FRAME GLOBAL ASSET MANAGEMENT

White Paper 2

Why We All Need to be Global and Tactical Recognizing Economic Regime Shifts: The Rationale For Regime-Based Investing, Evolving Economic Conditions and Structural Shifts

While asset class performance certainly varies under different conditions, traditional asset allocation approaches make no effort to adapt to such evolution or shifts. Instead, traditional approaches seek to develop static "all-season" portfolios that optimize efficiency across a range of economic scenarios. An underlying assumption running throughout all of classical financial theory is that the random process generating asset returns has the property of stationarity. This is a flawed concept. A regime-based approach is designed to give investors the flexibility to adapt to changing economic conditions.

To make this point relatable, we find the weather analogy to be the most applicable one. A farmer (investor) with personal, subjective insight into why autumn will arrive late this year (or why this stagnation environment will last much longer than average) will not rotate crops at the same time as others who do not hold his belief.

It is a well-recognized observation that different asset classes respond differently to different economic drivers. For example, fixed-income assets tend to respond to anticipated movements in interest rates, among other factors, and bond prices fall when interest rates rise. Commodities respond to, and sometimes drive, inflation expectations; commodity prices can rise fast when inflation expectations are rising, and they can fall quickly once inflation appears to have peaked.

It stands to reason that a fixed policy portfolio, or crop mix, would be suboptimal in the extreme, unless, of course, one lives in a world where there are no seasons and thus the unconditional distributions can be used. Conventional wisdom about this subject is so poor that the majority of traditional asset managers fall back on the worst strategy of all: pretending that climate is the same around the world, that there are no seasons, or no economic cycles, and then computing the overall unconditional means and variance of returns, and optimizing as Markowitz would have. This is neither "safe" nor "conservative".

Our investment process incorporates factoring in the advantage of positive economic regimes, withstanding adverse economic regimes and importantly adapting to new economic regimes, all with a goal to avoid portfolio losses.

Our Global and Tactical Approach

In our modern investment world we have access to data instantaneously and have sophisticated and readily available quantitative tools. Frame Global Asset Management begins the process based on the observation that asset classes behave in repeatable ways under repeatable economic conditions. Our firm considers the outlook for the global economy and brings it back to a relative view of expected US GDP growth in the twelve months ahead. The outlook falls into one of the following five broad economic environments or regimes: GROWTH, STAGNATION, RECESSION, INFLATION and CHAOS but allows for the possibility of a transitioning in the period from one environment to another. Historical asset class monthly return data is tagged using rules to assign each month with one of the five environments. We model over forty global asset classes. From this tagging, expected return distributions are created by drawing return data using bootstrapping (random sampling with replacement) from past economic "While we are certain that assets respond to economic regimes and we have demonstrated that a regime-based framework adds value over time, we are also able to capture the complex nature of the interaction between economic drivers and assets when a regime shifts".

Deborah Frame, CFA, MBA President and CIO

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environments that are similar to what is anticipated in the Climate Change coming twelve months. The twelve month forward outlook and updating of expected return distributions is run monthly.

It is also well-recognized that asset class behavior can vary in shifting economic environments. A common criticism of tactical approaches such as ours is that the past is never repeated perfectly in the future.

This is particularly true when the economy and financial markets experience new paradigms or regimes, relative to history. In such circumstances, the relationship between economic factors and financial markets can change, leading to unanticipated performance of a regime-based investing approach developed using historical data. Examples in history include the advent of derivatives and their impact on leverage, the internet revolution, the rise of China and most recently the implementation of Quantitative Easing.

Taking this reality a step further, this means that along with the acknowledgement of cycles (e.g. summer to winter seasons, recessions to recoveries, etc.), and the way in which they change may occasionally change. Traditional theory assumes away the existence of structural changes but this can only be true if there are no structural changes that alter the dynamics of the system.

A stationary weather process might correspond to the predictable cycles of weather when there is no global warming, whereas our non-stationary process corresponds to the unpredictable new weather patterns generated by the new phenomenon of global warming.

In this world, traditional Markowitz active management that locks in to fixed asset allocation, along with the assumptions of the Efficient Market Hypothesis are pointless.

Our investment approach can take or borrow behaviour data from alternative economic environments for targeted asset classes and combine it with the data from unaffected asset classes within the prevailing economic environment forecast. In this way, we are able to draw on the behaviour of asset classes from alternative environments that are being exogenously imposed on the current environment. Once the new regime is assimilated or removed, we have the ability to adjust again.

