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Parametric International Equity: A Third Way of International Equity Investing

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International equities are found in most strategic asset allocations, with US investors hoping to benefit from investing in developed economies outside their home market. Typical arguments for including international equities rest on the benefits of creating a broader scope of equity risks compared with investing solely in the United States, with either higher expected returns or lower overall portfolio volatility as a goal. A large portion of international equity assets have been invested in traditional active investment strategies, which assume that in-depth research into the securities of the world's developed economies will result in a sustainable performance advantage.

To potentially benefit from this research, investors in such strategies pay higher management fees and transaction costs while also engaging in significantly greater risk, as measured by higher portfolio volatility or active risk versus an index. In recent years many investors have had growing doubts about the ability of active management to generate consistent outperformance in international markets.

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As a result many have invested in passive strategies, which track the capitalization-weighted indexes compiled by MSCI® or other index providers. While management fees and transaction costs tend to be lower in passive strategies, there are downsides to this approach too, since many of the prominent indexes demonstrate high degrees of concentration at the country and sector level.

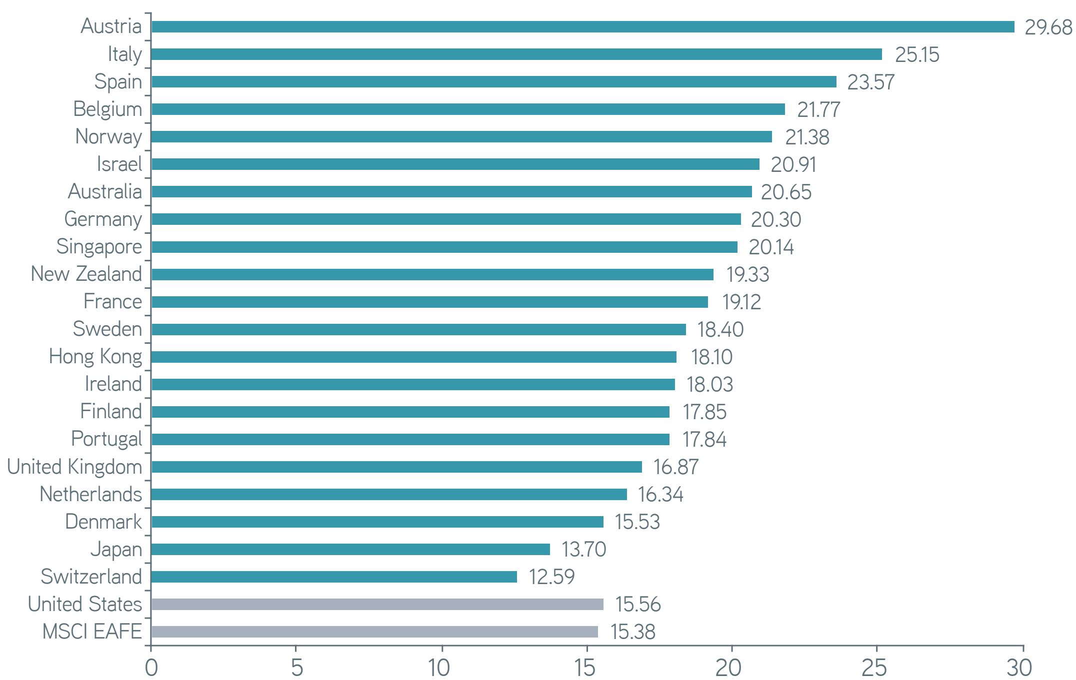
The Parametric International Equity Strategy is designed to efficiently capture the long-term growth of this asset class while avoiding both the return risks of active management and the concentration risks of mainstream international equity indexes. Parametric's approach to asset management incorporates the ideas of equal weighting, systematic rebalancing, and diversified economic sectors within countries. In addition, to boost the diversification of the strategy at the security level, Parametric deemphasizes those securities most correlated with global markets.

