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FridsonVision HIGH YIELD STRATEGY

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Industries That Helped and Hurt Performance

Industry overweights and underweights are worthy of attention beyond short-term tactical allocation decisions. This study details how the 20 largest high yield industries affect long-run, portfolio-wide, risk-adjusted returns. Historical experience indicates that the top ten industries in Exhibit 3's ranking merit emphasis in long-run allocation.

Industry mix ordinarily comes to the attention of high yield portfolio managers for two reasons. First, managers must take care not to exceed their mandated ceilings on industry concentration. Second, they regard certain industries as tactical plays on short- or intermediate-term trends. For example, if they perceive a recession on the horizon, they may increase their allocations to industries that they believe to be noncyclical. Similarly, if PMs expect oil prices to surge, they may increase their Energy exposure.

This report argues that it is also worthwhile, and potentially very productive, to consider industry mix from the standpoint of clients who are concerned above all with long-run, risk-adjusted return. In that context, industry mix matters in terms of its effect on the Sharpe ratio, defined as:

(mean return - risk-free return) ÷ standard deviation of returns

Over the past decade, as detailed below, Sharpe ratios of the 20 largest high yield industries (by market capitalization) varied widely. Better-than-average risk-adjusted returns could have been achieved by overweighting (underweighting) the industries that produced superior (inferior) Sharpe ratios. The empirical research that follows explores possible causes of the wide disparities in risk-adjusted returns and offers suggestions on how portfolio managers can factor them into their strategic allocations.

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Publisher

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EMPIRICAL FINDINGS

This analysis would be moot if the high yield market were perfectly efficient. Some industries would produce higher returns than others because they are more volatile. In each case, however, investors would demand a return commensurate with its variance in return. Sharpe ratios of all industries would therefore be equivalent.

Over a reasonably long performance measurement period of ten years, as documented in **Exhibit 1**, that idealized state of market perfection did not exist for high yield bonds. Monthly Sharpe ratios ranged all the way from 0.202 (Insurance) to 0.034 (Energy). Considering the benchmark ICE BofA US High Yield Index's 0.131 Sharpe ratio, classic non-cyclicals such as Food, Beverage & Tobacco (0.201) and Containers (0.197) helped portfolio managers who sought to maximize long-run, risk-adjusted returns. On the other hand, efforts in pursuit of that objective were hampered by the likes of Technology (0.103), Super Retail (0.084), Broadcasting (0.064), and the index's largest industry, Energy (0.034).

Note that this study does not directly address diversification effects, a worthy topic for future consideration. If it happened to be that every highly volatile industry had a negative correlation with some other highly volatile industry, their adverse impact on portfolio-wide performance would be somewhat reduced. Hopes for mitigation through such offsetting effects are not encouraged, however, by the high 0.89 total return correlation between the second- and third-highest-standard-deviation industries in Exhibit 1, Leisure and Super Retail. (Energy, in a class by itself in terms of total return variance, is dealt with in detail below.)

ANALYSIS

Monthly Sharpe ratios ranged all the way from 0.202 (Insurance) to 0.034 (Energy).

The deeply depressed Sharpe ratios at the bottom of Exhibit 1's industry section would be less troubling if they solely reflected elevated volatility on high-return industries. In fact, though, the four industries ranked lowest by that risk-adjusted return measure all had mean monthly returns lower than the ICE BofA US High Yield Index's. In short, they produced the worst-of-all-worlds results—below-average return with above-average (or in Telecom's case, exactly average) volatility. Over the ten-year period depicted in Exhibit 1, portfolio managers would have benefited from underweighting those industries, assuming it would not have been feasible to overcome their drag through extremely astute security selection and exceptionally nimble trading.

