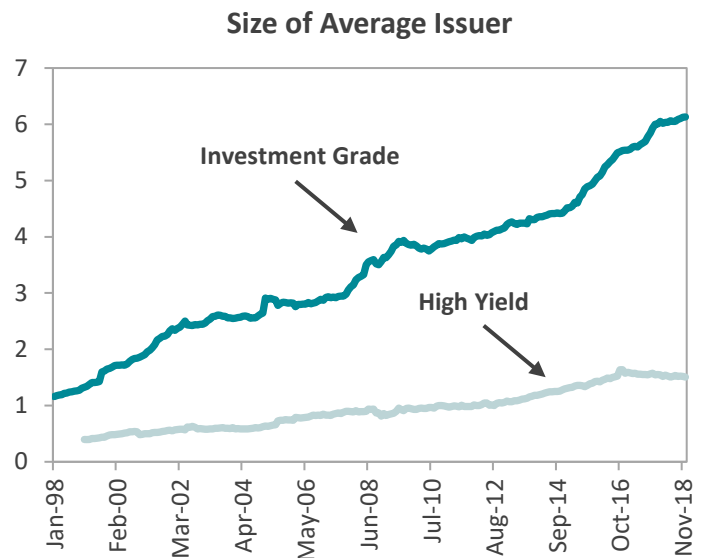


**The Small-Issuer Premium in Corporate Bonds**

During the low-rate environment following the Financial Crisis, not only did aggregate corporate debt issuance increase, but the average debt per issuer increased as well. Our data show that the size of an investment grade (IG) issuer, measured by average amount of corporate debt outstanding, grew from under \$3 billion before 2009 to over \$6 billion in 2018. The size of an average high yield (HY) issuer grew from under \$1 billion to over \$1.75 billion in the same period. It is interesting to note that since 2010, the distribution of issuer size has shifted. In terms of the percentage of issuers by debt outstanding, only the under \$2 billion category contracted, while the larger issuer categories all expanded (i.e., larger issuers increased in number and weight).

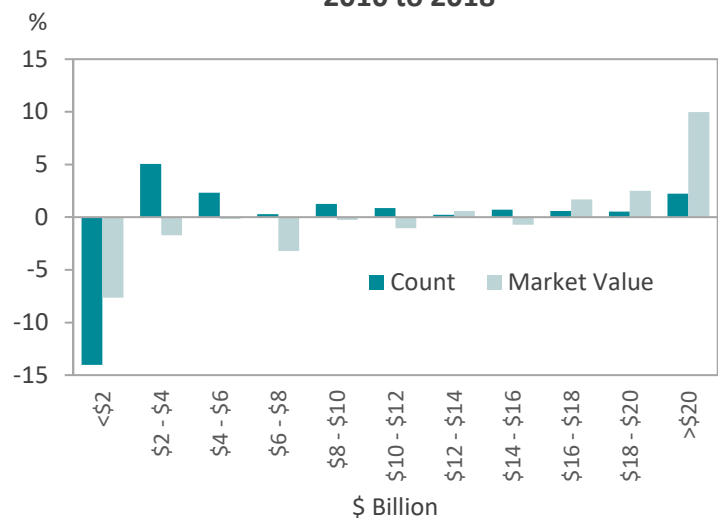
We observed that the spread over Treasuries attached to larger issuers was narrower than the spread attached to smaller, but otherwise similar, issuers. For instance, we purchased debt maturing in 2025 issued by Scentre Group, a \$5.7 billion issuer rated A/A2, at a spread of 137 basis points<sup>1</sup> over Treasuries. At the time, similar debt issued by Simon Property Group, a \$14 billion issuer, traded at a spread of 120 basis points. We also purchased debt maturing in 2021 issued by American Electric Power, a \$16 billion issuer rated BBB+/Baa1, at a spread of 83 basis points, while Duke Energy, a \$45 billion issuer, traded at 70 basis points. While these smaller issuers offered an average premium of about 15 basis points, by no means would they be regarded as *small* in the context of the corporate market

As active managers, we were curious whether a size premium existed across the market, and whether it could be exploited as an additional source of value. Our analysis proceeds as follows: First, using corporate indices, we found that there is a 15-20 basis points small-to-large spread premium for IG issuers. Second, in a dynamic exercise, we constructed portfolios that minimize issuer size and portfolios that maximize issuer size. Between 2010 and 2018, the former paid an additional 60 basis points and outperformed the latter by 1.5% per year in absolute return and by 1.3% per year in excess return. Furthermore, as shown below, this additional benefit is greater than the potential reduction in liquidity associated with owning securities issued by small entities.



Data reported monthly from January 1, 1998 to December 31, 2018  
Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

**Change In Distribution of Issuers By Size:  
2010 to 2018**



Data as of December 31, 2018  
Sources: ICE BoAML U.S Corporate Index and BBH Analysis

<sup>1</sup> Basis points is a unit that is equal to 1/100th of 1% and is used to denote the change in price or yield of a financial instrument.