Parametric's research and experience indicate that such an approach can provide a diversified core exposure for investors and be a powerful complement to both active and passive strategies. In this paper we examine the key characteristics of the international equity asset class and then show how our approach seeks to address the associated challenges these characteristics pose.

Characteristics of developed-market equities

High volatility. Historically, international equity markets have demonstrated higher volatility than US equity markets. This volatility has its origins in the addition of political and economic risk in foreign countries and the substantial currency risk to which an investor in these markets is exposed. Figure 1 shows the trailing five-year volatilities for the individual countries as well as those for the MSCI EAFE Index.

Figure 1: Annualized standard deviation, five years ending 12/31/2020

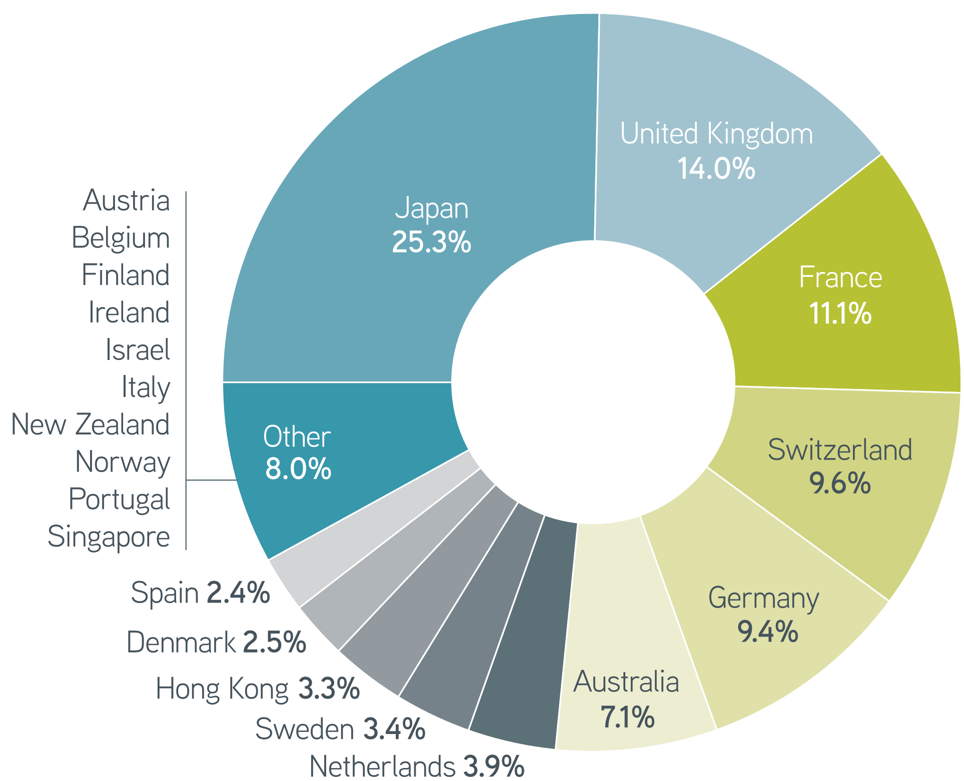


Sources: MSCI, Parametric, 12/31/2020. For illustrative purposes only. It is not possible to invest directly in an index.

Moderate correlations. In the developed markets, correlations between countries and securities range from moderate to high due to the integrated nature of the global economy. Because of this, a more equally weighted portfolio may not necessarily result in lower portfolio volatility, since the portfolio's volatility will increase with the inclusion of smaller and more-volatile countries or securities. As such, there won't be a significant reduction in volatility from diversifying countries alone.

Concentrated benchmarks. The MSCI EAFE Index has a high level of concentration in just a few countries. While investors may remember the growth of Japan's index concentration in the 1980s, which for a time encompassed over half the weight of the MSCI EAFE Index, many are surprised to find that the degree of concentration is still quite high, with the top two countries accounting for nearly 40% of the index and the top six representing over 75% of its capitalization.

