provide better pricing.

The point here is that market structure is intensely complex. Most of the time, the items above are similar to the penny scheming concept from the movie Superman III and Office Space, where it is costing clients fractions of pennies that flow to the trading firm. But sometimes it is bigger than that. And we have an obligation to understand all of it.

Financial Wizardry - *A Brief Primer*

Most investable financial assets can be broken down into equity or debt (AKA fixed income)[7] exposures. A convertible bond is a debt obligation that converts at a specified price to an equity investment. Derivatives provide exposure to either debt or equity. For example, an exchange-based option on the S&P 500 (an index of US public companies) specifies the level at which an owner of an option can buy (Call) or sell (Put) the S&P 500. Three letter acronyms starting with "C" have received a bad rap historically, but ultimately, they are simply a complicated wrapper providing a level of exposure to a form of equity or debt or both. For example, A Collateralized Debt Obligation (CDO) holds a pool of debt securities (e.g., mortgages) with clear directions about how received income and principal payments are disbursed (e.g., a waterfall). This structure conceptually allows more efficiency in selecting one's desired exposure with a diversified underlying basket of ***debt***. Unfortunately, during the 2008 financial crisis, the debt placed in these CDOs were fraudulent mortgages in many instances. This was exacerbated by derivatives[8]. The thesis of a group within AIG was that it was inconceivable for the major global banks to go bankrupt. They acted on this thesis by selling Credit Default Swaps (CDS) on the major banks[9] (as well as CDOs and other exposures). It was the most efficient way for them to play their thesis—meaning they got the

[6] "Why Robinhood IPO Is a Risky Adventure," by Avi Salzman, Barrons, July 5, 2021

[7] Hard commodities (e.g. gold, diamonds) are another financial asset and arguments can be made to separate out real estate, though owning a house typically has an equity and debt component. Currencies are another potential category, but ultimately the vast majority of investable financial assets are equity or debt in some form.

[8] Derivatives allow for synthetic exposure. Astute hedge fund managers ended up selecting the specific CDOs they wanted to sell short resulting in multiples of the actual physical exposure. Typically, a bank would have different methods for hedging this risk away given expected correlation, but not when the underlying debt in a specific CDO is fraudulent (and hand picked…).

[9] A good article about AIG is Institutional Investor's "The Fall of AIG: The Untold Story," by William D. Cohan. Note the following: ""the biggest part of the AIGFP insurance book, some $400 billion, was written on behalf of European banks looking to take risk off their books as a way of avoiding the need of raising additional capital to appease the European regulators. "This is a great irony," explains a former AIG executive. "The European banks went out and were able to buy credit

product structure right. They were just wrong on the thesis and irresponsible about risk limits. The CDS as a structure was not the issue.

When entering a market structure, one needs to understand the actual exposure taken on, as well as characteristics that may further inform risk/reward. For example, if there is a synthetic element (e.g., derivative), can the market provide necessary liquidity given there may be multiple bets on a single underlying product? For example, in 2008, there conceptually may have been the equivalent of 20 bets on a single house mortgage. The mortgage is held by a single institution, but then other market participants make "wagers" on whether the mortgage will be paid off or not. All these secondary participants are "synthetic," completed through derivatives. Typically, if a mortgage holder defaults the mortgage issuer takes over the house. In the case of the synthetic exposure, one party must pay the other party differences in value. It gets complicated, but ultimately the point is that liquidity evaporates quickly when this sort of leverage occurs. Once everyone learns it's fraudulent, the loss is magnified 20x and there is no/little capacity for liquidity. On a basic level, components of an investment are (1) exposure and (2) structure characteristics.

ETF vs. Mutual Fund

One of the most successful examples of financial wizardry in the last 30 years was the creation of the Exchange Traded Fund (ETF). In many ways, the product should have been called the Exchange Traded Mutual Fund[10] - though ETMF does not have quite the same ring. Both an ETF and a mutual fund are investment programs that invests in stocks, bonds and other securities on behalf of groups of investors. There are a few differences worth noting between an ETF and mutual fund, principally:

- Method of buying / selling: In a mutual fund, investor buys and sells are netted at the end of the day with the investor receiving the Net Asset Value (NAV) per share. Everyone gets one price at the end of the day. In an ETF, investors can buy or sell at any point on an exchange. But they will not receive NAV. An ETF has a benefit in increased access (intraday) but a potential detriment in cost to access.
- Tax efficiency: ETFs have a mechanism allowing for increased tax efficiency as compared to mutual funds. When an ETF is purchased/sold by an investor, an authorized participant[11] ("AP") takes the other side. If the AP chooses, they can "create" or "redeem" shares of an ETF by transferring relevant positions to or from the ETF trust in exchange for the cash equivalent of NAV. Due to the process being an "in kind" transaction, there is no associated capital gains tax as shares enter and exit the fund. In mutual funds, the fund manager buys and sells investments to deal with net flows as well as modifying exposures which potentially creates a tax event (e.g., capital gains).

default insurance on their assets so that they didn't have to keep as much capital on their balance sheets. So here was an insurance company in the United States with essentially no liquidity, no equity and no reserves providing equity relief for European insurance companies. Talk about the house of cards.""

