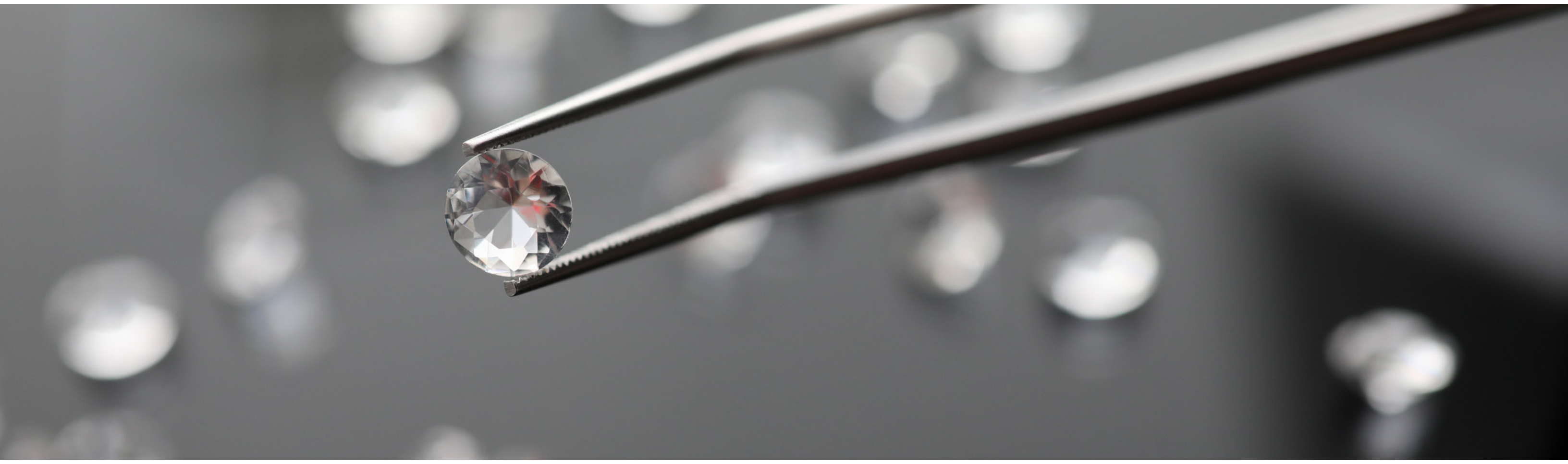
White Paper | May 2023

NEUBERGER | BERMAN



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International Small Caps: Quality Plus Quantity

The universe of non-U.S., developed market small caps is vast. That makes it a source of great opportunity, but also a big challenge for the stockpicker. A large number of small cap companies, and even entire sectors on average, are not profitable or barely profitable. In this paper, we argue that this makes a strong case for a quality screen and explain why, for small caps in particular, it is important to use a quality screen that takes into account the amount and cost of the capital a company deploys to generate earnings.

We show that application of our systematic quality screen to a benchmark index does not exclude any sector—even the most capital-intensive. We also note that the smallest, least analyzed companies constitute a large proportion of the stocks in the quality-screened universe. We find very similar results when screening a much expanded universe of stocks.

While the quality of the total non-U.S. small cap universe is extremely variable, we believe there are hundreds of high-quality, currently profitable, under-analyzed companies that can form an attractive opportunity set for active management.

