

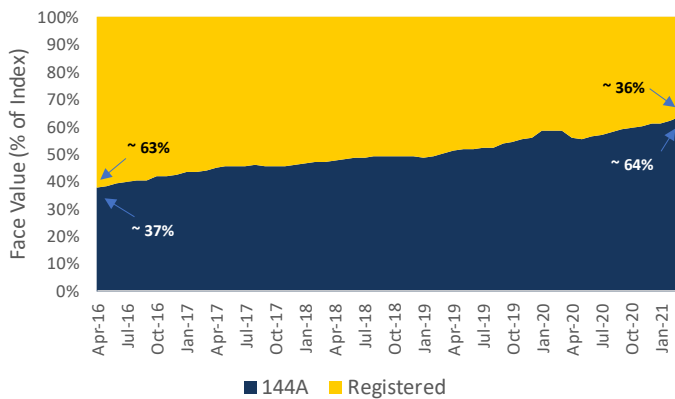
SKYView: The (Continued) Rise of Unregistered Bonds under Rule 144A

In past research pieces, we have highlighted the move upward in quality that the ICE BofA US High Yield Index (ticker H0A0, our proxy for broad market high yield risk) has enjoyed in recent years, noting that the percentage of BBs are now higher (and the percentage of CCCs are now lower) than in prior spread-tight periods. A less apparent but nevertheless impactful dynamic has been the proliferation of 144A bonds, which now outnumber SEC-registered issues in the H0A0 Index by nearly 2:1. In this updated and expanded analysis of a prior *Weekly Briefing* focused on the same subject, we discuss these market changes over the last several years and challenge the notion that 144A bonds tend to represent greater underlying risk than their registered counterparts.

Historically speaking, non-registered issues (referred to as “144A” bonds, in reference to Rule 144A promulgated under the Securities Act of 1933, as amended, that provides a safe harbor exemption from registration) made up a very small portion of the high yield index. As recently as 15 years ago (April '06), there were only 242 bonds in H0A0 classified as 144A, or approximately 13% of all issues. These securities tended to come from smaller, sometimes private issuers and remained in the minority as public companies with listed equity made up ~ 65% of the index. This dynamic has rapidly changed: as demonstrated below, **144A securities have eclipsed SEC registered bonds in both face value and issue count**, even though the proportion of public companies in the index remain essentially unchanged. Note that 144A bonds (64% of the index) represented in the chart below include those with and without registration rights; through April 1, 2021, 95% of this group were 144As without registration rights.

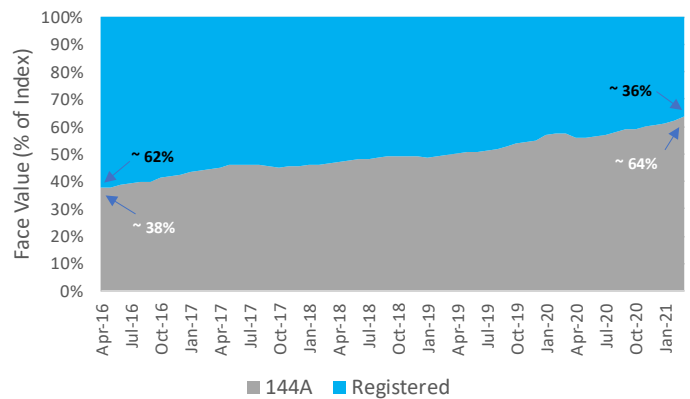
US High Yield Index Face Value by Issuance Type