[10] In fact, Vanguard holds a patent allowing them to have an ETF as a share class within the same trust which is what they do. That means all holdings of an ETF and an equivalent mutual fund are held in the same account.

[11] Typically, a market maker, which is a trader tasked with making two sided markets.

Therefore, unless the government decides to adjust this ruling/loophole, ETFs have a tax advantage that can be significant dependent on the strategy.

- Structure efficiency/benefit: ETFs have two benefits related to their structure. The more material benefit is that the platforms, like TD Ameritrade and JP Morgan, treated ETFs like any other exchange-based security providing better platform pricing as compared to mutual funds. Historically, there has been a transaction fee for stocks, and for mutual funds there has been both a transaction fee to the client and cost incurred on the manager for access to the platform. ETFs were therefore able to get access to platforms without paying an access fee[12].. This has resulted in materially cheaper access to said platforms. The second structural benefit is due to the buy/sell/AP process, which allows for easier record keeping. In our view, this second benefit is *de minimis* from a cost perspective.

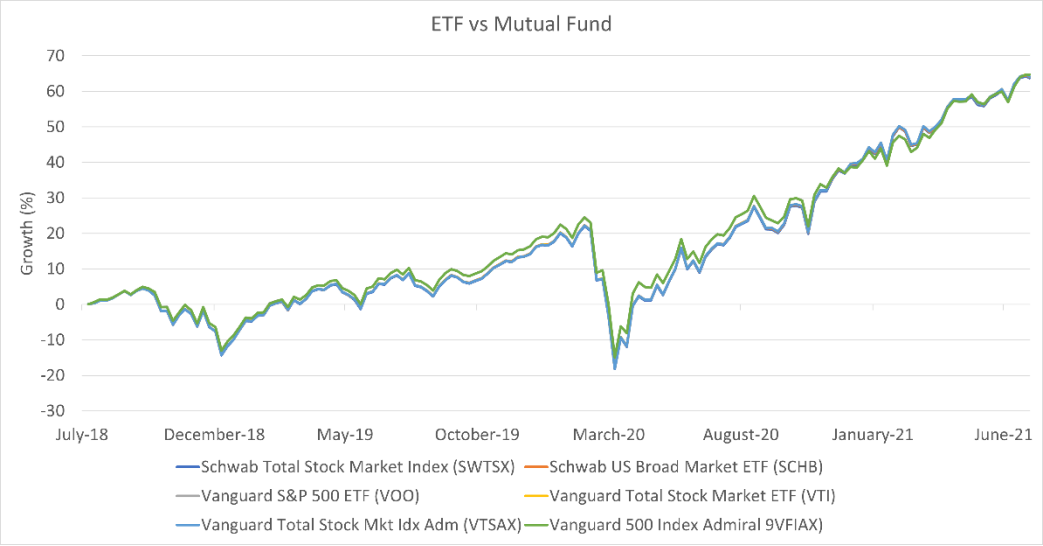
In our estimate, ETFs are generally cheaper than mutual funds due to (1) the first structural efficiency noted surrounding platform access; (2) the fact that most ETFs do not have to pay a portfolio manager given the "passive" nature of ETFs; and (3) because ETFs are a new product, they have probably benefitted from the general decline of Wall Street fees over the last few decades.

However, despite everything above, ETFs are not always the right move when compared to mutual funds. We explore this further in our final takeaways below.

Schwab ETF vs. Mutual Fund; Vanguard ETF vs. Mutual Fund

On a review of performance between equivalent strategies offered by Charles Schwab and Vanguard in both mutual fund and ETF formats there was no meaningful difference in returns. From a structural standpoint, a mutual fund and ETF with the same expense level, should return similar, if not identical results.

The chart on the following page shows 3-year performance for one Charles Schwab ETF and the equivalent Charles Schwab mutual fund, as well as two Vanguard ETFs and the equivalent mutual fund. All the funds aim to provide exposure to the largest US public



[12] I have personally priced out launching and managing ETFs and mutual funds. Five years ago, it was more expensive to launch and run an ETF though now I believe ETFs are slightly cheaper to run. ETFs also have a strong advantage in terms of client access—due entirely to market structure.

companies. As can be seen, performance was almost identical, as are expenses and dividends (which potentially generates capital gains).

	SCHB vs SWTSX		VOO vs VFIAX		VTI vs VTSAX	
	ETF	MF	ETF	MF	ETF	MF
Average Annualized Return (3 years)	18.70%	18.64%	18.64%	18.64%	18.75%	18.75%
Expense Ratio	0.03%	0.03%	0.03%	0.04%	0.03%	0.04%

Passive vs. Active – *Cloud Computing as an Example*

ETFs need to receive exemptive relief from the SEC when they launch. Initially, this was quite the process and was really limited to ETFs that were based on indexes. Indexes have a transparent methodology detailing how securities are selected (see footnote 14 for examples). An ETF adhering to the rules of an index are known as "passive." As a result, ETFs are predominantly "passive" products based on an index as opposed to "active" products managed by a fund manager. However, the term "passive" can be quite gray in meaning.