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EXHIBIT 1: Largest High Yield Industries Ranked by Sharpe Ratio, 2014-2023

	Monthly Total Return %		Sharpe Ratio(1)	Monthly Mean Yield %	Average Rating(2)	
Industry	**Mean**	**Std. Dev.**			**Ave. for Period(3)**	**Ending**
Insurance	0.54	2.15	0.20	6.34	3.67	5
Food, Beverage & Tobacco	0.46	1.76	0.20	5.71	4.19	5
Containers	0.44	1.68	0.20	5.45	4.33	4
Technology	0.44	1.80	0.19	5.93	4.33	3
Diversified Financial Services	0.50	2.13	0.18	6.18	3.33	4
Utility	0.45	1.92	0.18	5.94	2.58	2
Building Materials	0.46	2.12	0.17	5.69	4.19	4
Services	0.42	2.03	0.16	6.76	4.33	4
Aerospace	0.49	2.26	0.15	6.54	5.00	6
Chemicals	0.44	2.24	0.15	6.44	4.19	4
Homebuilders & Real Estate	0.44	2.23	0.15	5.69	3.67	3
Gaming	0.46	2.44	0.15	6.24	4.51	4
Automotive & Auto Parts	0.42	2.34	0.13	5.45	3.67	3
Healthcare	0.37	2.04	0.13	6.28	4.67	4
Cable & Satellite TV	0.37	2.14	0.13	5.76	4.00	4
Leisure	0.44	2.87	0.12	6.10	4.19	5
Telecommunications	0.33	2.22	0.10	6.86	4.00	4
Super Retail(4)	0.33	2.70	0.08	7.65	4.67	4
Broadcasting	0.25	2.25	0.06	6.98	4.51	4
Energy	0.28	5.05	0.03	7.94	3.67	4
Reference Points						
All High Yield(5)	0.39	2.22	0.13	6.47	4.00	4
BB	0.42	2.04	0.16	4.99	2.00	2
B	0.36	2.26	0.12	6.65	5.00	5
CCC-C	0.40	3.38	0.09	11.81	8.00	8

(1) Based on Three-Month Treasury Bill mean return of 0.104%

(2) Market-weighted

(3) Equally weighed average of numerical ratings for beginning, middle, and end of observation period.

(4) Includes department stores, discounters, and specialty retailers.

(5) ICE BofA US High Yield Index

Source: ICE Indices, LLC

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By highlighting the performance of the top few and bottom few industries, we do not mean to suggest that the broad middle of Exhibit 1's ranking is unaffected by the association between low Sharpe ratios, on the one hand, and low returns plus high variance, on the other. True, some industries deviate from that pattern, but comparisons between the top half and bottom half of the ranking reveal clear tendencies in those directions. The top 10 industries' mean return is 0.463% versus 0.368% for the bottom 10. (Standard deviations are 0.020% and 0.038%, respectively.) That difference is statistically significant at the 99% confidence level. To compare standard deviations fairly, we eliminated Energy, a conspicuous outlier at 5.053%, from the calculation. Even so, the difference between the highest-Sharpe-ratio industries (2.008%) and the lowest (2.358%) is significant with 95% confidence. (Standard deviations of the standard deviations are 0.206% and 0.271%, respectively.)

What Explains the Wide Range of Risk-Adjusted Returns?

(For the bottom line on how to capitalize on this study's findings, skip ahead to "Key Takeaways from Exhibit 3.")

Confronted with a violation of the Efficient Market Hypothesis, financial economists' reflex response is to seek an explanation. To honor that tradition, we looked first at yield. It seems reasonable to surmise that in their effort to obtain returns on the higher-risk industries commensurate with their risk, investors demand premium yields on those industries. The premiums, however, may make the riskier industries only appear more attractive than their peers, while the extra current income ultimately proves insufficient to raise total return to the proper level (as indicated by Sharpe ratios in line with lower-risk industries). In less technical terms, investors may in aggregate chase yield and thereby prevent higher-risk industries from trading cheaply enough to deliver returns in line with their volatility.

It is true that the two industries with the highest monthly average yields during our observation period (Super Retail and Energy) ranked #18 and #20, respectively, by Sharpe ratio. Despite those examples, however, there is no clear pattern throughout the list of industries that yield is a function of risk-adjusted return. The mean of the effective yield shown in Exhibit 1 is 6.098% for the top half, with a standard deviation of 0.422%. For the bottom half, the corresponding percentages are 6.495% and 0.839%, respectively. The difference in those means is not statistically significant. Accordingly, mispricing in response to tantalizing yield premiums does not satisfactorily explain the lack of uniformity in risk-adjusted returns among major high yield industries.