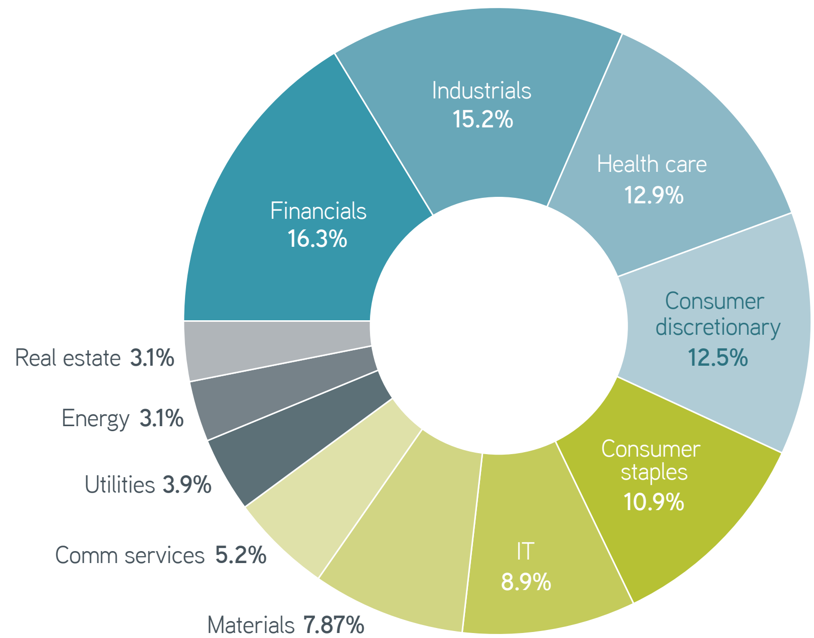
Figure 2: Country market-cap weights in the MSCI EAFE Index



Source: MSCI, 12/31/2020. For illustrative purposes only. It is not possible to invest directly in an index.

The market index is also highly concentrated at the economic sector level, with an almost 33% weight in financial and industrial stocks, as shown in figure 3.

Figure 3: Sector market-cap weights in MSCI EAFE Index



Source: MSCI, 12/31/2020. For illustrative purposes only. It is not possible to invest directly in an index.

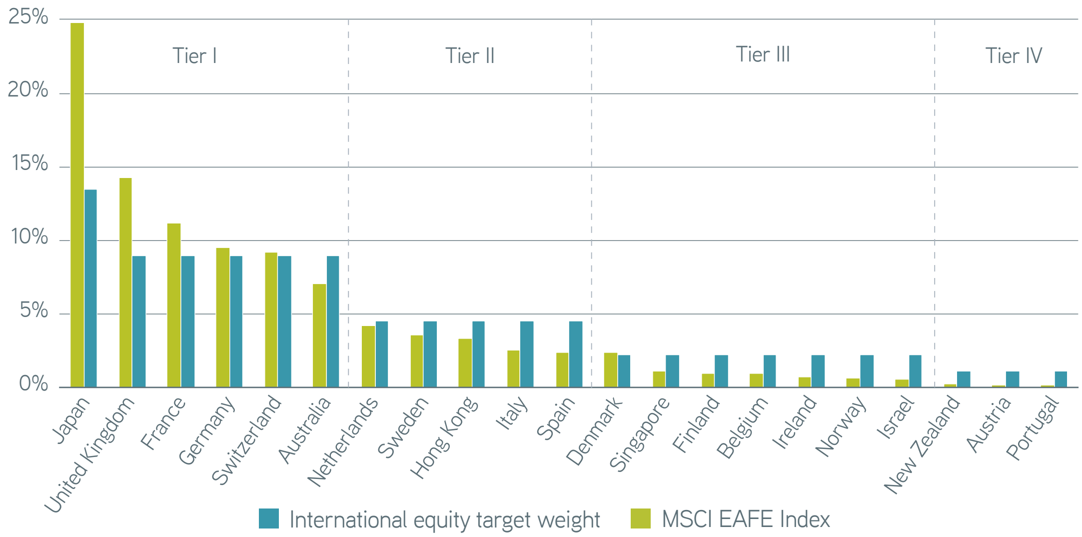
As noted above, international equities are an asset class with high volatility and a concentrated market exposure. In addition, these countries and securities demonstrate a moderate to high degree of correlation. All these aspects play into how Parametric has designed its solution for investing in international equities.