To level set, the S&P 500 and the Dow Jones Industrial Average are indexes. The S&P 500 has a committee that selects securities for inclusion in the index. The S&P 500 generally provides exposure to the largest public US companies. There are a number of ETFs that provide similar exposures, whether based on the S&P 500 index or other, similarly constructed indexes.

However, as both the ETF structure and indexing has proven popular, there has been a proliferation of strategies, many based on specific themes. These strategies and themes are not quite as time-tested or consistent as the older indexes.

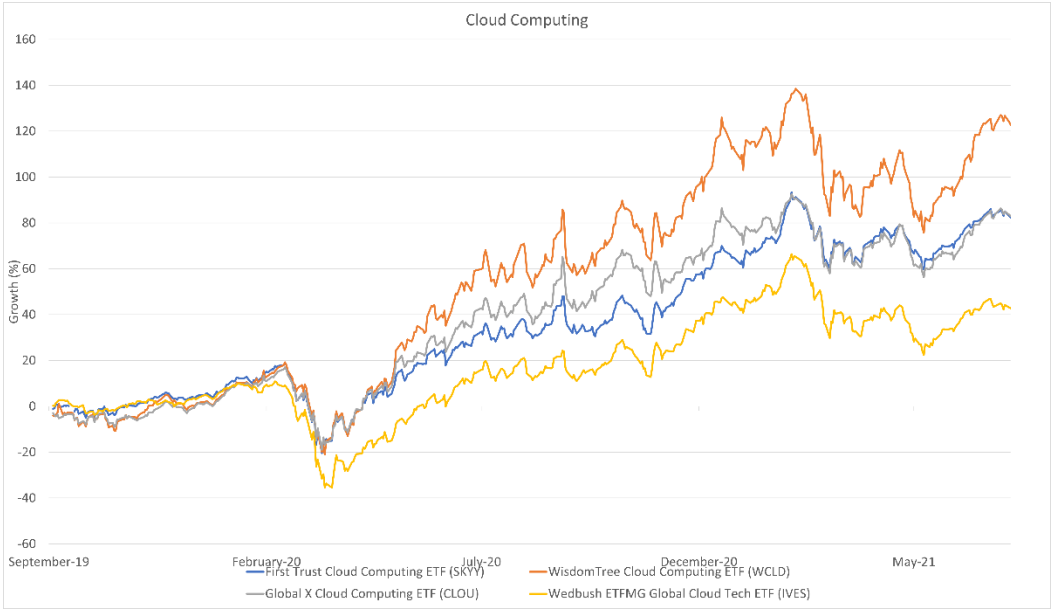
For example, currently, there are four non-leveraged ETFs that seek to provide pure exposure to the cloud computing[13] theme. They all track different cloud computing indexes.

- First Trust Cloud Computing ETF (Ticker: SKYY; AUM: 6.4B; Expense: 0.6%; Spread: 0.04%)
- Global X Cloud Computing ETF (CLOU; $1.4B; 0.68%; 0.04%)
- Wisdom Tree Cloud Computing Fund (WCLD; 1.3B; 0.45%; 0.08%)
- Wedbush ETFMG Global Cloud Technology ETF (IVES; $57M; 0.68%; 0.53%)

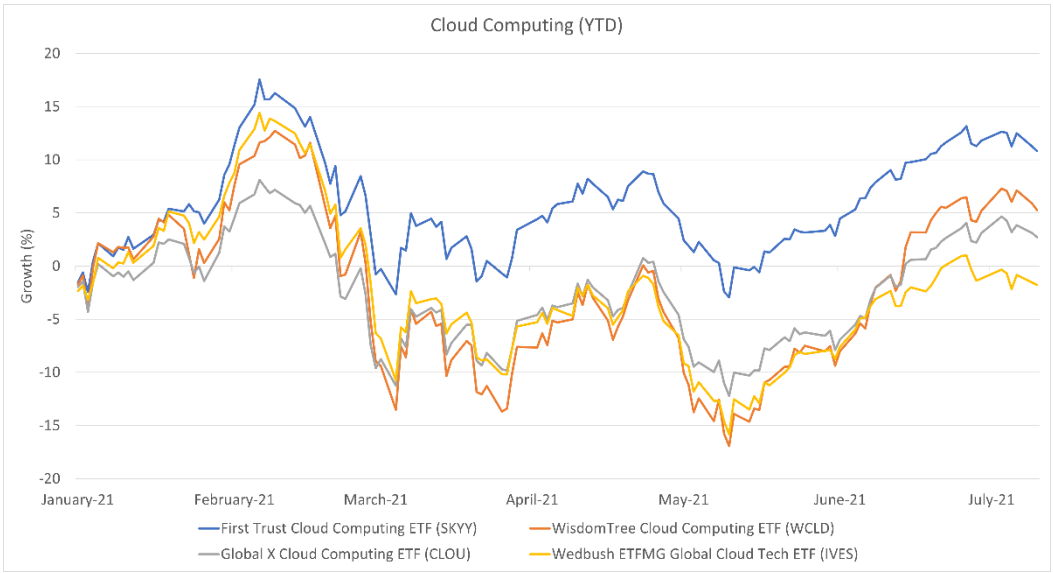
As can be seen from the chart on the following page, the range of returns is dramatic. How does one decide the right exposure? Are these truly passive?

