ASSET CLASS TAXONOMY: A NEW CONSTRUCT FOR ASSESSING BALANCE IN PORTFOLIOS

June 24, 2020

Authors:

Stefan Whitwell, CFA, CIPM
Email: stefan@natwp.com
Phone: 512-766-7775

Stefan Whitwell
16104 Goldstrum Trail
Austin, TX 78738

Stefan Whitwell is the Co-Founder and Chief Investment Officer for National Wealth Partners.

Thomas Villalta, CFA, CAIA (Corresponding Author)
Email: tom@austin180advisory.com
Phone: 512-767-5812

Thomas Villalta
Austin 180 Advisory Group
201 West 5th Street, Suite 1100
Austin, TX 78701

Thomas Villalta is the Founder and Chief Investment Officer for Austin 180 Advisory Group.

ASSET CLASS TAXONOMY: A NEW CONSTRUCT FOR ASSESSING BALANCE IN PORTFOLIOS

June 24, 2020

ABSTRACT

Investment innovation and the proliferation of alternative investments have rendered the current asset class taxonomy ineffectual. Moreover, private equity and hedge funds muddle understandings of risk in portfolios. The starting place for assessing a useful taxonomy is determining what is most important to investors from a diversification perspective. We observe that investors are most concerned with extreme market environments where more classical constructs for asset taxonomy fall short. We suggest that a taxonomy that articulates the main "drivers" of significant downside returns would complement existing methods for assessing diversification and convey important information to stakeholders. We offer three broad groupings that we feel give a high-level assessment of balance. More importantly, we provide a pragmatic framework for determining which sub-asset grouping should fall into each broad grouping. In short, we live with a commonly used taxonomy that materially misrepresents the risks and degree of diversification in portfolios. It is time that we reflect on the taxonomy of asset classes given the impact it has on the management of large pools of capital.

HIGHLIGHTS

1. Investment innovation and the proliferation of alternative investments have rendered the current asset class taxonomy ineffectual. Private equity and hedge funds of various sorts stretch the abilities of optimizations and muddles understandings of risk in portfolios.
2. The starting place for assessing a useful taxonomy is determining what is most important to investors from a diversification perspective. Investors are most concerned with extreme market environments where more classical constructs for asset taxonomy fall short.
3. A taxonomy that articulates the main "drivers" of significant downside returns would complement existing methods for assessing diversification and convey important information to stakeholders. We offer three broad groupings that we feel give a high-level assessment of balance.

We've got the taxonomy[1] all wrong when it comes to asset classes today. And while this sounds academic, keep reading because this has profound and practical implications for how you manage portfolios in times of duress.

How you think about and categorize individual securities and investments impacts how you manage risk, how your clients or stakeholders perceive the risk in their portfolios, how you allocate capital within a portfolio, and even how you perceive the degree of diversification in the portfolios you manage.

Taxonomy matters.

Asset classes used to be easy: you had stocks and bonds, which, we called "equity" and "fixed income." And figuring out what investments fit into each category was straightforward. Not anymore. The hunt for yield and so-called uncorrelated returns has spawned a multi-billion-dollar industry of so-called "alternative investments" – and thus was born the first and biggest "new" asset class in the last century. The alternative investment "space" is full of investments that can look a little or a lot different than your prototypical bond, publicly traded stock, exchange traded fund or open-ended mutual fund.

This paper has two interrelated goals: one, to provide a more intuitive and rational construct for addressing asset class taxonomy. Second, as it has become a fast growing and monolithic sphere of the investment universe, it is worth considering the way we approach the "bucketing" of so-called "Alternative Investments". The intent here is to help the allocator overcome some of the shortcomings that are associated with the current nomenclature and assess the balance that has been sought for a given pool of funds.

This paper will start by examining the overall rise in volatility in markets and how this rise impacts stakeholder goals. We will then discuss the rise of "alternative investments" and how understandings of their role in portfolios is muddied by the opaque nature of the term itself. With that, we turn to a suggested taxonomy that better suits the needs of allocators and provides a more intuitive construct for assessing balance. As part of this we define each of the three broad groupings that make up this proposed taxonomy and then provide examples of how to assign strategies or sub-asset class grouping to each broad grouping. We end with some thoughts on how to proceed forward with an eye towards developing this new construct.

WHAT IS THE GOAL?

What is it that we're seeking to achieve with diversification? Why do we build a portfolio with an array of different assets? These are important questions as they speak to benefits of a proper taxonomy. We generally aggregate disparate assets as there is a benefit to be had by combining assets – we end up with a portfolio that has a greater return with the same risk or the same return with less risk as first articulated by Harry Markowitz[2].