Portfolio construction

Parametric's International Equity Strategy starts by diversifying countries, then diversifies sectors within each country, and finally cap-weights the lowest-beta stocks within each country-sector combination. This modified equal-weight structure provides the benefit of an equal-weight strategy at a fraction of the normal implementation cost. We provide more details on the portfolio construction below.

Diversify at the country level. Given the concentrated nature of the market portfolio, the first course of action is to set target weights for country exposures that are more diversified than the index. We assign countries to one of four liquidity tiers, based on their market sizes and liquidity conditions. Within each tier we then equally weight each country. Current target weights are shown in figure 4.

Figure 4: Country target weights



Sources: Parametric, MSCI, 12/31/2020. Parametric strategy target portfolio information is for illustrative purposes only as of the date listed here and is subject to change at any time. Actual client portfolio allocation will vary. It is not possible to invest directly in an index.

Regarding the tier assignment for Japan, this is based on tracking-error considerations relative to the MSCI EAFE Index. Due to its large underweight, Japan would contribute a material part of the tracking error of the strategy if it were assigned its natural tier target weight. While we wish to reduce this tracking-error concentration, we attempt to balance this desire with our primary goal of absolute diversification.

Since the strategy overweights smaller countries and deemphasizes larger countries, it results in a material reduction of country concentration at the portfolio level. However, the result of this country-level diversification isn't necessarily a lower-volatility portfolio, due to the correlation properties noted above. That is, in the developed markets, a more equally weighted country allocation results in higher volatility, since the portfolio is shifting into smaller and more-volatile countries without receiving a significant diversification benefit from low correlations. Accordingly, we also diversify at the sector and security levels.

Diversify at the sector level. Once we've specified a set of country target weights, we continue to diversify within each country using a set of target weights for economic sectors. Our process sets sector-level target weights in each country in an attempt to move closer to an equal representation from each economic sector while taking into account practical liquidity considerations. This results in a set of caps and floors versus the market-cap weights, where the maximum overweight is four times the sector's market weight and the maximum underweight is 0.25 times the market weight.

Given the sector diversity of most developed countries, this set of caps and floors generally results in a majority of the sector targets being assigned equal weights. As an example, figure 5 depicts the target sector weights for Italy versus the current market-cap weights (as represented by the S&P® Developed BMI Index).

Figure 5: Sector allocation example: Italy

Sector	S&P® Developed BMI	Strategy model weight
Financials	28.7%	11.5%
Utilities	23.5%	11.5%
Consumer discretionary	16.1%	11.5%
Industrials	9.5%	11.5%
Information technology	7.5%	11.5%
Energy	6.6%	11.5%
Communication services	3.1%	11.5%
Health care	3.1%	11.5%
Consumer staples	1.1%	4.4%
Materials	0.7%	2.8%
Real estate	0.1%	0.4%