[13] Cloud computing is the delivery of different services, such as data storage, servers, and software, through the internet (as opposed to being saved on your local hard drive or office server). Fountainhead uses cloud computing as do many, if not most, companies in America.

If you simply decided to go with the best prior return and entered at the beginning of the next year, you would have underperformed the best performer that year by 5%. So, that's lazy thinking. The general disclosure that past performance does not predict future results is a good one.



The way to dig into the differences is to review the underlying indexes[14] the ETFs purport to track. When reviewing the four different indexes they all more or less claim their goal is to "track the performance of companies in the cloud computing industry." But they all define both that industry and respective weightings in materially different manners. The least transparent of the group states that a committee composed of the staff of the index company is responsible for the decisions regarding the composition of the Index as well as any amendments to the rules. So, while a "passive" strategy, it sure seems really similar to an active one—that is, one where humans are making strategy composition decisions based on the stated goals in a regulatory document. This is where "passive" becomes quite gray as an approach is simply "indexed" to allow access in an ETF vehicle. This is not necessarily a bad thing; it is simply a characteristic an investor should be aware of when making an investment.



[14] For those who want to dig in: CTA Cloud Computing (CPQ) Index Methodology.pdf (nasdaqomx.com), Indxx_Global_Cloud_Computing_Index_Methodology2.pdf, methodology_EMCLOUD.pdf (nasdaqomx.com), Dan Ives Global Cloud Tech Prime Index Methodology Guide -- 1_41.pdf (primeindexes.com)

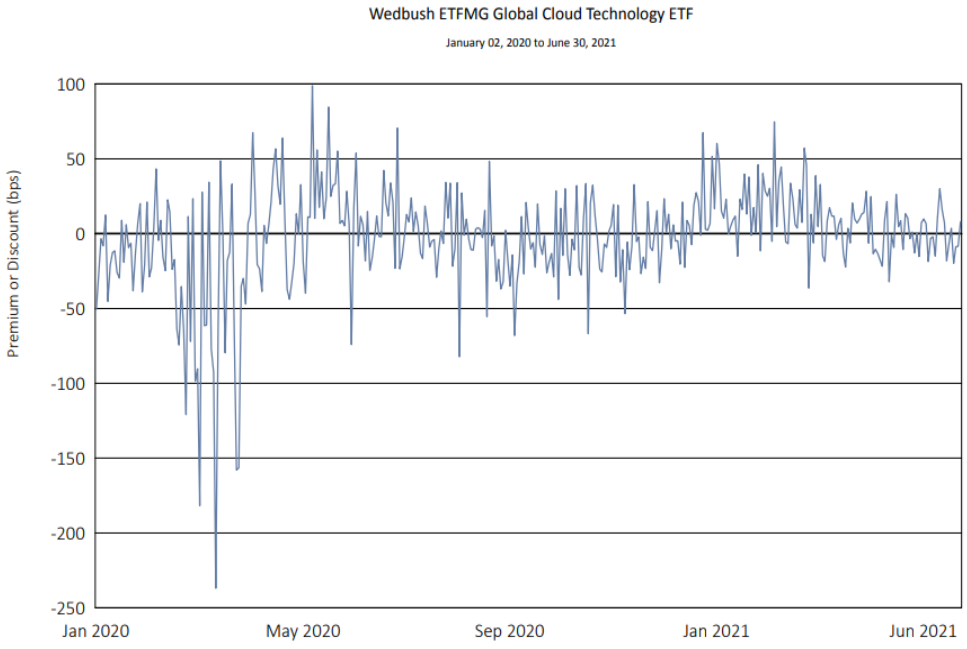
In fact, when reviewing top 10 holdings for each of the four ETFs, 75% of holdings were unique, meaning they only showed up in one of the four funds. The other 25% were in a maximum of two of the four funds. Amazon was one of those unique holdings. Amazon happens to be the largest cloud storage company to our knowledge, and cloud storage even generate a meaningful portion of their profits. But it is a much smaller portion of their whole business—for example, Covid-related gains were most likely due to merchandise. This is an example of the complexity of deciding what should and should not be included.

In our view, the reason focused investment themes ("thematics") are dominated by the ETF structure is due to the speed of attaining access to retail clients. This is because ETFs are automatically added to most retail platforms, whereas mutual funds must go through a longer process.

ETF vs Mutual Fund Investor Takeaways – *and What to Look Out For*

The decision about whether to use an ETF or mutual fund is much more nuanced then represented by either Wall Street or Main Street reporters. As established above, there is no material difference on any level between entering a mutual fund or ETF with a vanilla passive exposure like US large cap exposures. Some items to look out for:

- Access: We do not see a reason for retail investors to need intraday access. Retail investors may not have access to every mutual fund out there but given access to both, we believe the next consideration is a more important one.
- Cost of entry: When purchasing an ETF, one must pay attention to the NAV of the ETF relative to the market price of the ETF. Sometimes the disparity can be significant. When an ETF trades at price higher than its NAV, that's called a "premium." When it trades at a price lower that its NAV, that's called a "discount." Smaller sized ETFs may not get adequate coverage by market makers resulting in a potentially significantly higher cost (premium) to the investor in entering or exiting a position. The graph below shows some of the significant disparity between price at NAV for the least supported of the cloud computing ETFs. Institutional participants (and us) can get around this given a size order, but retail generally can't. Transaction costs may be higher in mutual funds vs ETFs, but a mutual fund investor should have no real slippage in terms of buying or selling at the fair value of the fund.