[1] Taxonomy is naming convention. In the context of this paper, it is the methodology used to decide which broad, top-level asset class to which each investment belongs.
[2] Markowitz, H.M. (March 1952). "Portfolio Selection". The Journal of Finance. 7 (1): 77-91.

While the efficient frontier is an elegant construct, it is exceedingly difficult to build in practice. We have an evolving set of investment options and limited track records for some assets that render return expectations suspect. Too, determining what data will represent a new asset class is another conundrum.

One way to address these problems is to first determine what we want to achieve. Again, we come back to this question. In the Markowitz model, we seek to diversify assets for two reasons:

1. To limit risk (volatility) per unit of return.
2. To maximize return per unit of risk (volatility).

These interrelated outcomes are, on their face, simple and appeal to our intuition. However, in practice we diversify for these reasons and for others. One, we want to keep stakeholders from making poor decisions. When the market is down 50%, we don't want them to be making significant asset allocation changes. Two, we want to keep stakeholders from having to make difficult decisions regarding their goals and mandates. It is difficult for pensions, foundations, and wealthy individuals to cut back spending. These decisions can affect staffing, interrelations with governments and living standards. Relatedly, it is difficult to garner additional contributions to foundations and pension plans or increase savings for individuals when the economy is down. To address these issues, we seek to smooth returns. We seek to take advantage of the theoretical ideals that Markowitz articulated, but we also sleep better knowing that our stakeholder's "eggs" are not all in one basket.

Still, there are different types of volatility. It is one thing when a portfolio is down 5% or 10%. It's something else when a portfolio is down more than 30%. Most of us that work with stakeholders of various sorts (be it a board of directors, trustees or a wealthy family), realize that there is a limit to the severity of losses that a stakeholder can stomach. Moreover, with the feedback mechanisms of a 24/7 news cycle, the "noise" that accompanies a significant fall in the market can be extreme. Anecdotally, we have found that when markets start to lose more than 20% of their peak value, stakeholders of all types generally start to make poor portfolio management decisions. They seek to either stop the losses or to feel more secure that they won't have to alter, or seek to alter, their various types of commitments. In such times, rationality and uncorrelated behavior become simply theoretical ideals. Indeed, to paraphrase Lawrence Summers, there are times when "the evidence of the eyes…[trumps]…the logic of straightforward…theory"[3].

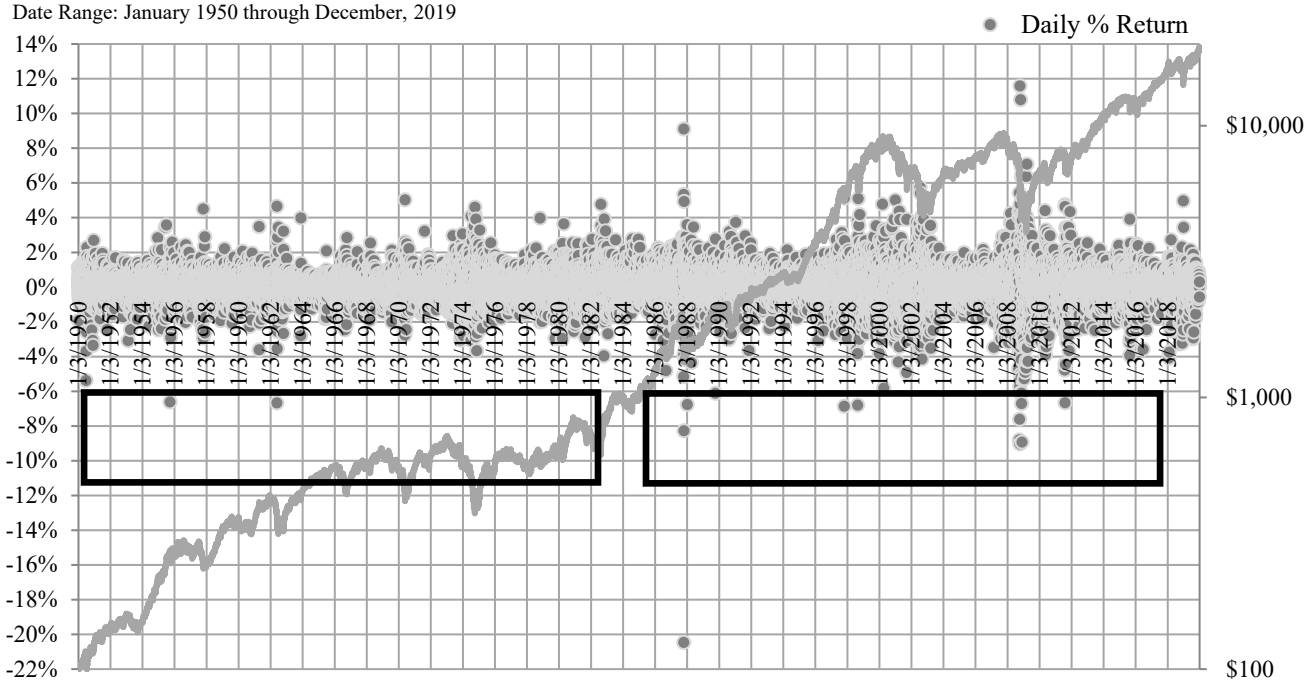
To start, it's worth noting that the domestic equity market has become increasingly volatile in recent years. If we look at the last 70 years, the daily standard deviation of returns for the S&P 500 index has been 0.96%, however looking at the first 35 years and last 35 we get a sense that markets have changed materially. From 1950 through 1984, the standard deviation of returns was 0.78%; from 1985 through 2019 it was 1.11% - a 43% increase.