Executive Summary

- We explain why we regard organic economic spread—the difference between Organic Return on Capital Employed (RoCE) and the Weighted Average Cost of Capital (WACC)—as the most appropriate measure of quality for international small companies.
- We show how this measure differs from a simple measure of operating income margins: many sectors generating high operating income margins can exhibit low or even negative profits once cost of capital is taken into account.
- We screen the MSCI EAFE Small Cap Index (excluding Financials, and Real Estate) for stocks with a minimum Organic RoCE and a maximum debt-to-earnings (earnings before interest, tax, depreciation and amortization, EBITDA) ratio.
  - The quality-screened index exhibits higher median organic economic spread for every sector, and does not exclude any sector (the proportionate number of stocks in each sector remains very similar to what we see in the Index).
  - The smallest companies (market capitalization at or below $1 billion) make up a large proportion of the number of stocks in the quality-screened Index.
- We expand the universe by adding every listed company (excluding Financials, and Real Estate) from the countries represented by the MSCI EAFE Small Caps Index, as well as every listed company in Canada, (which is not represented in the index) our quality-screened universe increases from 767 stocks to 1,357 stocks.
  - The proportionate number of stocks in each sector remains similar in this larger quality-screened universe, while median organic economic spread declines slightly from 19% to 18%.
  - The smallest companies (market capitalization at or below $1 billion) now make up an even larger proportion of the number of stocks in the universe, at 60%.
- The conclusion from our analysis is that the non-U.S. small cap universe contains a large number of investable, high-quality, currently profitable companies across all sectors, and that the smallest, least-analyzed companies are by no means disfavored by our quality screen—indicating an attractive opportunity set for active management.

Do you know how many small caps with more than $100m of market capitalization are listed, outside the U.S., in developed markets? According to Bloomberg as of September 30, 2022, it's close to 6,000 stocks. This contrasts with the much smaller U.S. small cap universe, which has fewer than 4,000, and highlights both the opportunity and the challenge for active international small cap managers.

That figure easily surpasses the already plentiful 2,329 securities one can find in the MSCI EAFE Small Cap Index. That is a multitude of companies with different business models, profitability, returns and sustainability, and it would be a Sisyphean task for an active fundamental manager to research them all. But if we can overcome the challenge this large universe poses, its size and complexity intuitively hints at a strong case for active management there.

We believe we can meet this challenge, and the key to discerning the attractive investment opportunities is quality.

Defining Quality

Compared to their large-cap peers, which are more likely to have multiple business lines and find it easier to access debt markets, the average small cap is much more recognizably "a business," as opposed to just an equity instrument. And when we talk about the "quality" of a business, we think we can boil it down to two simple things:

- The ability to sustain positive returns above the cost of capital over a business cycle
- Limited exposure to financing risk

We translate those characteristics into two corresponding financial metrics:

• A meaningfully positive organic economic spread
• A low net debt to EBITDA ratio

The organic economic spread is the difference between a company's organic return on capital employed (RoCE) and its weighted average cost of capital (WACC).

Organic RoCE is calculated by taking operating income after tax and dividing that by organic capital employed (total assets minus goodwill, cash and current liabilities). We use an organic RoCE, rather than the standard RoCE ratio that expresses the return of each dollar invested by a company, because the standard metric includes within total assets items such as goodwill and cash that do not generate returns. Excluding them helps us to understand and compare the operational profitability of different companies, with very different business models, across the universe. For example, many Communication Services companies are cash-generative and pursue acquisitive growth strategies, resulting in goodwill and cash making up 35% of the sector's total assets—and therefore an understated return on capital.

Not All Profitability Is the Same

A larger spread between organic RoCE and WACC will identify companies that use their capital more efficiently. For us, this is the key aspect of high-quality profitability: it takes account of how much capital is deployed and how costly that capital is. We believe that makes the organic economic spread more useful than the most common indicator of operational profitability, operating income margins.

To show how much these measures of profitability differ, we calculated both organic economic spread and operating income margins for every stock in the MSCI EAFE Small Cap Index—excluding Financials and Real Estate, which tend to be highly leveraged businesses whose profitability is largely determined by the level of interest rates. We show the results, aggregated to the sector level, in figure 1.

We can observe that the constituents of the Utilities sector have a median operating income margin around 8%, but a negative economic spread. By contrast, companies in the Information Technology sector generate higher economic spread, with higher operating income margins, because they are using less capital.

