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BUILDING BETTER INSIGHTS®

GENERATING ALPHA BASED ON REVENUE ANALYSIS

IN BRIEF

- Equity portfolio managers monitor regional exposures as a way of assessing portfolio risks.
- The increased globalization of businesses — and hence revenue streams — means that regional analysis based on the domicile of headquarters is less relevant.
- Examining the sources of company revenues provides new insights into portfolio exposures across regions, sectors and industries.
- Revenue-based analysis offers a potentially powerful complement to fundamental analysis in an active stock-selection process.

Monitoring regional exposures is a key component of portfolio risk management. However, with companies increasingly operating on a global basis, comparative analysis based on the location of headquarters often seems misleading and less relevant. Large multinationals such as Diageo, Johnson & Johnson and Toyota already earn most of their revenues from outside their home regions.[1] Examining the sources of company revenues, rather than where stocks happen to be listed, may provide new insights into equity portfolio risks and opportunities. Please note that a prior version of this paper, "Revenue Analysis: A Better Way to Assess Regional Exposure," was published in December, 2012.

Although few companies disclose where they source profits, most are required to provide an annual regional revenue breakdown. Also, unlike other financial metrics, such as profits or assets, revenue figures are more consistently defined — and less likely to be manipulated — around the world, which makes it easier to make like-for-like comparisons.

From an active-management perspective, understanding revenue sources is important because a company's estimated future income is a key variable in the stock selection process. Fundamental analysis incorporates a business' prospects across a variety of measures, including both company-specific and external factors such as regional and industry dynamics, macroeconomics and demographics. These can all affect revenue growth rates and the stability of company profits. Consequently, revenue streams are already considered within the context of bottom-up research and, as a result, impact active portfolio decisions. Revenue analysis can thus be seen as a way of augmenting in-depth fundamental analysis, while not replacing it.

While a revenue-based approach to assessing geographic weightings seems intuitive, collecting and analyzing the information entails numerous considerations. For example, although revenue numbers are regularly updated, global accounting rules allow for substantial flexibility in how companies choose to report their regional groupings and which countries to include in each region. An effective methodology requires mapping company-provided data into a consistent framework. The analysis presented in this paper is intended to highlight the benefits of complementing traditional, domicile-based methodologies with revenue-based approaches as a way of providing a more complete picture of the portfolio's exposures.

For this study, MFS used data provided by MSCI for more than 2,000 companies in the MSCI All Country World Index (ACWI), mapping results to five regions: North America, Europe, Japan, Asia Pacific ex Japan and Emerging Markets (EM). See detailed methodology on page 5.

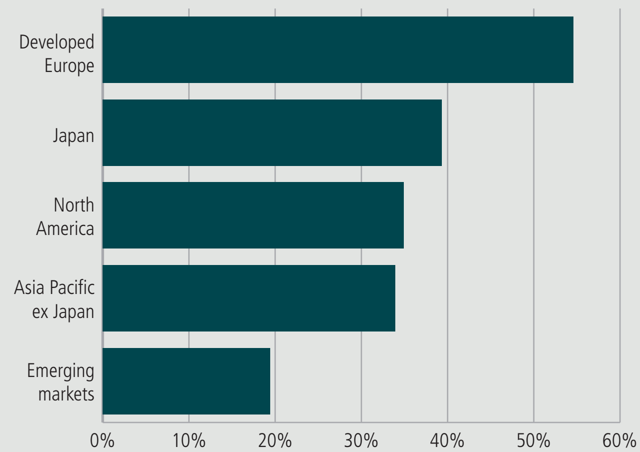
Building better insights: Revenue trumps domicile

We found that in every region companies derive a significant proportion of revenues from outside their local area. About a third of revenues for companies in the MSCI ACWI come from outside their home region (Exhibit 1). Clearly, using the standard approach of classifying regional exposure based on domicile is likely to give an inaccurate picture of the underlying opportunities and risks for each company.

Viewing global conglomerations through the traditional domicile lens no longer yields a clear picture of a company, index or portfolio. The world's economies are increasingly intertwined, though some countries and regions have stronger global interconnections than others. More than half of developed Europe's revenues are generated outside the region; Japan's nondomestic revenues are also high, largely due to exports. Europe and the United States have relatively higher exposure to foreign markets than do the Asia Pacific ex Japan region and EM.

Exhibit 1: Domicile less useful for portfolio analysis

Revenues from outside of home region for MSCI ACWI companies



Source: MSCI. Data as of 31 March 2015.