Graphically, we can see this increase in a plotting of returns from 1950 forward. If we look at daily returns, starting in the mid-1980s, the frequency of returns that fell below a negative

[3] IMF Fourteenth Annual Research Conference in Honor of Stanley Fischer, Washington, DC, November 8, 2013.

6% increased materially. The chart below provides a plot of daily returns with the boxed figures providing a sense of the number of data points that fall below a minus 6% return.

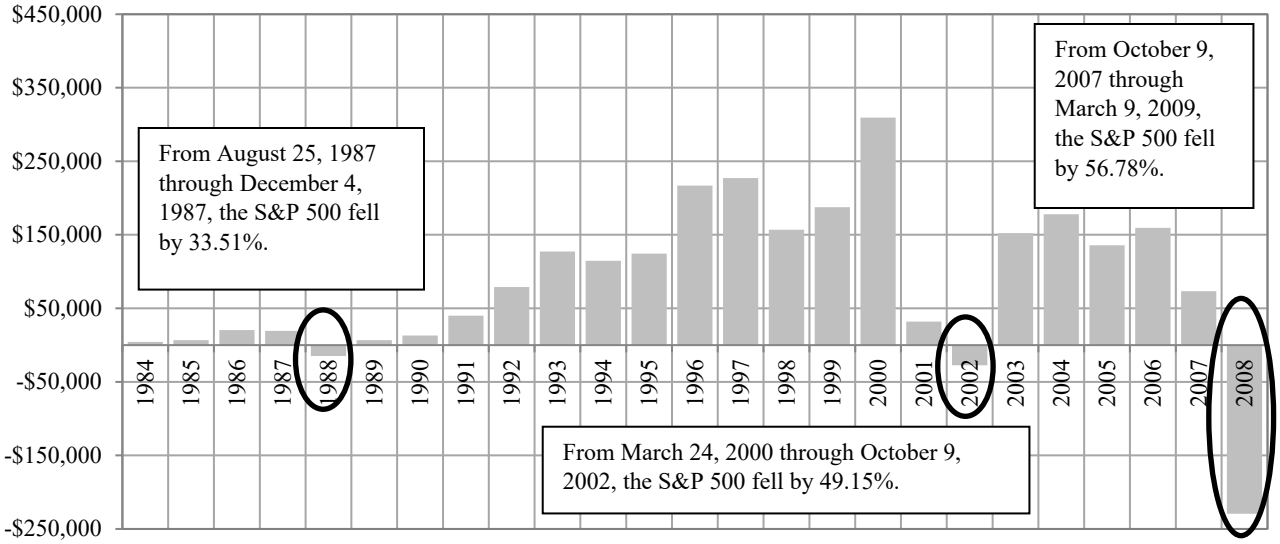
Exhibit 1: S&P 500 Index - Growth of $100 (Right Axis, Log Scale) & Daily Returns (Left Axis)



Moreover, while our data points are limited, if we look at the two biggest drawdowns in domestic equity prices we've had in the last 50 years, we can get a glimpse into how individual investors start to make allocation changes in the face of significant declines. It's worth noting that from 1984 to 2008, there were only three years when total equity fund flows declined, 1988, 2002 and 2008. All three of these followed significant downturns in domestic equity valuations. In 1988, money flowed out of stocks following the significant drawdown in equities that occurred in the fourth quarter of 1987. In 2002, money flowed from equity mutual funds as money flowed out of stocks following the bursting of the TMT bubble. In 2008, with a global contagion seeming to take hold, money flowed from domestic equity funds in a staggering magnitude. All three of these were extreme events, but all three show a basic tenet of investor behavior: in the face of significant losses, investors get to a breaking point where they need to "stop the bleeding". While it might be easy to reflect on this and attribute the actions to the naivete of amateur investors, stakeholders are individuals themselves and we are all subject to behavioral errors and certain herding tendencies. In short, stakeholders and professional investors generally have a finite risk bearing capacity.