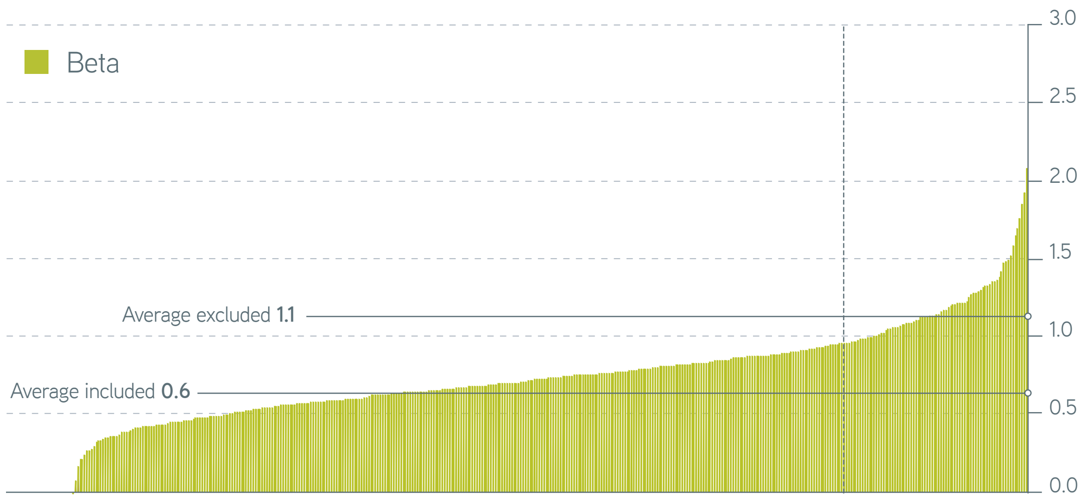
Sources: S&P® Developed BMI, Parametric, 12/31/2020. The universe for sector target creation and stock selection is based on the S&P® BMI family of indexes. Strategy target model portfolio information is for illustrative purposes only as of the date listed here and is subject to change at any time. It is not possible to invest directly in an index.

Similar to the process of selecting country target weights, our systematic sector approach seeks to ensure a more balanced position across all major economic sectors within any given country compared to capitalization weights. In addition, by reducing sector concentration within each country, the strategy's overall sector concentration is also reduced. In particular, the large concentration in the financial and industrial sectors seen in the MSCI EAFE Index is reduced by almost one third. This diversification at the sector level can help further enhance performance and reduce concentration risk.

Diversify at the security level. Once we've determined the target weight for a country and then further determined the sector target weights within the country, we populate this country-sector allocation with the lowest-beta names by screening out the stocks in the highest-beta quartile in this country-sector combination. Security targets are then set equal to the market-cap weights of this set of screened securities.

This screening out of high-beta stocks is motivated by the fact that diversifying at the country level actually increases volatility, due to the high correlations present in developed markets. But by screening out those securities in each country-sector combination that exhibit the highest correlation with global markets, we can increase the diversification benefit and reduce overall portfolio volatility. As an example of how the beta filter works, take Japan's industrials sector, which contains more than 400 stocks. The top quartile of the sector has an average beta of 1.1 and is excluded in our investment process. The remaining Japanese industrial stocks have an average beta of 0.6. Other sectors have higher or lower betas, but we use the same ranking and filtering method.

Figure 6: Example of beta screen: Japanese industrials



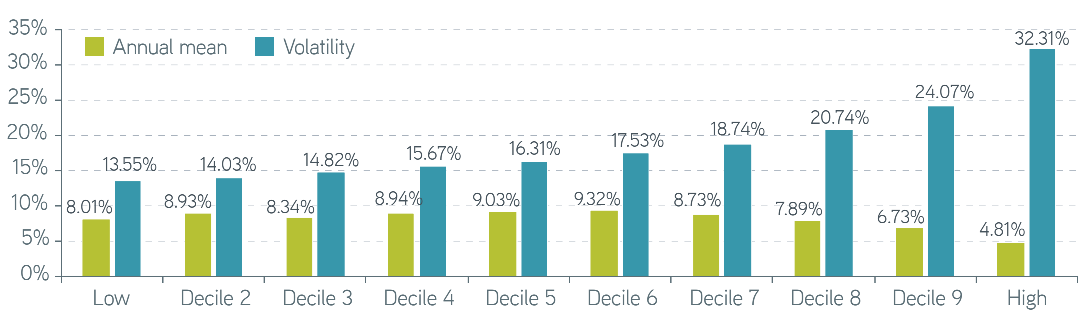
Sources: Parametric, S&P® Developed BMI, 12/31/2020. For illustrative purposes only. Japan was chosen as an example due to its representative size. It is not possible to invest directly in an index.

Why screen on beta?