face value, monthly data over the last 5 years



US High Yield Index Issue Count by Issuance Type

face value, monthly data over the last 5 years

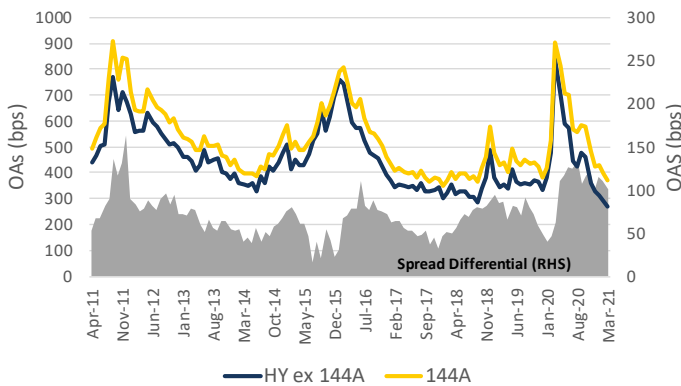


Source: SKY Harbor, ICE BofA Indices, Bloomberg

As shown below, 144A issues have traded at an average OAS (option-adjusted spread) differential of +72 bps versus registered bonds over the last 10 years, seemingly justified given a relatively lower threshold for information disclosure. As 144A issuance has proliferated – now, many companies with public equity are opting to issue unregistered bonds, and there are numerous examples of capital structures of the same issuer that contain both 144A and registered bonds – such premiums should have diminished. **After controlling for differences in ratings and duration, premiums appear to have done just that, with OAS differentials eroding over the last several years.** Put another way, on an apples-to-apples, oranges-to-oranges basis, the market views registered and unregistered bonds as virtually indistinguishable.

144A Bonds Have Historically Had Wider Spreads...

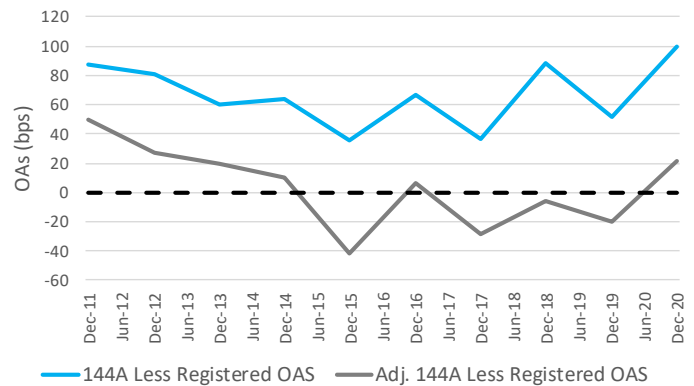
monthly data, trailing 10 years



Source: SKY Harbor, ICE BofA Indices, Bloomberg

...Controlling for Ratings & Duration Erodes Most of the Premium

annual data, trailing 10 years

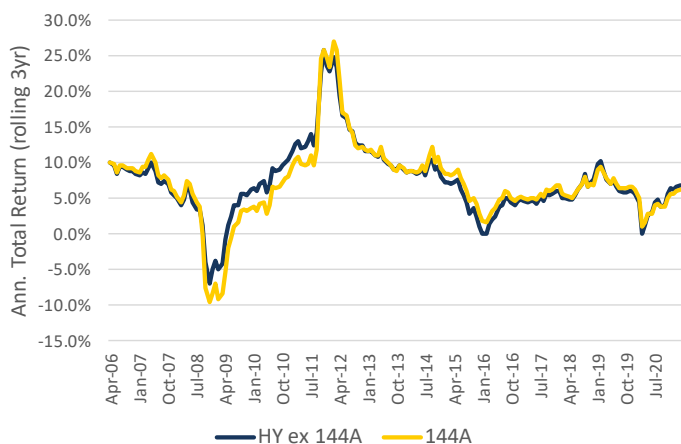


Using H0AX (the ICE BofA US High Yield Excluding 144A Index) and making some assumptions to create a 144A-only index (largely calculating the difference between H0A0 and H0AX), we then compared rolling-three-year annualized return and volatility metrics for both cohorts. Our findings show that **our 144A index had similar returns relative to the registered bond index over the last 15 years** – a dynamic that makes sense to us as the differences between registered and non-registered issues have significantly diminished, and as the 144A sample size has gotten larger and more diverse. **144A bonds, however, have demonstrated bouts of higher volatility in past periods of stress**, most notably around the time of the last recession and in periods impacted by the European

sovereign debt crisis. On the other hand, 144A bonds have closely paralleled registered bonds in recovering from volatile periods and in the last four or five years have experienced less volatility than its comparable cohort (notable during the pandemic, at which time registered bonds were more volatile).