Exhibit 2: Net Fund Flows - Mutual Funds

Annual Fund Flows: 1984 through 2008, in Millions



Sources: Investment Company Institute (ici.org)

If we are seeking to address the shortfalls associated with these extreme market movements (30% or more), taxonomy is important. Note, it is in times of extreme market movements when correlations on what were thought to be differentiated strategies, start to converge. Thus, while such strategies might be beneficial in normal market environments where volatility is muted, when volatility becomes extreme, they fail to provide the balance that was originally thought. To reiterate what has been stated before: what are we seeking to achieve with diversification? Understanding, even broadly, what we are combining can lead to better diversification decisions in a rather messy representation of the efficient frontier.

Moreover, it is worth noting that many practitioners, ourselves included, have found times when our hands have been forced. Again, stakeholders and institutional investors do not have an unlimited risk-bearing capacity. In the face of uncertainty and extreme market activity, human tendency towards flight takes hold, as investors large and small capitulate to the current drawdown.

For purposes of evaluating taxonomy, these concerns matter. With the aforementioned considerations in mind, we would assert that the most paramount concern for allocators is the degree to which extreme downside movements cause asset correlations to converge. Such an outcome can render previously presumed diversification ineffective. It is with that backdrop that we now turn our attention to a new subset of the investment landscape: alternatives. Are such investments universally beneficial or even slightly beneficial, in aggregate for diversifying portfolios?

THE RISE OF ALTERNATIVES AND THEIR ROLE

The word "alternative" was first born out of the logical observation that hedge funds and private equity funds were in fact structurally different than the ubiquitous traded stock, bond or portfolio comprised of such investments. However, this is where the taxonomy wheels start falling off.

When raising money for investments in this "new" asset class, sponsors would frequently argue that their vehicles were uncorrelated with "traditional" asset classes and therefore worth even more to the portfolio manager up and beyond the absolute returns they were targeting. In some cases this was true; but in others these claims were simply not true. Moreover, in the multi-decade goldrush that ensued, and in desperation to find new sources of return, few institutions have stopped to actually examine the data and determine for themselves whether the underlying premise is (was) true or not.

Moreover, private investment can also create a mirage for investors as some of the "animal spirits" that move public market investments have been removed or at least tempered in the valuation process. In short, in terms of assessing the degree to which a private equity "alternative" adds to the diversification of a portfolio, one must both recognize and understand the shortcomings of the methods by which private investments are marked-to-market. Because price discovery is, by definition, substantially more limited on private investments, the apparent volatility is much less than the observed volatility of similar assets that are publicly traded.

Sponsors may argue that this is evidence that their investment vehicles are safer and less volatile. Is it? No. Just because we do not have data, such as intra-day price discovery, does not mean we can assume values in place of what is absent and draw conclusions. But given that some data simply does not exist and other data may not be available to most market participants, what do we do?

As you get the sense here, the work required to do a clean and accurate attribution analysis on private assets is herculean. Assessing the risk and diversification benefits is equally daunting and presents both special challenges and risks. We would propose that one way to address these risks is through using heuristics gleaned from a more appropriate taxonomy.

Where do we start? With the right question. And when figuring out to what "asset class" an investment belongs (taxonomy), we propose that one start by thinking about and identifying the underlying drivers of risk and return.

And this brings us to alternatives. The proliferation of alternatives in recent years and their much-touted benefits, have consumed allocators' minds as we've sought avenues to generate return in a market beset by low interest rates and low expected returns.

Also, alternatives have muddied the already opaque nature of the efficient frontier. How do we represent assets that trade less frequently? How do we represent assets that are less liquid? How do we represent asset that have shorter histories in existence? How do we represent assets that are subject to limited lifespans?

So, what then needs to be true, for an investment to be deservingly categorized as "alternative"? Quite simply: the return drivers and risk drivers need to be materially different than the drivers that underpin those of debt and equity.

Unfortunately, the manufacturers of securities and sponsors of investments are the people that get first dibs at how their wares are labelled and thus largely control the narrative. We cannot blame them for selecting labels that help them sell more product since that is their business – they do not make money if they do not sell the securities they have manufactured (raising capital is synonymous with selling securities in this sense).