Looking at the difference between the revenue and domicile methodologies in terms of regional weights, using MSCI ACWI data we found that regional exposures changed significantly when viewed as an aggregate portfolio based on revenues. For example, the weight in North America decreases from about 55% on a domicile basis to 43% using revenues, while EM exposure increases from about 10% to roughly 27% (Exhibit 2).

Exhibit 2: Regional weights, domicile vs. revenue method

MSCI ACWI	Domicile (%)	Revenue (%)	Difference (ppts)
North America	54.9	42.7	-12.2
Developed Europe	22.8	18.4	-4.5
Japan	7.7	7.2	-0.5
Asia Pacific ex Japan	4.2	4.4	0.2
Emerging markets	10.4	27.4	17.0

Source: MSCI. Data as of 31 March 2015.

The point is amplified when one applies the revenue methodology to indices of developed markets only. The MSCI World Index, for example, has no exposure to EM when its domicile-based methodology is used. However, when rebalanced on a revenue basis, exposure to EM is close to 19%. Investors who are concerned that they may be missing out on EM opportunities by choosing a developed-market benchmark for their portfolios may find they have considerable indirect exposure after all.

Reasons for regional differences

That Europe appears the most global of regions should not come as much of a surprise given long-term economic trends. Because Europe is a fully industrialized region with declining birth rates, business growth there demands an external orientation, including an export-led economy and foreign investment. Consider the global business models of some of the largest European corporations, BMW, LVMH and SAP, for instance. In some cases, certain long-established global brands have roots that can be traced as far back as the European colonial period. Unilever's presence in India is a case in point.

Japan provides an interesting contrast as a more inwardly focused market, despite its already shrinking population. Various cultural and economic factors are cited as reasons for this, including national trade barriers, which keep foreign businesses from listing on Japan's stock exchange. Japanese overseas subsidiaries also tend to be smaller and more recently formed than those of Japan's global competitors. Only relatively recently did a company like Toyota respond to currency headwinds by shifting from an export model — shipping vehicles from Japan — to building factories overseas in the United States, United Kingdom and, more recently, Brazil, Canada, Russia and Mexico.

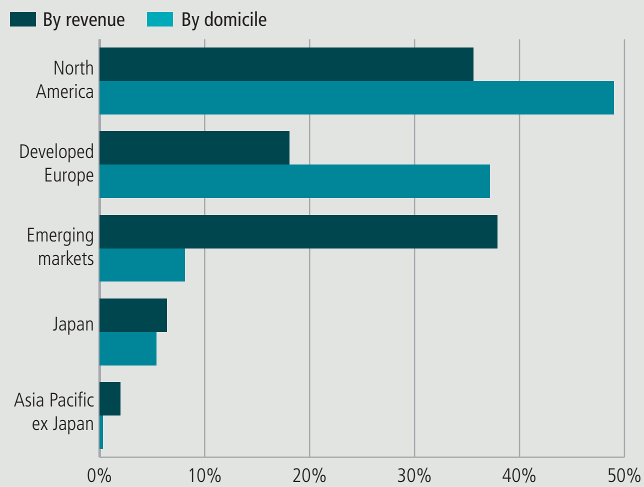
Perhaps more surprising is the apparent regional coherence within EM. One should keep in mind, however, that in reality the EM are nothing close to a homogenous group. Significant trade takes place among different EM countries, often of intermediate goods that are then sold as finished goods in other regions. An example would be the trade in iron ore between Brazil and China. The EM category is thus much more of a catch-all than other groups.

Viewing sectors through the revenue lens

Examining the revenue and domicile analysis from a sector perspective provides additional insight into regional differences. Certain sectors and industries, in particular consumer staples and technology, reveal regional comparative advantages (Exhibits 3 and 4).

Exhibit 3: Revenue analysis supports global consumer trends

Regional weightings for MSCI ACWI consumer staples sector



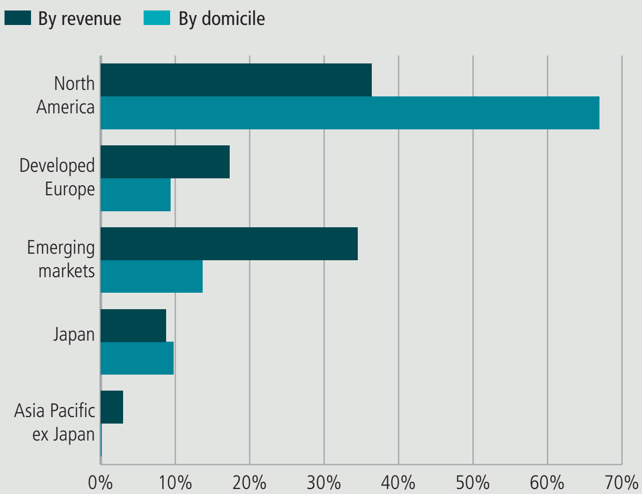
Source: MSCI. Data as of 31 March 2015.