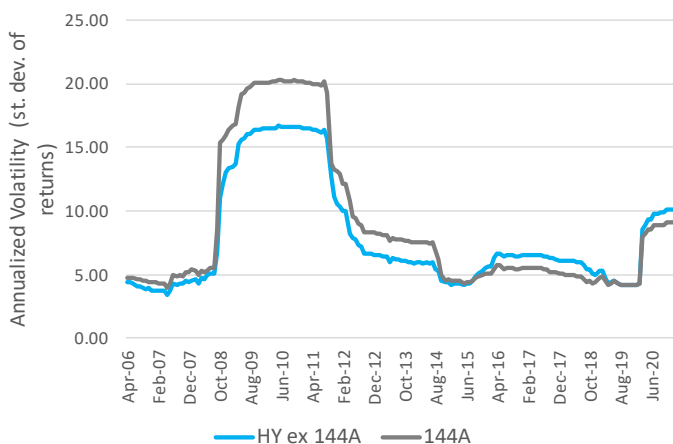
Rolling 3yr Annualized Returns

monthly data, trailing 15 years



Rolling 3yr Annualized Volatility

monthly data, trailing 15 years

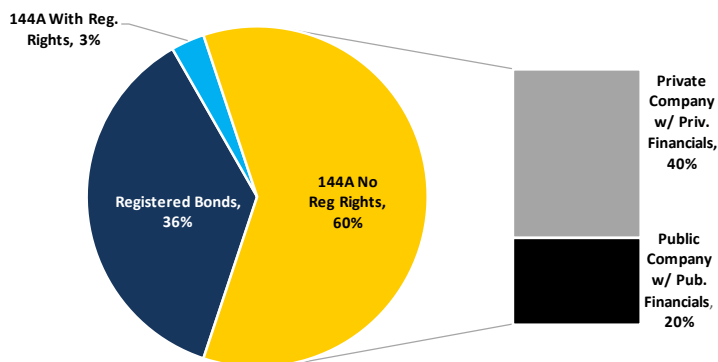


Source: SKY Harbor, ICE BofA Indices, Bloomberg

Given these findings, we would then expect a dummy variable (1=144A bond with no registration rights) to be statistically insignificant in the calculation of constituent-level OAS after controlling for items we know require compensation in the high yield market (term risk, credit risk and small issue / illiquidity risk). Upon first run, however, the variable proved significant, and implied that 144A issues with no registration rights carried a 63 bps discount to registered bonds after controlling for differences in duration, ratings, and issue size. Further examining the pool of 144A securities with no registration rights, we found that a sizeable portion (~67%) was made up of private companies with financials that were harder for investors to obtain (i.e., they were stored in password-protected data sites available only to current or prospective owners of the bonds). To account for this additional layer of opacity, we created another dummy variable (1=private company with private financials), the incorporation of which made our 144A with no registration rights designation no longer statistically significant with respect to differing OAS spreads with registered bonds. As such, **we find that premiums associated generally with 144A with no registration rights issuance can be attributed only to the subset of private issuers that limit accessibility of financial information – an intuitively logical outcome.** These issues tend to trade ~ 44 bps cheap to registered bonds.¹

High Yield Index Constituents

data as of April 1, 2021



OAS Drivers: Regression Output Implies Private vs. Public Distinction Statistically Significant, 144A Designation is Not

HY Index (H0A0) at April 1, 2021

Factor	Coefficients	P-value
Intercept	0.0	
Credit Risk (WARF)	77.3	1E-177
Term Risk (Duration)	31.4	1E-134
Small Issue (0 or 1)	70.7	1E-09
Private Financials (0 or 1)	43.8	5E-09