### The persistence of a small-issuer spread premium

Using constituent-level data from ICE Bank of America Merrill Lynch Corporate Index (ICE BoAML), we established three categories of issuer sizes: Small, medium, and large. The *small* category corresponds to the bottom 30% of debt outstanding, the *large* category to the top 30%, and the *medium* category to the middle 40%. As of December 31, 2018, the average size of small, medium, and large issuers was \$280 million, \$860 million, and \$18 billion, respectively. As a first attempt to measure any premium derived from issuer size, we consider the average spread over Treasuries offered by each size cohort. The column labeled S-L in the exhibit to the right shows that small IG issuers paid an extra 66 basis points, and small HY issuers paid an extra 150 basis points. In both cases the premium grows in the Post-Crisis sample, coinciding with the acceleration in debt issuance.

Investment Grade (basis points)				
	Small	Medium	Large	S-L
Full	217	192	151	66
Pre-Crisis	183	158	126	57
Post-Crisis	216	180	136	80

High Yield (basis points)				
	Small	Medium	Large	S-L
Full	574	466	424	150
Pre-Crisis	500	402	405	95
Post-Crisis	590	457	390	200

Full, Pre-Crisis, and Post-Crisis denote 2000-2018, 2000-2007, and 2010-2018, respectively. S-L is the difference between Small and Large Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

The averages above do not control for the impact of other factors affecting spread differentials, such as duration, rating, and sector. Once we remove the effect of these factors, we find that in IG, a small-issuer spread premium of 15-20 basis points exists. (All results from our econometric analysis are available upon request.) For instance, the IG model including issuer size, duration, and rating, explains 64% of spread variability. The baseline security chosen by this model is a medium-sized, 0-to-3 year, single-A rated bond. As expected, spreads widen as duration extends; e.g., by 30 basis points moving from the 3-to-5 years to the 5-to-8 years range; spreads tighten 20 basis points as credit quality improves to AA, and spreads widen 90 basis points as credit quality deteriorates to BBB-. We found that irrespective of duration, rating, and sector, small issuers offer an extra 15 basis points of spread relative to large issuers. Interestingly, the same analysis applied to HY bonds shows that the size premium disappears once we include these additional factors.

### Performance differentials based on size

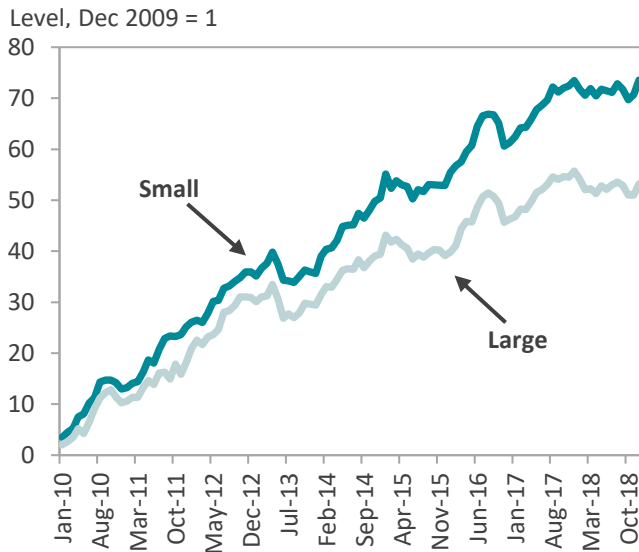
The second part of our analysis modeled the performance of dynamic portfolios of small issuers and large issuers. A *small* portfolio is defined as a portfolio that *minimizes* the weighted average issuer size subject to structure constraints. A *large* portfolio is defined as a portfolio that *maximizes* the weighted average issuer size subject to the same structure constraints, specified as deviations from the ICE BoAML IG Index (see exhibit on the right). These constraints harmonize the starting point for each type of portfolio, letting portfolios become distinct as they minimize or maximize issuer size.

Structure Constraints	
Category	Constraint
Portfolio duration	Benchmark +/- 0.1 years
Term structure	Benchmark +/- 0.1 years
Position size	2% maximum
Rating allocation	Benchmark +/- 5%
Sector allocation	Benchmark +/- 5%

Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

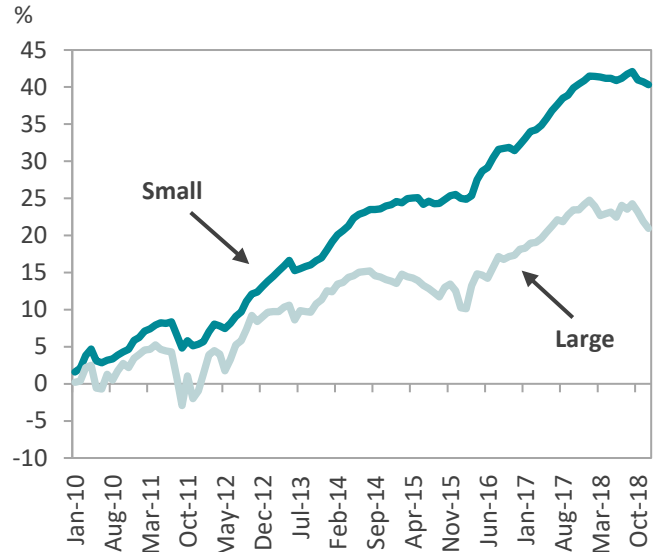
Using data from 2010 to 2018, we found that over this 9-year period, small portfolios outperformed large portfolios by 1.5% per year on average in total return, and by 1.3% per year on average in excess return to Treasuries. Small portfolios outperformed large portfolios in every year, except for 2012, and the average spread premium offered by small portfolios was 60 basis points. The average issuer size of a small portfolio is \$300 million, and the average issuer size of a large portfolio is \$30 billion.