How you label an investment, or more likely, how your analytical software labels an investment will impact the composition of your overall portfolio as well as impact how risk is measured.

In a sense, these problems are not new and preceded the introduction of Alternative Investments. For example, a convertible bond with in-the-money warrants will trade more like an equity than a bond. And likewise, the debt of a highly leveraged company will often, during periods of stress, trade more like equity than a prototypical bond.

Still, in our view, efforts to get increasingly granular with regard to asset class taxonomy are not yielding results that give us more confidence in our expected outcomes. Moreover, the increasingly ubiquitous "alternatives" (or "hedge funds") slice of an asset allocation is increasingly devoid of meaning.

These slices can be implemented with any number of differing strategies: REITs, Private Equity, Concentrated Stock Portfolios, Long-Biased Long/Short Equities, Direct Lending, Reinsurance, Longevity Assets, Managed Futures, Global Macro Strategies…the list goes on and on. Again, taxonomy matters, and our array of increasingly complex investment options is stretching the current structure.

A NEW SUGGESTED TAXONOMY FRAMEWORK

We propose below a taxonomy framework that we believe aligns more closely with portfolio decision making and yields actionable insights needed to create *real* diversification. Neither supportive nor dismissive of commonly used methods to attain diversification, we propose this taxonomy in the spirit of a value-added overlay that can work in conjunction with existing portfolio constructs.

Our framework starts with the common-sense observation that the universe of investment options is comprised of two dominant groupings and a third grouping that is distinguished due to its being mutually exclusive with the first two.

I. Economically Sensitive Exposures
II. Interest Rate Sensitive Exposures
III. Idiosyncratic Exposures

The two larger groupings, Economically Sensitive Exposures and Interest Rate Sensitive Exposures harken to prior constructs and would be familiar if named "Equities" and "Fixed Income".

Economically Sensitive Exposures

This grouping is meant to encapsulate assets that are sensitive to significant downturns in the economy. We would include more traditional assets, such as U.S. Large Cap Stocks and International Stocks, but we would also include Real Estate, Private Equity, Venture Capital and Oil and Gas Investments. *In short, if a downturn in the economy affects these assets, they should be included here.*

In addition, other Alternative Assets, would be appropriately included in this grouping. Long/Short equities, for the allocator, are simply an augmentation of an existing long-only portfolio of diversified equities.

While this may not be intuitive, to see why this is the case, consider a large institutional portfolio comprised of either a very diversified equity fund or a passive global benchmark portfolio. In this case, satellite or smaller positions around these diversified portfolios simply change the underlying character of the overall allocation. In this sense, it doesn't matter whether we are using an activist equity fund, a concentrated long-only manager, a long/short manager or a market neutral manager, as the consequences of these investments have similar impacts. Note, this is not to say that there is no role for these strategies. Indeed, we think they can be quite additive. However, considering them as part of an allocation to "Alternative Investments" is a distinction with no value to the allocator.

For example, consider the top 10 holdings in the MSCI ACWI index:

Exhibit 3: Top 10 Holdings in MSCI ACWI Index

Top 10 Constituents	Index Weight
Apple Inc.	2.61%
Microsoft Corp.	2.25
Amazon.com	1.53
Facebook A	0.97
JP Morgan Chase & Co.	0.88
Alphabet C	0.82
Alphabet A	0.79
Johnson & Johnson	0.76
Alibaba Group Holdings ADR	0.71
Visa A	0.64
Total	11.94

Source: MSCI, Inc. As of December 31, 2019.

Consider that if the MSCI ACWI was only comprised of these holdings in equal weights, and we held this portfolio as a baseline for our "Long-Only" equity portfolio, our shareholdings would be as follows:

Exhibit 4: Theoretical Long-Only Equity Portfolio

Portfolio	Long-Only Portfolio Weight	Holdings[4] in Long-Only Portfolio
Apple Inc.	10.00%	3,405
Microsoft Corp.	10.00	6,341
Amazon.com	10.00	541
Facebook A	10.00	4,892
JP Morgan Chase & Co.	10.00	7,133
Alphabet C	10.00	747
Alphabet A	10.00	746
Johnson & Johnson	10.00	6,855
Alibaba Group Holdings ADR	10.00	4,714
Visa A	10.00	5,321
Total	100.00	

Based on December 31, 2019 prices. Source: WSJ.com

For pedagogical purposes[5], presume a long-biased, long/short manager with five short positions and five long positions and a net exposure of 100% managed 10% of the portfolio's total assets. Total portfolio shareholdings (now based upon a 90% holding in a diversified long-only global equity portfolio and a 10% holding in a long/short fund) would be as follows:

Exhibit 5: Theoretical Portfolio Comprised of a Long-Only Equity Portfolio and a Long/Short Portfolio

Portfolio	Long-Only Portfolio Weight	Holdings in Long-Only Portfolio	Active Long/ Short Portfolio Weight	Holdings in Active Long/ Short Portfolio	Holdings in Total Portfolio	Ultimate Security Weights
Apple Inc.	9.00%	3,064	4.00%	1,362	4,426	13.00%
Microsoft Corp.	9.00	5,707	4.00	2,536	8,243	13.00
Amazon.com	9.00	487	4.00	216	703	13.00
Facebook A	9.00	4,402	4.00	1,956	6,358	13.00
JP Morgan Chase & Co.	9.00	6,419	4.00	2,853	9,272	13.00
Alphabet C	9.00	673	-2.00	-149	524	7.00
Alphabet A	9.00	671	-2.00	-149	522	7.00
Johnson & Johnson	9.00	6,169	-2.00	-1,371	4,798	7.00
Alibaba Group Holdings ADR	9.00	4,243	-2.00	-942	3,301	7.00
Visa A	9.00	4,789	-2.00	-1,064	3,725	7.00
Total	90.00		10.00			100.00

[4] Assumes a portfolio valuation of $10 million and share prices as of December 31, 2019.
[5] We're assuming no cash holdings, to keep the example simple, but the reader should see the general idea behind this exercise.

We can find a further example in considering private equity funds, often bucketed as an alternative investment in more traditional allocations.[6]

What drives the returns on a multi-billion-dollar private equity fund? PE funds buy equity stakes in companies and then sell them. This is no different than what "traditional" institutional investors do except instead of buying stakes in private companies they buy stakes in publicly traded companies and then sell them. While there is a case to be made that management changes, strategy changes, the benefit of not being public, and control are all accretive to excess returns, whether this excess return is, in the aggregate, sufficient to cause large portfolios of private equity funds to behave differently in extreme circumstances is, at best, debatable. A rising tide tends to raise all boats while a tide that is falling tends to do the opposite.

At the aggregate level, when looking at private equity as a class, we would assert that that the return drivers, over time, are the same as public equities: GDP growth, productivity, profitability, et cetera (and likewise, the deterioration of these factors, along with excess leverage, serve as the biggest sources of risk in the aggregate, whether public or private). Said differently, if the return drivers and risk drivers are the same in both, then private equity and public equity investment vehicles are both just sub-sets of the asset class we have traditionally called "equities". And, as such, both are called Economically Sensitive Exposures in the proposed taxonomy.

Interest Rate Sensitive Exposures

As the name implies, Interest Rate Sensitive Exposures are those that are largely impacted by changes in interest rates. While we might think of bonds as a monolithic market that is fairly easy to get one's arms around, in the proposed construct, "credit" presents an area where some analysis and assessment is very important. In short, credit can be thought of as a spectrum, where the degree to which the underlying portfolio is responsive to changes in the yield curve is of utmost importance.

Exhibit 6: A Spectrum - Sensitivity to Changes in Interest Rates

The benefits in the current environment to this asset class, as a diversifier, cannot be overstated. For better or worse, we live in an era where monetary policy is the primary tool utilized by Federal institutions to address contractions in economic activity. As such, as the domestic economy weakens, the response tends to be advantageous to those assets that are responsive to changes in interest rates. Given this dynamic, Interest Rate Sensitive Exposures are likely the most effective tool for diversifying Economically Sensitive Exposures, as what drives extreme downside outcomes in Economically Sensitive Exposures tends to draw in drivers

[6] For the purpose of this analysis, it is important to think about private equity in the aggregate for two reasons. First, most institutional investors allocate to large multi-billion-dollar private equity funds, where idiosyncratic risk is muted due to fund-level diversification. Second, given that we are explicitly thinking about asset classes in this paper, taking into account the idiosyncratic risk of a single security would be out of place.

of upside returns in Interest Rate Sensitive Exposures (or at least the expectation of those drivers). When the market is expecting or experiencing an economic contraction, Economically Sensitive Exposures tend to fall in value. However, it is in these time periods, that there is a downward movement in interest rates, raising the returns for Interest Rate Sensitive Exposures.