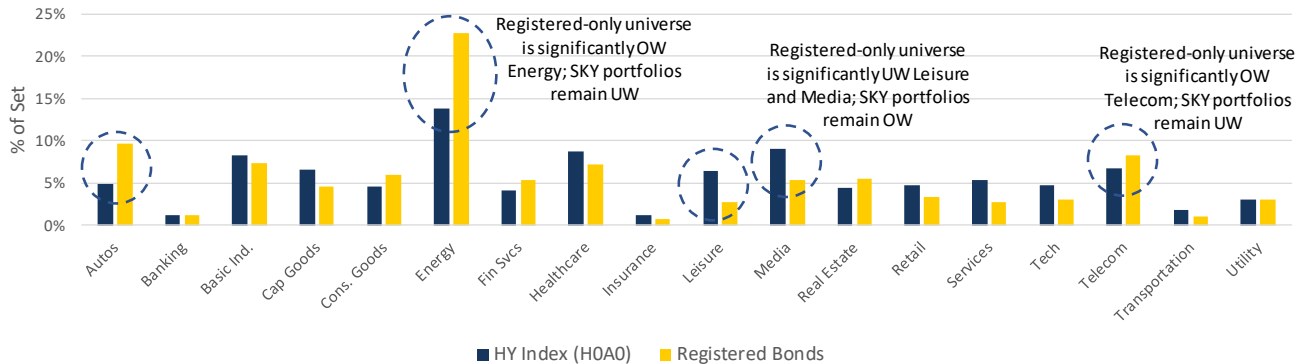
Source: SKY Harbor, ICE BofA Indices, Bloomberg. WARF is Weighted average rating factor.

We next turn our attention to diversification. Given the rapid rise in 144A issuance, non-registered bonds now represent the high yield market, with relative index penetration (144A vs. registered) having completely reversed over the last five years. Comparing to ICE BofA US High Yield Index (H0A0) to the 36% of the issuer base that is registered, **some significant sector mismatches become apparent.** First, Energy is significantly over-represented in the registered issue set, though the sector remains a key SKY Harbor underweight. Additionally, key SKY Harbor sector overweights, such as Leisure and Media, are under-represented in the registered issue set, perhaps limiting the alpha generation we believe may arise upon a post-pandemic re-opening and as a potential beneficiary of the recently proposed infrastructure bill.

¹ In order to reduce noise associated with bonds trading to a very short call, trading distressed (to a recovery price), and other outliers, we limit our dataset to exclude bonds with a spread below 100 bps or above 1,000 bps, and also exclude bonds with a duration below 2.0 or above 8.0

HY Index (H0A0) vs. Registered-Only Bonds: Key Sector Mismatches

data as of April 1, 2021

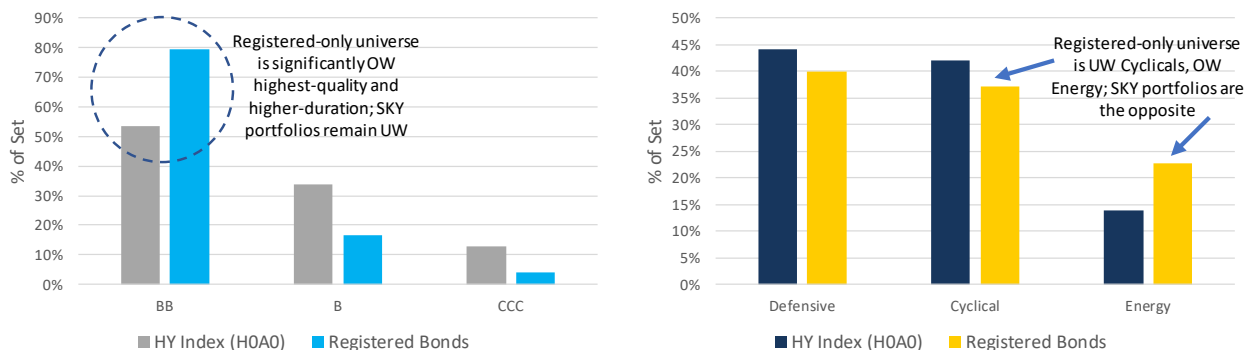


Source: SKY Harbor, ICE BofA Indices, Bloomberg. OW is overweighted and UW is underweighted.

Furthermore, our view of rapidly improving high yield fundamentals (double-digit EBITDA growth leading to lower leverage, reduced defaults, and an improving upgrade/downgrade ratio), specifically at the tail end of a recession, has biased our portfolio positioning toward lower-rated credits, particularly within cyclical sectors. The registered portion of the high yield market is biased toward higher-quality issuance and has less cyclical exposure, again differing from our macro-derived positioning preferences at present.

Registered-Only Universe Skews Counter to SKY FASST Positioning Targets

data as of April 1, 2021



Source: SKY Harbor, ICE BofA Indices, Bloomberg. FASST is SKY Harbor investment process, which includes analysis of Fundamentals, Asset Valuations, Sentiment, Sustainability and Technicals.