Another possible explanation for the wide range of observed Sharpe ratios among the industries lies in the ratings data shown in the lower part of Exhibit 1. The Sharpe ratio declines with each step down from BB to CCC-C. Might it therefore be the case that the industries with lower Sharpe ratios are those with lower-quality ratings mixes?

To test that proposition we used the numerical-equivalent rating scale shown in **Exhibit 2**. Note that the highest rating (BB1) corresponds to the lowest number (1). We calculated each industry's average rating over the full observation period by adding the numerical equivalent of its average rating on December 31, 2013, December 31, 2018, and December 31, 2023, then dividing by three. The last column in Exhibit 1 shows the numerical-equivalent rating at the end of the observation period, as an indication of what one might expect going forward, if ratings prove useful in explaining variance in Sharpe ratios.

EXHIBIT 2: Numerical Rating Equivalents

BB1	1
BB2	2
BB3	3
B1	4
B2	5
B3	6
CCC1	7
CCC2	8
CCC3	9

Based on ICE BoA Composites

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As it turns out, however, it is not consistently the case that high (low) ratings are associated with high (low) Sharpe ratios. For example, the #1 and #20 industries, ranked by Sharpe ratio—Insurance and Energy—have identical average numerical ratings for the period of 3.67 (between BB3 and B1). A difference of means test discloses that the gap between the top half's mean of 4.014 (standard deviation: 0.667) and the bottom half's mean of 4.156 (standard deviation: 0.413) is not statistically significant. In short, low-quality ratings mixes do not explain why certain industries produced markedly inferior risk-adjusted returns from December 31, 2013 through December 31, 2023, while others materially outperformed the high yield index in risk-adjusted terms.

Extreme Events and Period Specificity

Since no purely quantitative measure emerged as an adequate explanation of the variance in industry Sharpe ratios, an alternative explanation must be considered. Perhaps the industries that produced inferior Sharpe ratios over the past decade underwent unusually large price swings due to causes that could not have been foreseen based on their fundamentals. Put another way, the market's failure to price those industries in such a way as to produce risk-adjusted returns in line with the high yield index may not reflect any analytical flaw on investors' part. This supposition also implies that because the surprises of 2014-2023 may not be repeated in 2024-2033, portfolio managers should not rely on Exhibit 1's rankings in determining their long-run industry allocations.

This evidence indicates that Energy's inferior risk-adjusted return over the past decade was not solely the result of one extreme, unpredictable event.

Energy, the industry with the worst risk-adjusted return over the past decade, represents a useful test case for this line of argument. As the COVID-19 epidemic, which surely qualifies as an unforeseeable event, triggered a painful -11.759% total return on the ICE BofA US High Yield Index in March 2020, the Energy subindex did far worse, at -33.774%. The following month, the index rebounded sharply with a 3.80% total return and Energy held true to its high-beta nature, at 15.039%. It might be thought that excluding those two exceptionally volatile months from the ten-year calculation would bring Energy's Sharpe ratio into close alignment with the index's. In reality, the difference in Sharpe ratios in the 118 selected months was slightly ***greater*** than in the full 120-month analysis: (0.190 for the index - 0.089 for Energy = 0.101) versus (0.131 for the index – 0.134 for Energy = 0.097).

This evidence indicates that Energy's inferior risk-adjusted return over the past decade was not solely the result of one extreme, unpredictable event. That conclusion does not, however, preclude the possibility that during the most recent ten-year period Energy was lower in return and higher in volatility than is usual is. Indeed, our calculation for the period December 31, 2003-December 31, 2013 found Energy almost perfectly matching the ICE BofA US High Yield Index in mean monthly return (0.722% versus 0.724%) with a slightly ***lower*** standard deviation (2.724% versus 2.973%). With the three-month Treasury bill's mean return at 0.139% for the period, Energy beat the index on Sharpe ratio, 0.214 to 0.197. In short, portfolio managers seeking an optimal industry allocation strategy for a ten-year horizon cannot dismiss period-specificity as a concern and cannot safely assume the future will perfectly mimic the past.

Pursuing this point further, we performed a Sharpe ratio analysis for the full period of availability of returns on subindexes of the ICE BofA US High Yield Index, 1997-2023. The results are displayed in **Exhibit 3**.

