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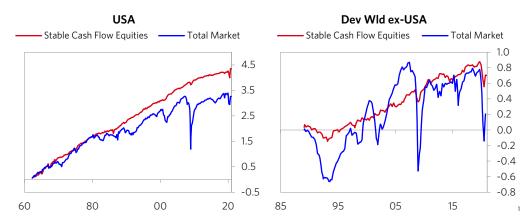
Bob Prince

Engineering Equity Return Streams: Top-Down, Bottom-Up

The world of zero interest rates presents a number of investment challenges and in our view calls for new ways of thinking in order to create new betas, new alphas, and new ways of constructing portfolios. Although there are no new asset classes, there is the potential to create new beta and alpha return streams from what exists. This is possible because macro conditions are manifest in the spending and incomes of businesses, creating the potential to engineer new cash flow streams from collections of companies whose cash flows and pricing are fundamentally driven by specified macro conditions. The returns of these engineered equity portfolios can be further refined by combining them with hedges or diversifying exposures in other liquid markets, and this can be done either passively or actively. The net result can be newly engineered return streams to create portfolios which have less risk at the same or higher returns as traditional equity or multi-asset portfolios, without holding nominal bonds.

One way that we have applied this way of thinking is through what we refer to as <u>stable cash flow equities</u>. The goal is to engineer a stable cash flow stream from equities in order to replicate some of the properties of a bond. The process starts with identifying stable and reliable types of spending in the economy, connecting that spending to the revenues received by the companies that offer those goods and services, and then screening for a relatively unobstructed passage of that revenue to earnings. The selected companies are effectively used as pass-through vehicles to earn a sliver of the cash flow stream generated by stable forms of spending in the economy. The constituents of the portfolio rotate over time to continuously source their income stream from the associated types of spending, creating a new cash flow stream that you can hold passively or manage tactically. Below is what that cash flow stream looks like compared to the cash flow stream of the overall equity market in the US since 1963 and in other developed countries since 1990.

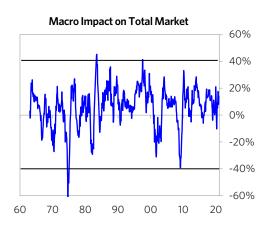
Cumulative Op Inc per Share (In, Simulated)

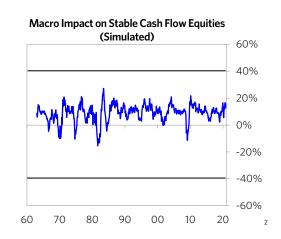


¹ These perspectives are a product of current and ongoing Bridgewater research that is subject to change without notice and are shown for illustrative purposes only. The "stable cash flow equities" shown here represent a dynamic equity allocation created with Bridgewater's proprietary process for selecting companies at each point in time that are expected to have the most stable underlying earnings.

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Given the stability of this cash flow stream, the returns of the portfolio take on a more bond-like character, which we estimate to be roughly 70% stocks and 30% bonds. The returns are less growth-sensitive, more inflation-sensitive, and less sensitive to risk premiums and tight money than the overall equity market. Because the cash flows are stable and reasonably predictable, price changes mostly reflect changes in market discount rates and imply a change in expected yield rather than a change in future earnings. This makes price changes substantially hedgeable through liquid market proxies that reflect these discount rates (e.g., short bonds, long breakeven inflation, etc.) of the portfolio. The net effect of stabilizing the cash flows and hedging changes in the discount rates reduces the volatility of the portfolio and reduces the impact of changes in the macro environment on returns. As an illustration, the following charts, based on our estimates, show the degree to which changes in macro conditions impact the overall equity market compared to how much they impact the stable cash flow equities hedged.





Another example of this engineering process pertains to stable balance sheets. Whereas stable cash flow equities are designed to have a stable income stream, resilient companies have balance sheets and operating characteristics which enable them to emerge intact after periods of severe economic stress, even if they experience substantial declines in sales and earnings. At the opposite end of this spectrum are susceptible companies that have vulnerable balance sheets and operating characteristics, leading to permanent impairment from economic stress.

Companies are continuously assessed for their balance sheet resilience by running pro forma cash flow projections under stress conditions and sorting them according to how well their liquidity conditions hold up. From a portfolio standpoint, spreading one against the other isolates extreme differences in financial durability whose impact scales as a function of the depth and duration of the stress environment. This creates a recession hedge cash flow stream that is negatively correlated to changes in risk premiums without paying the risk premium, making it quite valuable from a portfolio-construction standpoint.