- Passive vs. Active: With mutual funds, investors need to be careful about paying too high a fee for a "pocket indexer," meaning a strategy that is marketed as active (and therefore has higher "active management" fees) but that is expected to perform generally in line with an underlying index, such as the S&P 500 or Dow Jones Industrial Average[15]. With ETFs, investors should look out for "pocket actives[16].".
- Fixed Income: In our view, there is a common misapprehension that fixed income is too active and nuanced a market to work in an ETF structure. What one has to look out for if using a fixed income ETF is separation from NAV. At times of stress, the fixed income market simply does not work as well as equity markets – owing primarily, in our opinion, due to its not being exchange-based, and perhaps partially due to the sheer number of securities. As a result, many participants use passive "vanilla" fixed income ETFs as easy access to quickly take a market exposure. Given the complexity of the topic, perhaps the best way to state this is that we do not see an inherent negative in the ETF structure with regard to a fixed income exposure. Just be mindful in entering and exiting positions (see "Cost of entry" section).
- Taxes!: ETFs have a clear advantage when it comes to taxes. **But**, they do not help at all if you are in a qualified account, such as a 401(k) or IRA. The ETF tax advantage also tend not to come into play in fixed income strategies or more vanilla strategies like the large public US company exposures outlined above. So once again, it is a bit subtle.

The takeaway is that there are a number of fine distinctions, and while in certain scenarios it may be more beneficial to use one or the other structure, the real goal is to understand what to look out for.

Investments That Do Not Fit in Either a Mutual Fund or ETF

Sometimes, a mutual fund or ETF is a sub-optimal vehicle for investing. Mutual funds and ETFs are great vehicles for daily liquidity. However, there are many underlying investments that do not allow for daily liquidity. Let's use residential real estate as an example. Let's say a strategy seeks to capture the exposure of residential real estate in the Northeast of the United States. It takes a long time to both purchase and sell real estate. If a manager wants to shoe-horn that exposure into an ETF or mutual fund they will need to figure out how to manage the day-to-day liquidity needs of buyers and sellers. That would mean holding some cash, a line of credit within the regulatory allowance of '40 Act registered funds, and some liquid proxy that has a reasonable correlation to the claimed exposure. These actions will diminish the intended exposure and lead to a starting point of under-performance relative to any index of Northeast real estate[17]. If a client is willing to give up daily liquidity, the manager can better align their goals with holdings and provide a more concentrated

[15] Due to general correlation of equities, especially when similar characteristics (e.g., US large cap public companies), the more securities a manager places in their fund, the more the fund is likely to look like an index.

[16] OK, we just made that term up!

[17] "Tracking error" is the term used to understand the difference between index performance and a strategy based on that index.

exposure. In this instance, given an apples-to-apples intent of the manager, a less liquid vehicle will provide better access to the aforementioned exposure, though the relative lack of liquidity may be a negative for a given investor.

Many hedge funds (private, unregistered securities) seem to provide exposures and approaches similar to mutual funds and ETFs. Given the generally high fees in the hedge fund industry, though, that seems like a bad deal. Hedge funds are, however, allowed to go places a mutual fund and ETF cannot. They can also take on way more leverage. For those strategies, it may be beneficial to pay high hedge fund fees in exchange for the exposure provided, as well as what may be an expertise level not easy to come by. Of course, because hedge funds are available only to accredited investors who meet specific qualification criteria, they may not be an option at all.

Next Generation Market Structure

As cryptocurrencies became more popular, ETF participants jockeyed to be the first to launch a Crypto ETF. Traditionally, the first to issue a theme amasses the most assets. For example, SKYY was the first cloud computing ETF, and it has more than twice as many assets as all of its competitors combined. This is no indication of its being the best; it's simply the first. Because regulation and institutional infrastructure (think custodian services) do not move as quickly as innovators, however, there are access vehicles available but no ETF or mutual fund quite yet.

Given the heft, maturity, and frankly the efficiency of the ETF / mutual fund complex, next generation financial innovations like cryptocurrencies and non-fungible tokens (NFTs)[18], will ultimately find their way into these traditional investment products. That's perhaps a bit ironic.

On the other hand, blockchain is supposed to provide an independent means to audit transactions. There have been stories on using blockchain for proxy voting and recently Bloomberg ran an article on what amounted to synthetic trading of Tesla and Apple on blockchain. We believe this is a long way off as it takes time to institutionalize[19] financial systems.

Market Structure Concerns

When the market began correcting due to economic uncertainties surrounding the Covid pandemic, at least two additional characteristics exacerbated the market drop.

In our view, the more concerning of the two was the total breakdown of fixed income markets. The incentive to provide two-sided markets or to hold inventory has declined materially in the last couple of decades. This contributes to price volatility and a dearth of liquidity, especially when calamity hits. In the fixed income market, there are simply no dealers left with the appetite to take down a massive inventory of bonds (meaning buy and hold bonds when everyone else is selling) at pretty much any price. For example, near the bottom of the market, Amazon paper that was maturing in August of

[18] Non-fungible token - Wikipedia – note our February 2021 commentary as well.