FIGURE 1: ROCE AND OPERATING INCOME MARGINS ARE BOTH MEASURES OF PROFITABILITY, BUT VERY DIFFERENT

Median operating income, Organic RoCE margins and Economic Spread (Organic RoCE – WACC) for the constituents of the MSCI EAFE Small Cap Index, equal-weighted and excluding financials and real estate

Sector	% of Total Number of Stocks	Operating Income Margins	Organic RoCE	Organic Economic Spread
Communication Services	5.9%	12.7%	14.3%	3.3%
Consumer Discretionary	18.7%	6.1%	11.0%	2.5%
Consumer Staples	8.5%	4.9%	11.5%	3.4%
Energy	3.3%	6.0%	9.1%	1.8%
Health Care	9.1%	10.0%	16.2%	9.8%
Industrials	26.7%	7.3%	12.7%	3.8%
Information Technology	13.6%	9.8%	20.6%	14.7%
Materials	11.3%	9.6%	11.8%	2.6%
Utilities	2.8%	8.0%	5.2%	-1.8%
Total (1,854)	**100.0%**	**7.8%**	**12.3%**	**3.8%**

Source: Bloomberg, Neuberger Berman. The data is from each company's most recent fiscal year, as of September 30, 2022. For illustrative purposes only. Companies with low organic capital employed might have an Organic ROCE well above 100%. In this case, we limit the ratio at 100%. Similarly, when the Organic ROCE is below -100%, we limit the ratio to -100% in our calculation. In this universe, there are 101 companies with an Organic ROCE above 100%, and 107 companies with an Organic ROCE below -100%.

Quality Does Not Completely Exclude Any Sector

In aggregate, the organic economic spread of the benchmark is zero. It suggests that many companies generate low returns and do not meet our quality definition. That makes a strong case for active management, narrowing the universe to focus on quality companies. But does it also mean that we would have to exclude some sectors altogether, such as Energy, Materials or Consumer Discretionary?

We do not think so.

We propose screening the index for companies generating a minimum Organic ROCE of 12% (or 1.5x a WACC of 8%, the average for MSCI EAFE Small Cap Index constituents and our extended international small cap universe).[1] We regard this as the minimum level of returns a well-managed company should sustainably generate over an economic cycle.

The second screening criteria we propose is a net debt-to-EBITDA ratio below 2.5x. We regard this as at the high-end of the debt load a company should carry through the cycle to avoid liquidity risk in case of an economic downturn.

Finally, we omit companies with a 30-day average daily trading volume of less than $100,000, as being likely too illiquid to be held by active small and mid cap portfolio managers.

FIGURE 2. OUR ANALYSIS DEMONSTRATES THERE ARE PROFITABLE INTERNATIONAL SMALL CAPS IN EVERY SECTOR

Median organic economic spread of the sectors of the MSCI EAFE Small Cap Index, equal-weighted and excluding financials and real estate, after application of our "quality" screen

Sector	% of Total Number of Stocks	Organic Economic Spread
Communication Services	5.7%	39.0%
Consumer Discretionary	16.9%	17.6%
Consumer Staples	7.2%	10.5%
Energy	2.0%	11.7%
Health Care	9.4%	24.0%
Industrials	28.6%	18.8%
Information Technology	18.1%	39.4%
Materials	11.5%	11.6%
Utilities	0.7%	21.4%
Total (767)	**100.0%**	**19.0%**

Source: Bloomberg, Neuberger Berman. MSCI EAFE Small Cap Index companies (excluding Financials and Real Estate) screened for those with organic ROCE > 12%, Net Debt / EBITDA < 2.5x and 30-day average daily trading volume > $100,000. For illustrative purposes only.

The screen eliminates almost 1,100 securities—more than half of the 1,854 stocks we started with. Quantity is evidently not the same as quality. But while the number of stocks is much lower, the median economic spread is positive and higher for all sectors, even though the proportionate number of stocks in each sector has not changed materially (the biggest change is in I.T., which shifted its weight by around four percentage points). It's worth pointing out two sectors in particular: Communication Services, which has one of the lowest levels of organic profitability in the Index, has almost the highest profitability level in our screened sample—showing the difference it makes when cash and goodwill are not included in total assets, as well as the sector's share of asset-light business models in media and entertainment; and Consumer Discretionary, with a median economic spread of 2.5% in the Index but 17.6% in the quality-screened universe, also driven by the higher share of asset-light internet and direct marketing retail businesses.