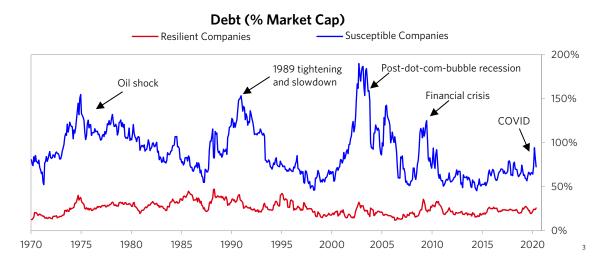
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RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL

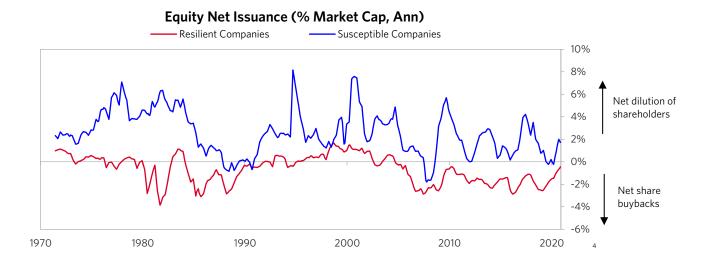
proprietary process for selecting companies at each point in time that are expected to have the most stable underlying earnings. This analysis of equity market and stable cash flow equities performance uses the All Weather Lens which is an analytical approach to assess the behavior of the major drivers of asset performance and their impact on markets during any given period, based on Bridgewater's understanding of global financial markets. Information shown is the result of analyses of actual and simulated market data. HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL

TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS. PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. CONFIDENTIAL AND PROPRIETARY. Please review the "Important Disclosures and Other Information" located at the end of this report.

The below illustrates a few of the financial characteristics that are isolated through this process. For susceptible companies, stress environments often lead to a big shift in the proportionate claim of debt holders relative to equity holders as debts rise relative to market cap. For resilient companies, the relative claims remain stable.



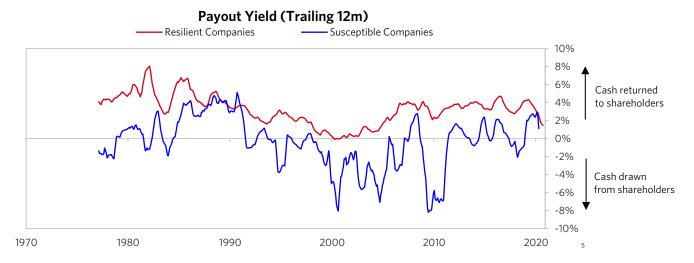
Similarly, in stress periods susceptible companies are often forced to recapitalize, permanently diluting shareholders. For resilient companies, this is more rare.



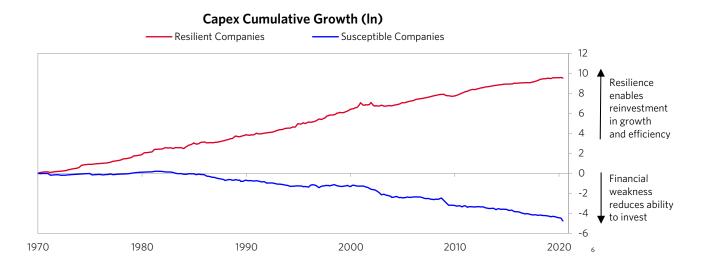
³ These perspectives are a product of current and ongoing Bridgewater research that is subject to change without notice and are shown for illustrative purposes only. The "susceptible" and "resilient" companies shown here represent dynamic equity allocations created with Bridgewater's proprietary process for selecting companies at each point in time that are expected to be especially susceptible or resilient to economic shocks.

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Similarly, resilient companies generally sustain positive yields to investors through all environments, while susceptible companies regularly dilute or draw capital from investors during and after stress periods.



And, given differences in financial durability, resilient companies generally continue to invest, while susceptible companies are forced to retrench to conserve cash.



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In both of these applications, the cash flows associated with macroeconomic spending conditions are pushed through companies' income statements and balance sheets in order to engineer a new set of cash flow and financial characteristics that meets specific parameters with respect to the macro environment. This creates new betas which can then be held or actively managed to create new alphas. These betas can be combined and held passively, producing reliable forms of diversification rooted in the nature of the underlying cash flows. Or they can be actively managed based on views of macro conditions and how this will impact one in relation to another. And this can be done without holding or trading nominal bonds.

This top-down, bottom-up engineering process can be used to produce other betas according to other specifications. The starting point is an understanding of how economic conditions impact spending and how that spending impacts the cash flows and balance sheets of companies, making the approach equally applicable to private and public assets.

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