However, one can see that a portfolio needs to fall on a point in the "credit spectrum" where economic effects don't overwhelm the effects of interest rate changes. In the case of high yielding debt, this is often the case, and risk exists for those portfolios that have significant exposure to assets that could easily be recategorized as "not-investment-grade". What logically falls into this grouping are government and government agency securities and the securities of corporations and municipalities that are in the upper echelons of credit rating agency ratings. Those assets that tend to be more responsive to changes in the economy would more appropriately be considered an Economically Sensitive Exposure. This is somewhat subjective, however, and is an area where analyst or portfolio manager assessments will play an outsized role in decision making.

Private debt can often be thought of in the same manner that we consider private equity and is most often, if not always, at home in an Economically Sensitive Exposure categorization. This owes largely to the fact, that those who can issue very high-quality public debt, do so, as it is a more inexpensive source of capital.

Idiosyncratic Exposures

Idiosyncratic Exposures are meant to capture a variety of strategies that:

1. Don't simply alter the character of an Interest Rate Sensitive Asset or Economically Sensitive Asset.
2. Have outcomes that aren't driven by changes or expected changes in interest rates.
3. Have outcomes that aren't driven by changes or expected changes in the trajectory of the economy.

While some of these strategies would be called "alternative investments", we avoid this nomenclature as its value as a descriptor has been diluted by the various meanings that practitioners have ascribed to it.

In truth, it is exceedingly difficult to find non-correlated assets and thus, we would suspect that most of our collective assets are invested in "traditional" investments that we describe above as Economically Sensitive Exposures or Interest Rate Sensitive Exposures.

This paper is not meant to provide an exhaustive renumeration of Idiosyncratic Assets, but we would offer a few examples.

Cash Collateralized Reinsurance: The outcome for cash collateralized reinsurance is not driven by what happens in the economy nor is it driven by interest rates. Negative returns are largely driven by geophysical (earthquakes) or weather-related events (hurricanes, windstorms and the like). Intuitively, to the practitioner, it makes sense that this is an idiosyncratic exposure and can serve as a diversifier to portfolios.

Life Settlements / Longevity Investments: Similar to reinsurance, the outcome for portfolios comprised of life insurance policies, is not dependent on changes in interest rates or changes in aggregate economic activity. Nor is there a beta component, that reflects market movements. Largely, risk and return is a function of how well a portfolio of life settlements conforms to actuarial curves for mortality at different ages.

Litigation Related Claims: Investments that are dependent on the settlement of a litigation-related claim would also fall into this category. While there are risks to such claims, as there are to any strategy, the risk is not dependent on a public market exit, economic activity or changes in interest rates.

Managed Futures: Managed futures' ability to be long or short positions allows them to maintain correlations that are sufficiently low to Economically Sensitive Exposures and Interest Rate Sensitive Exposures that therefore render them more idiosyncratic. Moreover, as many of these strategies also utilize tools that are linked to non-financial assets, be they hard commodities or soft commodities, the exposures can be discernably different.

The authors, however, understand that it is debatable as to whether this asset is better characterized as an Economically Sensitive Exposure, Interest Rate Sensitive Exposure or Idiosyncratic Exposure. Given the underlying strategy and different types of futures, it is, again, an area where analyst or portfolio manager assessment is paramount.

SUGGESTED SUB-ASSET OR STRATEGY GROUPINGS

With the above considerations in mind, we would argue for a rethinking of how we view top-level asset class taxonomy. This view is based on a combination of practical matters, data and intuition.

In practical terms, we understand that there is no true market portfolio that guides practitioners in assessing asset allocation. As discussed previously, this owes largely to the ever-evolving nature of the investment universe and the limited data sets that underpin our understanding of asset class volatility. We may find, as we found in the 2009 to 2019 period, that the entirety of a strategy's existence unfolded in a *bullish* market environment. We may also encounter strategies that have no true comparable to help assess risk or correlation.

For example, we've recently used a strategy that is based on litigation and settlement of claims related to Medicare Secondary Payers and counterparties that should more correctly pay claims. There is no comparable to assess correlation. There is no comparable to assess risk. This strategy is certainly not within any representation of the market portfolio. Those are not reasons to avoid such investments but in practical terms, using heuristics to determine underlying taxonomy and then using such a taxonomy to assess true *balance* in a portfolio is, in our view, prudent.

While data is a good guide for some investments with longer historical return streams, it is either nonexistent or suspect for others. Still, even for those categorizations where data exists, we would argue that looking for more extreme circumstances offers a better idea of what is

important to investors. How do high yield bonds, real estate and oil and gas investments behave in extreme market and economic environments? We would argue, as intuition supports, that they are Economically Sensitive Assets and should be categorized as such.