[19] Meaning creating systems that investors can truly trust, such as clearing houses and the like.

2020—just six months out—had a bid resulting in nearly a 5% return as compared to close to 0% for Treasury. A 5% return in this interest return environment would usually indicate the markets thought there was a material risk of Amazon defaulting on this short-term paper, despite the fact that the world was frantically digitally purchasing toilet paper from Amazon! It is fair to state that there was no actual risk of default, simply no capacity in the marketplace to take down inventory. The 5% reflected a cost to hold a security, not a cost in exchange for risk being taken on. That is problematic. It is one of the reasons the government backstopped pretty much the entire fixed income marketplace.

Related to this capacity problem is the interconnectivity of the financial markets. There are many leveraged participants in the market. Given lower fees, clearing houses and banks are much more aggressive in calling collateral at times of stress. It is why this year's fiasco with Archegos Capital[20] was so surprising. A capital call and sell-off of collateral begins a cascading effect that contributes to further market declines.

These two characteristics are related because if a bid drops precipitously on a bond, the value of that bond, which is typically pegged to the middle of the market, drops half the distance. This may result in collateral levels (given the bond is being used as collateral) dipping under mandates and a resulting capital call which necessitates a liquidation of positions (forced or otherwise).

Also related is the automation of the markets. True arbitration has resulted in a lack of interest in traditional market making. Like this country, the markets have turned into the haves and have-nots. For example, a handful of option markets are incredibly tight and deep (meaning the spread between bid and ask is minimal with size on both the bid and ask), while the rest don't really have markets. And given how everything is so interconnected (as well as "too big to fail"), a less liquid market dropping in value can create a cascading effect.

In summary, the market is a bit too interconnected with little appetite for any risk by traditional market maker participants resulting in more sensitivity to irregular events—GME being a prime example[21].

Investment Approach and Current Initiatives

Our general approach to investing on your behalf is to take a top-down approach in creating diversification of risks and returns in one's portfolio. Let's unpack that. A top-down approach means we start by viewing the high-level investing opportunities. Equities vs. Fixed Income exposure first. Then within equities, U.S., Developed Markets (e.g., Europe & Japan), and Emerging Markets (e.g., less- developed markets like China & India) and so forth. We continue on this path to actual strategy and manager selection. Diversification of risks and returns means we invest in multiple exposures on your

[20] Archegos used multiple custodians in an effort to hide its activities, but the US banks were way more aggressive in getting out of the way and forcing Archegos' hand early.

[21] Note our February 2021 market commentary which discusses GME.

behalf in order to increase the likelihood we'll have varied return streams as well as risk streams. Since we do not know with certainty (nor does anyone else to our knowledge) what investment will do best, we attempt to smooth out the experience.

Current Investment Initiatives:

Equity

As long-term investors, our portfolio construction philosophy is strategic in nature rather than tactical. Our objective is not to capture quick market fads but to combine time in the market with well diversified portfolios that target specific asset and sub asset classes within the investment universe. The focus of these quarterly Explorations pieces aligns with our long-term approach, where we explore trends and characteristics that transcend short term noise and even single market cycles. These trends include innovation, the role of technology in our society, changing demographics, and money, among others. One of our primary investment initiatives right now is to think about how those long-term trends and characteristics impact investment portfolios, and how we can position portfolios to align with those trends more explicitly.

Fixed Income

The fixed income environment is challenging right now for two reasons. Interest rates are low, meaning that the income investors receive on their fixed income is low. The other challenge is the risk that rates rise. Given the unprecedented fiscal and monetary support in response to Covid, combined with a strong recovery to date, expectations are that interest rates will rise in the next few years.

We are currently working on two initiatives in the fixed income space. The first is diving into every corner of the fixed income market to fully understand the entire landscape. Relative to equities, the fixed income market is less standardized, has materially more securities available for investment, and has more sectors and categories to define those securities. Most major fixed income indexes omit a large amount of those sectors and categories for a variety of reasons. As a result, just investing based on major indexes means investors miss out on many areas of the market where there are opportunities for attractive risk/return potential. Our goal is to constantly keep up to date with those categories and evaluate the potential role they may play in our portfolios.

The second initiative is in conjunction with our initiative in the alternatives investment space. Given the challenges noted above with the fixed income environment as it stands today, we are exploring the option of taking some of that traditional fixed income exposure and reallocating it to an alternative exposure that looks similar to fixed income in terms of risk and return potential, but is more favorably positioned in this market environment.

Liquid Alternatives

As we work on reallocating some traditional fixed income to alternatives exposure that we believe is better positioned in the current market environment, we are specifically looking at event driven exposure. Examples are funds that invest in companies undergoing mergers or other significant corporate events, such as capital restructurings or management changes.