While the domicile view of consumer staples shows a substantial weight to Europe and North America, consumer staples companies tend to be much more global when viewed on a revenue basis. MFS' findings support other research showing that as EM consumers increase their disposable income they tend to trade up to established global brands, adding impetus to the global revenue trend in consumer staples.

One example of this is Danone, the world's leading dairy business. Danone is based in France, but 34% of its revenues come from EM and 64% from outside Europe's developed markets. In addition to growing the business overall, Danone's diversified global revenue streams can help to mitigate regional disruptions and lead to less earnings volatility. When we dig a little deeper, company-level research shows that Danone's North American franchise, compared with its European operations, reflects an immature business, with low market shares in yogurt and bottled water. Hence, for Danone, North America is more akin to a fast-growing EM region. This illustrates how revenue analysis can complement — rather than replace — fundamental analysis.

The technology sector displays even greater global disparity when revenues are compared with domicile-based calculations. The United States dominates the world in the sheer number of technology companies domiciled there; however, these firms export their products and services all around the world and, as a result US-based technology companies generate a significant portion of their revenues outside their home country (Exhibit 4).

Exhibit 4: Tech dominated by US firms
Regional weightings for MSCI ACWI technology sector



Source: MSCI. Data as of 31 March 2015.

Consumer-facing technology companies such as Apple and Google are obvious examples of genuinely global businesses, but so are corporate-focused behemoths like Microsoft and IBM. Indeed, 9 of the 10 largest technology companies are based in the United States, yet they are all global businesses.

The utilities sector may be an exception to this globalization trend. Electricity, water and natural gas tend to be viewed as essential services that should be available to all (at a price). Capital requirements and a complex distribution infrastructure usually mean that utilities enjoy limited monopolies. Thus they tend to be government-owned or tightly controlled and regulated, with local and national oversight. Even here, though, given a rise in cross-border acquisitions and the cost-basis impact of globally traded commodities such as oil and coal, a narrow domicile-led view may mislead investors.

A clearer picture of diverse risks and opportunity

Focusing on a company's revenues instead of its headquarters can significantly alter the apparent composition of an investment portfolio. For example, when viewed by revenue sources, MSCI's ACWI displays a convincing shift toward EM. At the sector level, global business models are also clearly apparent, perhaps most notably the companies in the US-dominated technology sector.

In the current era of significant globalization, a company's domicile assumes less relevance. The revenue-based methodology reviewed in this paper may more accurately portray a company's regional exposures and therefore provide a clearer picture of the geographic risk in a global equity portfolio. Furthermore, this methodology can help build better insights into sector or company exposure to country-specific or regional economic events with potential future earnings impact.

A revenue approach shows that global indices — and, by extension, portfolio strategies based on those indices — are often more geographically diverse than may be indicated by a domicile-based methodology. It also highlights the benefits of incorporating revenue analysis in assessing a company's prospects. But while a revenue methodology provides a robust means of revealing a portfolio's geographic dispersion from a top-down, historical perspective, it is silent on business strategies, company initiatives and other forward-looking indicators of future revenue growth. Given this, a revenue approach is a helpful complementary analysis in portfolio construction and the risk review process, but it is no substitute for fundamental research in an active stock-selection process.

Methodology

The revenue data presented in this paper is based on the MSCI Economic Exposure Indices. In general, MSCI estimates a company's exposure to a target region based on the reported geographical segmentation of its revenues. For each reported revenue segment that includes one or more countries, MSCI applies the latest GDP weights of those countries relative to that of the reported geographic segment to determine a multiplier for that segment. The company's target exposure is then calculated as the weighted average of the percentage of each revenue segment and the corresponding multiplier.

End note

[1] As of 31 March 2015, Diageo earned 72% of its revenue outside of Europe, Johnson & Johnson earned 51% of its revenue outside of North America and Toyota earned 67% of its revenue outside Japan. The companies referenced are used for informational purposes only and do not necessarily represent holdings in any MFS portfolio.

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