Intuitively, we understand that aggregate economic activity and prospective economic activity have an effect on certain asset classes. Similarly, changes in interest rates, either up or down, can also have an effect on certain asset classes. This makes sense, as when the economy is expected to move lower, and when it moves lower, certain asset classes move lower as well. Where certain data may diverge from this overall picture, again, falls within the realm of alternatives.

As noted previously, private equity, owing to valuation methodologies and the limited data points that are provided, may appear less volatile, but as practitioners, we understand that what drives a downward move in a publicly traded retail clothing company is surely driving the valuation of a private retail clothing company. While publicly traded investments will rely on markets to provide guidance, private valuations rely on assessments done by an individual or committee. The magnitude of changes may be different, but we know that if "animal spirits" are moving the valuation of the public company in an extreme fashion, they are moving the valuation of the private company similarly.

Moreover, it's worth reiterating that some investments based on publicly traded securities provide a "manufactured" return stream that may be different, but also may simply be reshaping the allocators portfolio with more robust allocations to certain return factors. Such returns are created using public market elements. Long/short equity portfolios and market neutral equity portfolios have this flavor, and as discussed previously may provide a differentiated return, but ultimately just change the character of the underlying portfolio.

Credit portfolios, as discussed, generally fall somewhere on a spectrum where on one end, changes in interest rates drive changes in valuation and on the other end changes in economic fortunes (or prospective changes in economic fortunes) drive changes in valuation. Consequently, one ends up with high yield bonds on one end of this spectrum and very high-quality bonds on the other. Intuitively this makes sense, but this does necessitate a degree of subjectivity in terms of categorization.

The list below provides a construct for a limited array of investments that we would include in three broad groupings:

Exhibit 7: Categorizing Strategies and Sub-Asset Class Groupings within the Proposed Taxonomy Construct

Economically Sensitive Exposures	Interest Rate Sensitive Exposures	Idiosyncratic Exposures
U.S. Equities	U.S. Government Bonds	Reinsurance
International Equities	Very-High-Quality Corporate Bonds	Life Settlements
Emerging Market Equities	Very-High-Quality Municipal Bonds	Unhedged Global Bonds
Lower-Quality Bonds		Managed Futures

Publicly Traded REITs	Litigated Claims[7]
Private Real Estate	
Private Equity	
Venture Capital	
Long/Short Equities	
Private Credit	

This is by no means exhaustive and is meant mainly for pedagogical purposes. It largely offers examples where we would generally group certain assets and should give the reader a sense of the direction that we are proposing. Given an evolving investment landscape and the proliferation of various types of "alternatives", much work needs to be done in assessing both how to utilize such tools in portfolios and better understand the balance that we are seeking to gain from their usage.

CONCLUSIONS

What we have proposed is descriptive, largely educational and intended to better clarify risks to various stakeholders and better assess newer strategies and strategies with more limited data sets.

However, within the taxonomy construct described there is a call for change. As we move through yet another sharp downward move in markets in 2020, there will be a renewed emphasis on the usefulness of so-called "alternative investments" and their role. There will be newfound products that come to market to fulfill this renewed interest and as such there will be a need to assess the efficacy of such "alternatives" as being additive or not, and in what ways.

In short, regardless of what the pie chart says, we all have an obligation to dig beneath the surface and understand as best we can, what the risk and return drivers are for the investments we select. Do not cede this functional responsibility for how things are categorized to convention or worse to the firms that manufacture and sell the products.

We believe that using the construct described offers yet another point of discussion that can help practitioners and institutional investors better understand their exposures and assess their risks. To this end, there are things that we can do as an industry:

1. Utilize a framework (such as the one described) to better understand what drives extreme outcomes so as to better assess the degree to which diversification will be effective within a given portfolio.
2. Encourage conversations internally, within your firm, with your stakeholders (clients, trustees, beneficiaries, etc.) and with your peers with the goal of collectively adopting a more consistent and informative assessment of various strategies – especially those that would historically be considered "alternatives".

[7] There are a number of strategies that fall into this sub-grouping. These include the previously discussed strategy that is predicated on a litigated settlement but could also include some strategies that might be considered "distressed". Distressed funds, in general, we believe are more appropriately labeled "Economically Sensitive" but in some cases may be more reliant on a court settlement, in which case we would consider them "Idiosyncratic".

3. Continue to look for ways to better understand what drives performance of non-traditional strategies with an eye towards extending the conversation proposed within this paper.

Much of what we've proposed and described here is open-ended and has no clear-cut answers. This paper is meant mainly to spur conversation and provide a differing perspective on a topic that we feel has for too long been considered unassailable.