During these aforementioned significant company events, stock performance often becomes less correlated to general equity markets and more dependent on the outcome of that specific event. Particularly in the case of mergers, there is a well-defined target price (the price at which the acquirer agrees to purchase the acquiree), and a well-defined time period between merger announcement and merger completion. These are similar characteristics to those that exist in fixed income markets, and historical risk/return characteristics of companies undergoing these changes also aligns closely with the risk and return profile of fixed income. This exposure is also less sensitive to market risks such as rising interest rates relative to fixed income, making it an attractive area to position assets as a supplement to fixed income in the current market environment.

We continue to monitor markets closely and look for opportunity on your behalf from both a risk mitigation and return perspective.

General Market Review: Inflation -Transitory or Structural? Valuations Reasonable?

The two general themes working through the market are:

- Inflation: transitory or real?
- Economic recovery from Covid

We had focused on the first theme in our most recent market commentary (May 2021)[22] where we highlighted, prior to government inflationary data coming out, how used car sales were up exponentially. This would result in higher headline inflation levels but seemed to be truly transitory in nature. It is worth repeating the summary here in regard to transitory factors:

On a shorter-term basis, some of the characteristics that point to a transitory inflation spike (which is fine or even good) include:

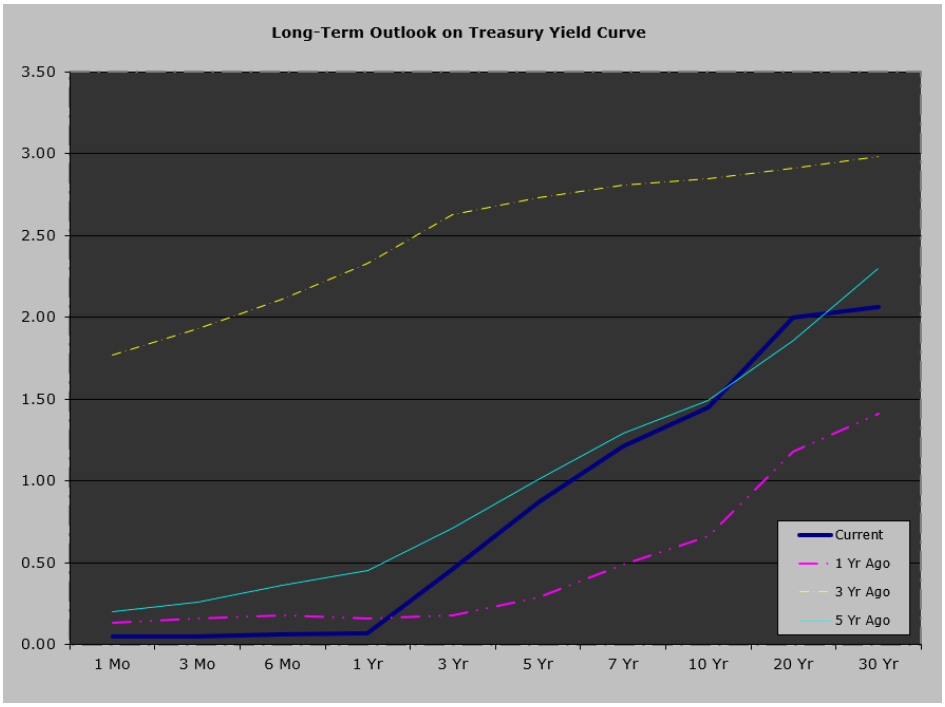
- Faulty year-over-year comparisons: Most measurements are standardized by comparing to a year ago period. Any statistic comparing to a year ago is worthless given the disruption Covid wreaked. It is simply a headline number that catches people's attention.
- Supply chain disruptions: Many economies shut down for a period and others materially restricted flow resulting in massive disruptions to what was a well-oiled global trade machine. This has been exacerbated further by a couple events, most recently that of the tanker getting stuck in the Suez Canal.
- Short-term pent-up demand: For a multitude of reasons, including saved money, travel and leisure will most likely pop over the next year or so. At some point, though, one would expect a return to average consumption.

[22] Market-Commentary-2021.5.pdf (fountainheadam.com)

Longer term trends that also point to a potential transitory event include:

- A slack economy: One really needs to rely on the participation rate rather than the employment rate to understand a true picture of at least employment slack in the system. Note our last Explorations (Footnote 2) for more insight as to why the employment rate is really a relatively bad indicator, despite the fact it packs a great headline punch.
- Poor demographics: A maturing population results in lower spending and less growth. Note Japan and soon to be China (ok, give China about 10 – 20 years).

Concerns about structural inflation, which would be problematic, highlighted the fact that the government flushed the economy with cash. Adding 20% to the currency float should conceptually lower the value of the dollar materially. The government was reacting to a massive deflationary event—the partial closing of the economy due to Covid—so the math is not so simple. Longer-term yields, though, as illustrated in the graph below, have moved off all-time lows which is partially due to market recovery and partially due to inflation concerns.



A recent article in the Wall Street Journal[23] (WSJ) highlighted some secular trends that may be shifting resulting in more sensitivity to what we are calling structural inflation. They presented three arguments surrounding globalization, demographics, and e-commerce (we've discussed the first two topics in depth in past Explorations[24]). We had also identified a reversal of the secular trend of globalization towards regionalization. We thought regionalization would happen due to innovation increases which should result in squeezing further costs out of the system, not be inflationary. Where I guess we may agree with the WSJ article is that perhaps the easy cost savings have been found and the rate of benefit is declining. Further, the world has become a bit less friendly in the last couple of years as governments increasingly distance themselves from democracy. This may speed up the move away from globalization which may indeed be inflationary on some level.