Evidence shows that screening for beta isn't a reliable method for selecting stocks that outperform. Economic theory says that high-beta stocks should outperform. However, the historical relationship between beta and arithmetic returns is flat or slightly negative. On the other hand, we do see a strong relationship between beta and risk. This can make it a useful measure for risk management and portfolio construction. In other words, using beta to hunt for alpha doesn't make sense to us. We use beta to help to reduce risk without harming returns.

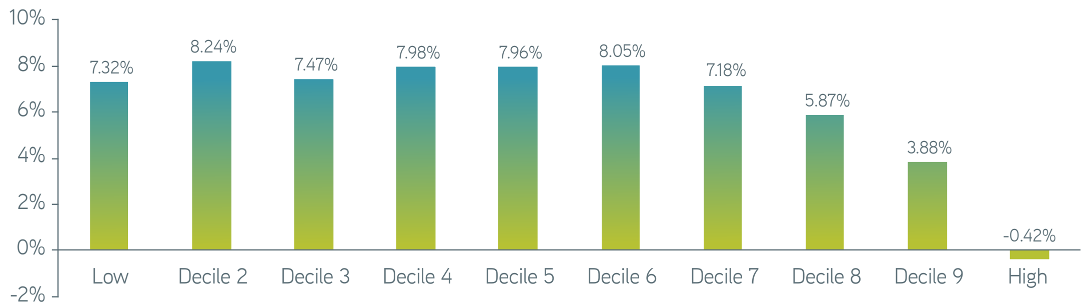
As shown in figure 7, portfolios of low-beta stocks can have lower volatility risk but the same or better return. Lower volatility with the same average return translates to a higher expected growth rate. Figure 8 shows the geometric growth rates for the decile portfolios shown in figure 7. As we can see, while the decile portfolios have very similar arithmetic average returns, the higher-beta portfolios have much lower average compounded returns. These results hold when sorting stocks within country, within industry, and by size decile.

Figure 7: Annual mean return and volatility by beta deciles, 1/1/1997–12/31/2020



Sources: Parametric, S&P®, MSCI Barra, 12/31/2020. For illustrative purposes only. Not representative of any Parametric client account or composite. Past performance is not indicative of future results.

Figure 8: Growth rates by beta deciles, 1/1/1997–12/31/2020



Sources: Parametric, S&P®, MSCI Barra, 12/31/2020. For illustrative purposes only. Not representative of any Parametric client account or composite. Past performance is not indicative of future results.

Overall, our use of a beta filter is motivated by our desire for increased diversification. Using beta as a metric helps quantify how different from the overall market certain individual stocks are and can help increase portfolio diversification at the stock level.

Diversify and rebalance

Our diversification decisions serve two purposes. First, they seek to lower overall portfolio volatility, which in turn increases the expected value of compounded portfolio returns. Second, they align with the growth-seeking goal of many international equity allocations. By maintaining target exposures across a broad range of countries and sectors, we ensure that the portfolio participates in the growth of the developed equity markets, regardless of where this growth arises. Additionally, downside risk is mitigated by not allowing concentrations to build within the portfolio at the country, sector, or stock level.

To maintain diversification and avoid concentrations building up in the portfolio, we rebalance at the country level—selling those countries that have outperformed and buying those that have lagged. This trading pattern creates an opportunity to outperform. We monitor country weights within bounds. A country will be rebalanced when its portfolio weight falls below 90% or exceeds 110% of its target weight. We set these rebalancing triggers to reflect transaction costs and the expected benefit of rediversifying country exposures. In the case of a rebalancing trade, the triggering country will be traded to achieve its target weight.

Conclusion

The systematic strategy outlined here is designed to allow an investor to participate efficiently in the positive attributes of the international equity asset class on a consistent basis without incurring the return risk that comes with an active fundamental approach or the concentration risk of mainstream cap-weighted indexes. The Parametric approach is engineered to mitigate damage caused to portfolios by the boom-and-bust cycles endemic to capital markets and seeks a superior risk-adjusted return relative to the drifting cap-weighted index. By diversifying at the country and sector level, and then emphasizing low-beta names within each country-sector combination, we build a portfolio designed to balance the benefits of diversification with the market conditions present in the international equity markets.

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