While we are certain that assets respond to economic regimes and we have demonstrated that a regime-based framework adds value over time, we are also able to capture the complex nature of the interaction between economic drivers and assets when a regime shifts. We do this by tracking the actual correlations among the asset classes that we model. As these relationships are state dependent and non-linear in nature, we also recognise that dispersion is a factor in addition to the direction and magnitude of the correlations.

After the Great Recession was over in 2009 and the Fed's key crisis interventions had ended, the Fed embarked on a program of unconventional policy that continues to have a significant impact on financial markets to the present. This unconventional program consisted of three elements with the goal to stimulate output and employment: a zero-interest-rate policy, or ZIRP; large-scale asset purchases, consisting of purchases of longmaturity Treasury securities and mortgage-backed securities. swaps of short-maturity Treasuries for longer-maturity Treasuries (Quantitative Easing - QE) and forward guidance.

This served to: (a) increase by more than four-fold (since before the financial crisis) the size of the Fed's balance sheet and (b) increase substantially the average maturity of the assets in the Fed's portfolio.

Three Clear and Indisputable Conclusions About Quantitative Easing

QE pumps stocks to levels that are completely disconnected from the underlying fundamentals of an economy. It allows bond prices to soar and yields to drop to levels the free market could never accept. And perhaps most importantly, QE does not lead to robust economic growth. This is because whatever unsustainable job growth there is comes from the building and servicing of asset bubbles, encouraging further unsustainable debt accumulations, rather than from sustainable business investment. The U.S. oil fracking industry is a perfect example of this reality.

Quantitative Easing represents a variation of trickle-down economics, acting on balance sheets. It works through the price system by affecting the structure of prices, and hence wealth.

The unemployed, lacking assets, are not directly affected by changes in asset prices. The unemployed are dependent on policies that generate income. While Fed intervention prevented a collapse in asset prices, its effect on the real economy remains tenuous. Data suggests that the policy has exacerbated the inequality in the distribution of wealth and income, has done little to reduce unemployment, and has violated the principles of social justice. The policy contrasts sharply with fiscal policy employed during WWII, which promoted greater equality in the distribution of income.

QE is also not effective in economies that rely on imports, as chronically low interest rates along with rapidly growing the money supply debases the currency and currency depreciation raises import costs. One reason why QE hasn't done much good in Japan is because of that country's high import share of key consumption categories. This squeezes consumer power by depressing inflation-adjusted wages and it applied to a country

Example: Quantitative Easing - A Temporary Regime Shift - But More Like El Niño Than

with high import shares in consumption and investment can arguably make things worse.

For these reasons and the obvious fact that when rates fall to zero it takes away any ability that a central bank has to use monetary policy as a tool, QE is a temporary exogenous variable that can quickly be imposed on an economy but whose impact lingers but is not destined to be permanent once withdrawn. For this reason, we see QE as more like an El Niño rather than permanent like climate change.

Conclusion

Traditional investment managers handicap their portfolios by being regime agnostic, which is technically a strategic benchmark. Instead, our clients benefit as our models are regime aware as well as risk aware, allowing for adjustments in asset allocation in response to shifts in economic regimes. We believe, based on our analysis, that regime-based investing can offer a compelling alternative to the static "all-season" approach.

On an intuitive basis alone, regime-based asset allocation appears to be the most logical response to shifting economic regimes.

It is clear from our research and analysis that shifts in asset class leadership are so broad and varied that no static portfolio weighting could be optimal across all regimes. We believe that regime-based asset allocation has the potential to deliver significant benefits when compared to traditional investment policies, which are most commonly static and benchmark based.

Contingent on good economic foresight, implementation of a regime-based approach has the potential to significantly increase portfolio efficiency, contributing to cumulative performance over time.

Deborah Frame, CFA, MBA President and Chief Investment Officer Frame Global Asset Management

Other Information

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We define Growth, Stagnation, Inflation, Recession and Chaos as the following: Growth: U.S. Real GDP growth greater than 2.5% Stagnation: U.S. Real GDP growth between 0 and 2.6% Inflation: U.S. CPI greater than 2.7% Recession: U.S. Real GDP less than 0% Chaos: All asset classes exceed a correlation threshold

Volatility is a statistical measure of the dispersion of returns for a given security. Volatility can be measured by using the standard deviation or variance between returns from that same security. A higher volatility means that a security's value can potentially be spread out over a larger range of values.

Standard Deviation is a measure of the dispersion of a set of returns from its mean. The more spread apart the data, the higher the deviation. Standard deviation is calculated as the square root of variance. Standard deviation is also known as historical volatility and is used by investors as a gauge for the amount of expected volatility.

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