[1] We use conservative parameters, with a minimum risk-free rate of 2% and a risk premium of 6%. We are aware that these inputs are above today's market figures. Our aim is to look at securities on a long-term perspective and we believe it is prudent to use conervative parameters to capture a full economic cycle. We calculate a raw Beta with a four-year period, in U.S. dollars, benchmarked to the MSCI EAFE Small Cap Index, and de-lever and re-lever the Beta according to the debt-to-EV ratio of each company.

Furthermore, when we analyse our quality-screened sample of stocks by market capitalization, we find that over 41% are smaller than $1 billion (figure 3). These smaller companies generate a marginally lower organic economic spread than the larger companies, which are usually at a business development phase of stable capital investment, and have reached a scale that can lead to improved returns. The difference is marginal, however, and we believe the real story for active managers is the existence of a large opportunity set of high-quality, profitable smaller companies that are likely to be much less covered by research analysts.

FIGURE 3. QUALITY CAN BE FOUND IN SMALLER AS WELL AS LARGER COMPANIES

Median organic economic spread of different market capitalization tranches of the MSCI EAFE Small Cap Index, equal-weighted and excluding financials and real estate, after application of our "quality" screen

Market Capitalization	% of Total Number of Stocks	Organic Economic Spread
$100 to 1,000m	41.8%	19.3%
$1,000 to 2,000m	28.5%	19.3%
$2,000 to 3,000m	14.8%	16.9%
above $3,000m	14.9%	21.0%
Total (767 names)	**100.0%**	**19.0%**

Source: Bloomberg, Neuberger Berman. MSCI EAFE Small Cap Index companies (excluding Financials and Real Estate) screened for those with organic ROCE > 12%, Net Debt / EBITDA < 2.5x and 30-day average daily trading volume > $100,000. For illustrative purposes only.

A Large Universe for Quality-Oriented Active Management

We do acknowledge that the quality screening narrows the overall universe, but we would also argue that the MSCI EAFE Small Cap Index is already quite a constrained benchmark for investors looking to make a non-U.S., developed markets small caps allocation.

When we expand the universe to include all the listed companies within the regions covered by the Index, and also add Canada, which is not represented by the Index, we go from 770 quality-screened small-cap names to 1,350. This huge universe of stocks outside the benchmark speaks to the rich set of stockpicking opportunities available to the quality-oriented global small-caps investor. Dig broad enough and deep enough, and high quality can come in high quantity after all.

How does this expanded quality-screened universe compare with that of the quality-screened Index in terms of overall economic spread, sector composition and market capitalization?

FIGURE 4. MEDIAN ECONOMIC SPREAD CAN REMAIN HIGH IN AN EXPANDED UNIVERSE

Median organic economic spread of sectors in an expanded, equal-weighted universe of non-U.S. small cap stocks after application of our "quality" screen

Sector	% of Total Number of Stocks	Organic Economic Spread
Communication Services	6.0%	38.5%
Consumer Discretionary	15.7%	16.9%
Consumer Staples	7.1%	12.5%
Energy	3.9%	22.0%
Health Care	8.3%	27.1%
Industrials	26.8%	15.3%
Information Technology	20.0%	31.0%
Materials	11.9%	9.8%
Utilities	0.3%	21.1%
Total (1,357)	**100.0%**	**18.0%**

Source: Bloomberg, Neuberger Berman. The universe is all listed equities in the countries covered by the MSCI EAFE Small Cap Index plus Canada, equal-weighted and excluding Financials and Real Estate, screened for those with organic ROCE > 12%, Net Debt / EBITDA < 2.5x and 30-day average daily trading volume > $100,000. For illustrative purposes only.

The data in figure 4 indicates that expanding the universe does not make a big difference either to sector composition or to economic spread (18% versus 19% for the Index).

Much more interesting is the effect on the size composition of the universe, shown in figure 5. There is a much greater proportion of companies with a market capitalization of $1 billion or less: 60% versus 41% in the quality-screened Index universe, and the median economic spread of this larger universe of smaller companies is not meaningfully different from the median profit of the smallest companies from the Index (18.4% versus 19.3%).