**Portfolio Performance: Total return**



Data reported monthly from January 31, 2010 to December 31, 2018  
Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

**Portfolio Performance: Excess return**



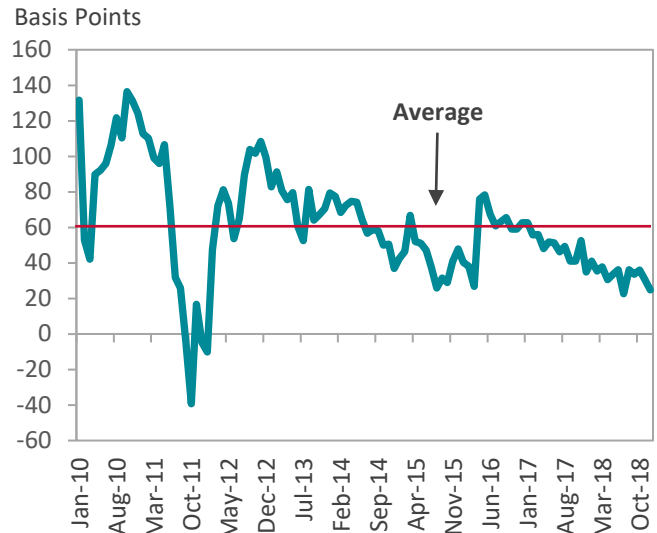
Data reported monthly from January 31, 2010 to December 31, 2018  
Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

**Size Portfolios: Performance By Year**



Data reported yearly from December 31, 2010 to December 31, 2018  
Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

**Small-Issuer Spread Premium**



Data reported monthly from January 31, 2010 to December 31, 2018  
Sources: ICE BoAML U.S. Corporate Index and BBH Analysis

Small portfolios produced smoother return profiles. This was more evident during the 2011 and 2015 widening episodes, when large portfolios declined at a faster pace. Indeed, the average annualized volatilities of excess returns are 1.9% and 3.5% for the small and large portfolios, respectively. Moreover, the information ratios<sup>2</sup> attained are 1.6 for the small portfolios and 0.5 for the large portfolios.

**What about liquidity?**

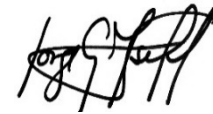
Small-issuer securities trade at wider bid-ask spreads than their large-issuer counterparts. Using data on implied bid-ask spreads, we calculated the liquidity cost differential between the small and large portfolios above. We found that, at the portfolio level, the bid-ask spread of small portfolios is about 8 basis points wider than the bid-ask spread of large portfolios. Therefore, completely turning over a 5-year duration small portfolio in one year, for example, costs an additional 40 basis points. Since small portfolios have outperformed large portfolios by 1.5% per year, enough to cover more than three complete portfolio turnovers, we believe there is sufficient protection from an eventual drop in liquidity.

<sup>2</sup> The information ratio is obtained by dividing the average excess return by the standard deviation of excess returns.

From a practical standpoint, consider adding a 3% position in a 5-year bond to an account. The average annual return advantage of a small issuer would be 4.5 basis points (3% x 1.5%). The average annual incremental cost would be 1.2 basis points (3% x 0.4%). Hence, net of liquidity, a small-issuer bond would add more than 3 basis points over a large but otherwise similar issuer.

### Conclusion

True to our investment philosophy, we are always on the lookout for sources of value. Anecdotal evidence and our study of the corporate market indicate that issuers considered small in terms of debt outstanding – and in terms of issuance size – offer a premium over otherwise similar issuers. Furthermore, the extra compensation offered by small issuers provides protection against potential liquidity reductions. We have benefited from this market phenomenon in some instances. As we screen markets for attractive opportunities, we will continue to pay attention to small and strong issuers that meet our credit criteria.



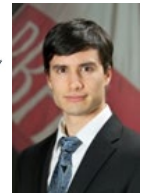
Jorge Aseff, Ph.D.  
Head of Quantitative Research




Michelle McLaughlin  
Credit Trader




George McWilliams  
Quantitative Research



### Past performance does not guarantee future results.

Issuers with credit ratings of AA or better are considered to be of high credit quality, with little risk of issuer failure. Issuers with credit ratings of BBB or better are considered to be of good credit quality, with adequate capacity to meet financial commitments. Issuers with credit ratings below BBB are considered speculative in nature and are vulnerable to the possibility of issuer failure or business interruption.

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