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EXHIBIT 3: Largest High Yield Industries Ranked by Sharpe Ratio, 1997-2023

	Monthly Total Return %		Sharpe Ratio(1)	Sharpe Ratio Rank	
Industry	**Mean**	**Std. Dev.**		**1997-2023**	**2014-2023**
Healthcare	0.58	2.15	0.19	1	14
Aerospace	0.64	2.54	0.18	2	9
Services	0.67	2.77	0.18	3	8
Containers	0.64	2.60	0.18	4	3
Homebuilders & Real Estate	0.66	2.76	0.18	5	11
Chemicals	0.60	2.43	0.17	6	10
Food, Beverage & Tobacco	0.53	2.22	0.16	7	2
Insurance	0.85	4.25	0.16	8	1
Building Materials	0.60	2.69	0.16	9	7
Utility	0.60	2.72	0.16	10	6
Leisure	0.61	2.99	0.15	11	16
Broadcasting	0.72	3.84	0.14	12	19
Gaming	0.64	3.64	0.13	13	12
Technology	0.61	3.45	0.13	14	4
Super Retail(2)	0.54	2.92	0.13	15	18
Energy	0.63	3.69	0.12	16	20
Diversified Financial Services	0.59	4.18	0.10	17	5
Cable & Satellite TV	0.46	3.06	0.09	18	15
Automotive & Auto Parts	0.56	4.91	0.08	19	13
Telecommunications	0.42	3.91	0.06	20	17
Reference Points					
All High Yield(3)	0.55	2.57	0.15		
BB	0.56	2.17	0.18		
B	0.49	2.61	0.12		
CCC-C	0.60	4.09	0.11		

(1) Based on three-month Treasury bill return of 0.175

(2) Includes department stores, discounters, and specialty retailers.

(3) ICE BofA US High Yield Index

Source: ICE Indices, LLC

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Key Takeaways from Exhibit 3

The range of Sharpe ratios is narrower in the 27-year analysis (0.125) than in the most recent ten years shown in Exhibit 1 (0.168).

This suggests that over very long periods the market gets the pricing more correct—producing more uniform risk-adjusted returns—than it manages to over shorter periods.

The membership of the top-half and bottom-half segments by risk-adjusted return shows substantial stability over time.

Exhibit 3's Sharpe ratio rankings indicate that eight of the 2014-2023 top ten industries also placed in the top ten in 1997-2023. Eight of 2014-2023's bottom ten likewise placed in the bottom ten in 1997-2023. The exceptions were Healthcare, #14 in the latest decade but #1 over the full period; Homebuilders & Real Estate #11 in 2014-2023 but #5 in 1997-2023; Technology, #4 for the latest decade but #14 for the full period; and Diversified Financial Services, #5 in 2014-2023 but #17 in 1997-2023. Energy, which had the lowest Sharpe ratio in the most recent decade, also ranked well down the list for the full period, at #16. We infer from these results that overweighting the industries in the top half of Exhibit 3 and underweighting those in the bottom half is likely to generate a net benefit, even if a small minority of those decisions prove counterproductive.

CONCLUSION

Industry allocation's impact on short-run high yield total returns is widely recognized; less attention is given to its influence over long-run, risk-adjusted returns.

Industry allocation's impact on short-run high yield total returns is widely recognized; less attention is given to its influence over long-run, risk-adjusted returns. It is not entirely clear why the market fails to produce uniform Sharpe ratios among high-, medium-, and low-return industries. This study neither identified as the culprit a decoying effect of premium yields on certain industries nor found that nonequivalent risk-adjusted industry returns are attributable to differences in ratings mix. Whatever the cause, however, the drag on risk-adjusted returns posed by a suboptimal industry distribution deserves attention at the strategic level.

Granted, basing industry over- and underweighting strictly on the historical record is not a foolproof approach to the question. Over investment horizons as long as ten years, a small minority of industries that contribute positively to risk-adjusted returns over the very long run may instead detract from it or vice versa. The evidence presented in this study, however, points to a substantial degree of consistency over time in the identities of industries and help or hurt the maximization of risk-adjusted returns. Advancing that objective from this point forward is most likely to be aided by emphasizing the top ten industries in Exhibit 2's ranking and deemphasizing the bottom ten.

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FridsonVision High Yield Strategy

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