Our reading of declining demographics was also a bit different than the WSJ's. When one looks at Japan, the canary in the coalmine with respect to declining demographics, they have primarily been fighting deflationary factors for the last 20

[23] Inflation Threat May Be Boosted by Changes in Globalization, Demographics and E-Commerce - WSJ

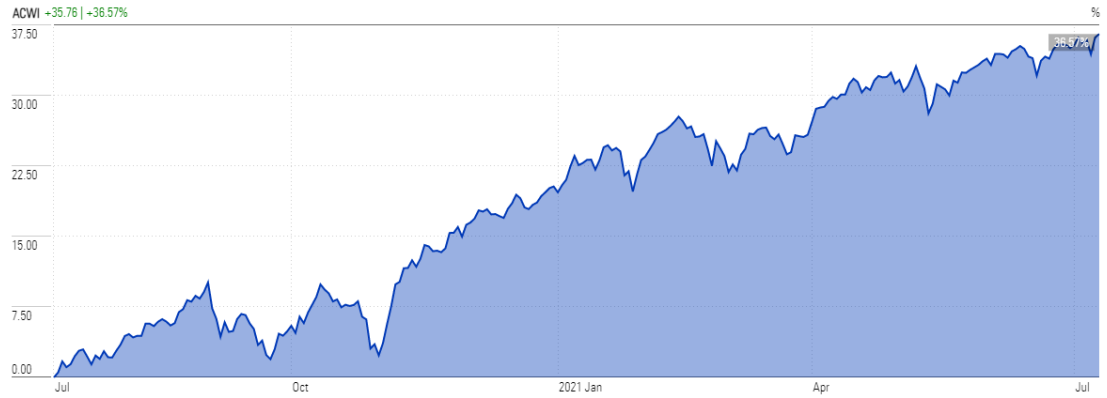
[24] Q2 2019 and Q3 2019 Explorations touch on Demographics and Globalization

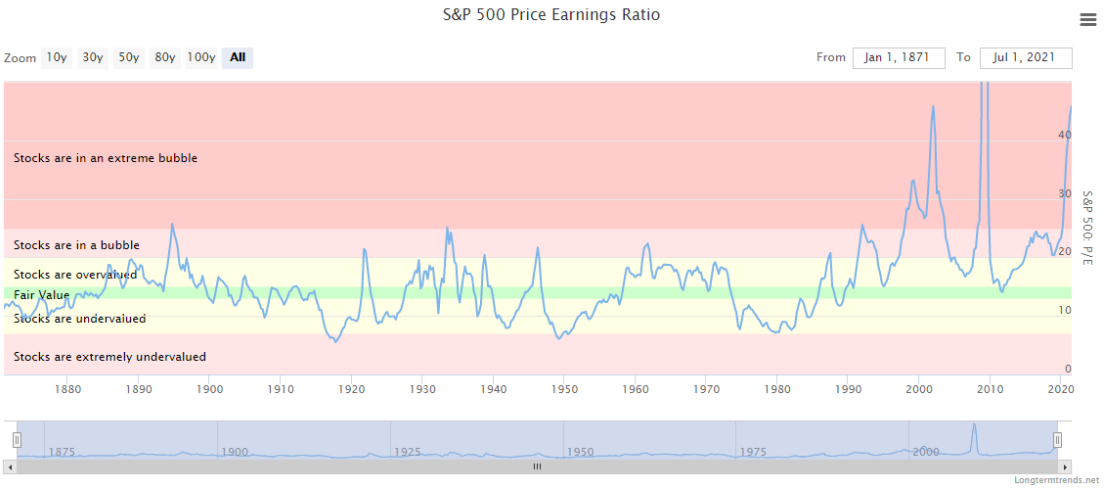
years despite, as in the US, the older generations holding onto significantly more wealth than younger ones. The article neglects to touch on the declining productivity that generally occurs in aging populations, a topic we explored in our most recent Explorations.

Their e-commerce argument, that as the industry matures there will not be much cost savings, is compelling. At what point does Amazon and the like stop lowering prices?

The bigger point is that inflation is an incredibly complex topic with many factors playing a role. Our belief is that there are more tools to stop runaway inflation (though none are fun; they would all result in market drops) than there are in combating deflation, so the Fed will most likely indulge a bias toward hotter inflation.

On the valuation side, the market continues to sport relatively high price/earning ratios as we hit all-time highs. These ratios should be relatively high given there is an inverse relationship to yields, a topic we discuss in our November 2020 Market Commentary for those interested. There are even pockets of exuberance as noted in our February 2021 Market Commentary. However, the super long-term trend of innovation (which we measure to the Stone Ages! The wheel? Genius!), means it is hard to pick a top, as noted in our May 2021 Market Commentary.





Suffice it to say, financial markets are and will always be incredibly complex. We continue to monitor markets closely and look for opportunity on your behalf from both a risk mitigation and return perspective.