FIGURE 5. THE OPPORTUNITY SET IN THE SMALLEST COMPANIES IS EVEN BIGGER IN THE EXPANDED UNIVERSE

Median organic economic spread of different market capitalization tranches in an expanded, equal-weighted universe of non-U.S. small cap stocks after application of our "quality" screen

Market Capitalization	% of Total Number of Stocks	Organic Economic Spread
$100 to 1,000m	60.0%	18.4%
$1,000 to 2,000m	17.6%	17.7%
$2,000 to 3,000m	9.1%	16.2%
above $3,000m	13.4%	18.5%
Total (1,357 names)	**100.0%**	**18.0%**

Source: Bloomberg, Neuberger Berman. The universe is all listed equities in the countries covered by the MSCI EAFE Small Cap Index plus Canada, equal-weighted and excluding Financials and Real Estate, screened for those with organic ROCE > 12%, Net Debt / EBITDA < 2.5x and 30-day average daily trading volume > $100,000. For illustrative purposes only.

We have already seen that, within the MSCI EAFE Small Cap Index, there is a large opportunity set of high-quality, profitable smaller companies that are likely to be much less covered by research analysts. The data in figure 5 indicates that, if we expand the universe beyond the Index, that opportunity set is bigger still. The benefits to the active manager of extending the investable universe seem considerable: we can double the number of investable, high-quality companies and massively increase the proportion of the smallest, least analyzed businesses.

Many investors expect to pay more for quality companies. But the valuation multiples of the quality-screened Index (P/E of 10.9x) and quality-screened expanded universe (11.5x) that resulted from our analysis are in fact lower than the multiple of the MSCI EAFE Small Cap Index, ex-Financials and Real Estate (11.8x)—all three multiples cited here are medians based on equal weighting of the stocks in each sample. We believe this is also related to the large number of very small companies that make it through the quality screen and the challenge of research coverage of such a large universe of stocks.

We will end by restating the case for thorough fundamental analysis that goes beyond the systematic identification of favorable indicators, simply because in our view these indicators not only fall short in explaining a company holistically, but do so in a backward-looking fashion. Our economic spread screen selects numerous small cap specialty retailers, from apparel to electronics, for example, but the challenging current outlook for those businesses would nonetheless dissuade us from investing.

This bedrock of fundamental analysis becomes still more important when companies in emerging markets are introduced into the universe: these stocks are not only more volatile, on average, than developed market stocks (and quality-oriented investors tend to favor lower volatility in their portfolios); corporate governance factors are often more important determinants of risk and return here than in developed markets, and those quality factors are not typically accounted for in a systematic screen such as the one we describe.

In short, our view is that quantitative screens should be the starting point and not the end of the investment process.

Conclusion: Quality Without Excessive Concentration or Valuation Risk

We believe that focusing on quality is important for achieving favorable long-term results from investing in the huge but variable non-U.S. small cap equity universe. But the way one defines quality is important. Simple operating income margins appear to have very little relation to organic RoCE, which we consider to be a more appropriate measure of these smaller businesses' economic spread. When we look at the international small-cap universe through the lens of RoCE minus the WACC, many sectors appear to be barely profitable, on average.

That does not mean there are no quality businesses in those sectors, however. By selecting stocks from the universe using a quality screen that includes a minimum RoCE and a maximum debt ratio, the median economic spread of all sectors becomes positive, and it rises substantially in some of the sectors that exhibited low economic spread before screening. Similar results are returned whether we analyse the MSCI EAFE Small Cap Index or an expanded universe of all listed small caps in the Index countries plus Canada. Moreover, the valuation multiples of quality-screened Index and the quality-screened expanded universe are lower than the multiple of the MSCI EAFE Small Cap Index, excluding Financials and Real Estate.

That indicates that there are very high-quality businesses in every international small-cap sector when we measure quality in this way, and that investors do not have to pay a prohibitive premium for them. It is therefore possible, in our view, to mitigate both the concentration and valuation risks that come with investing according to traditional measures of quality.

INDEX DEFINITIONS

The **MSCI EAFE Small Cap Index** aims to capture the performance of small cap stocks across 21 developed market countries excluding the U.S. and Canada.

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