As further evidence that 144a is no longer solely the realm of small / private issuers, we ran a multitude of liquidity screens using TRACE data. As demonstrated in the tables below, broker activity, bid-ask spreads, trading volumes, trade sizes, and overall volume have been similar between 144a and registered bonds, a trend we expect will persist.

Bond Type	Distinct Broker Quotes (1 day)	Distinct Broker Quotes (5 day)	Avg. Bid-Ask Spread (1 day)	# of Distinct Bids (1 day)	Total # of Bids (1 day)	30 day VWAP volume (1,000s)
144a	12	14	0.8	7	78	61,087
Registered	13	15	0.9	9	108	53,321

Bond Type	# of Trades (30 day total)	# of Trades (30 day total) Size > 1mm	Avg # of Trades (per day)	Estimated Average Trade Size (1,000s)	Implied Daily Volume
144a	79	47	3	1,694	24,177,923
Registered	69	39	2	1,700	26,856,264

Source: SKY Harbor, ICE BofA Indices, Bloomberg

In conclusion, 144A bonds now outnumber registered issues (in both count and face value) and now make up nearly 2/3 of the high yield bond market as reflected by the ICE BofA US High Yield Index (~ 64%). Furthermore, the market appears to view registered and 144A unregistered bonds as virtually indistinguishable as differences in spread have essentially disappeared, particularly when adjustments are made for variances in credit rating and duration over time. Remaining discounts in spread, in our view, are derived from the subset of 144A issues that are private in nature, with financial information restricted to current or prospective owners of the securities. Given this evolution, and concurrent with several significant mismatches in the relative weights of key sectors, rating buckets, and business model types, we recommend that investors able to meet the minimum QIB criteria do so in order to more easily gain unfettered access to all securities in the high yield space. With that said, SKY Harbor manages portfolios for non-QIB investors. Although perhaps more appropriate for smaller portfolios, historical performance has not been materially different from completely unrestricted accounts. In such cases, portfolio concentration is a bit higher, allowing us to fully reflect our macro and micro themes within a more limited universe.

Definitions

144A bond offering is a private placement offered to U.S. investors under SEC rule 144A.

Basis points (bps) refer to a common unit of measure for interest rates and other percentages in finance. One basis point is equal to 1/100th of 1%, or 0.01%, or 0.0001, and is used to denote the percentage change in a financial instrument.

Credit Ratings are used by the S&P and Fitch credit agencies for long-term bonds and some other investments. They range from the highest rating of AAA (the borrower's capacity to meet its financial commitment the obligation is extremely strong) to D (the borrower is in default). Ratings in order of quality include AAA, AA, A, BBB, BB, CCC, CC, C and D.

Duration is a measure of the sensitivity of the price of a bond or other debt instrument to a change in interest rates.

EBITDA is earnings before interest, taxes, depreciation, and amortization, is a measure of a company's overall financial performance and is used as an alternative to net income in some circumstances.

ICE BofA US High Yield Index: An index (ticker H0A0) that tracks the performance of US dollar denominated below investment grade rated corporate debt publicly issued in the US domestic market. The index is further defined by sub-indexes associated with credit ratings (e.g., the CCC sub-index).

Option-Adjusted Spread (OAS) is the measurement of the spread of a fixed income security rate and the risk-free rate of return, which is then adjusted to take into account an embedded option.

Trade Reporting and Compliance Engine (TRACE) is a program developed by the National Association of Securities Dealers (NASD) that allows for the reporting of over-the-counter (OTC) transactions pertaining to eligible fixed-income securities.

Volume weighted average price (VWAP) is a trading benchmark used by traders that gives the average price a security has traded at throughout the day, based on both volume and price. It is important because it provides traders with insight into both the trend and value of a security.

Weighted average rating factor (WARF) is a measure used by credit rating companies to indicate the credit quality of a portfolio and aggregates the credit ratings of the portfolio's holdings into a single rating.

Important Disclosures and Disclaimers

Past performance does not guarantee future results. The referenced indices are shown for informational purposes only and are not meant to represent the AXS Investments Funds. Investors cannot directly invest in an index.

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