

# Countries Versus Industries in Emerging Markets: *A Normative Portfolio Approach*

JAVIER ESTRADA, MARK KRITZMAN, AND SÉBASTIEN PAGE

## JAVIER ESTRADA

is a professor of finance at the IESE Business School in Barcelona and the editor-in-chief of *Emerging Markets Review*.

[jestrada@iese.edu](mailto:jestrada@iese.edu)

## MARK KRITZMAN

is president and CEO of Windham Capital Management LLC and a senior partner of State Street Associates in Cambridge, MA.  
[mkritzman@windhamcapital.com](mailto:mkritzman@windhamcapital.com)

## SÉBASTIEN PAGE

is managing director at State Street Associates in Cambridge, MA.

[spage@statestreet.com](mailto:spage@statestreet.com)

**W**hat should a portfolio manager in emerging markets (EMs) do? Should he first determine the optimal *country* weights (and then select the “best” stocks in each country), or first determine the optimal *industry* weights (and then select the “best” stocks in each industry)? That is the central question we address in this article.

In order to do so, we depart from the previous literature by analyzing the issue from a *normative* point of view. In other words, our analysis does not focus on what portfolio managers or investors have done in the past in order to draw lessons for the future. Rather, it focuses on the choices investors *should* emphasize if they are skilful, or the choices they *should* avoid if they lack skill, regardless of their past behavior.

Our main result is straightforward: *Skillful portfolio managers and investors in EMs should focus on countries rather than on industries*. We arrive at this conclusion using three different approaches—dispersion in returns, dispersion in utility, and option pricing—each of which we describe below.

The rest of this article is organized as follows. The second section discusses the issue at stake, focusing on the discussion of country effects versus industry effects, as well as on the normative and positive approaches that can be used to answer the central question of this article. The third section describes our data and methodology. The fourth section reports and

discusses the evidence. And final section summarizes our results and implications for portfolio managers and investors in EMs. An appendix with tables and pictures concludes the article.

## THE ISSUE AT STAKE

We discuss in this section two different issues that we link in this article. First, we discuss two portfolio approaches—by country and by industry—and briefly summarize the evidence and its implications. Then, we focus on two analytical approaches—positive and normative—and argue why we believe the latter, which we use in this article, provides a better tool to analyze the issue at stake.

## Country Diversification and Industry Diversification

The trend towards the unification of European markets revived a long-standing debate in finance regarding the benefits of international diversification, as well as the closely related issue of the relative benefits of diversifying across countries or industries. However, the revived attention to this topic has not reached EMs, where the issue remains virtually unexplored. Our article is an attempt to fill that gap.

These two portfolio approaches, diversification across countries or across industries, obviously do not preclude each other. Because

not all countries exhibit the same industry composition, diversifying across countries also provides some diversification across industries. Similarly, because most industries are scattered around EMs, diversifying across industries also provides some diversification across countries. Many studies thus attempt to separate these two effects and determine whether diversifying across countries is more or less beneficial than diversifying across industries.

Although the evidence on this topic is vast and contradictory, there seems to be a consensus that industry effects have over time grown in importance relative to country effects. That is not to say that the former are more important than the latter. That issue remains controversial and depends, to a large extent, on the sample period considered in the different studies, as well as on the countries and industries considered. But the *trend* in the relative importance of these two effects is hardly disputed, and follows largely from the increasing globalization of markets.

Early studies on the topic, such as Grinold, Rudd, and Stefek [1989], conclude that country effects dominate industry effects. This general result was reinforced by several subsequent studies such as Drummen and Zimmermann [1992], Heston and Rouwenhorst [1994, 1995], Griffin and Karolyi [1998], and Rouwenhorst [1999], among others.

Freimann [1998], however, reports a dramatic increase in correlations across European countries, and argues that portfolio managers (at least those who invest in Europe) should reconsider country diversification and focus on industry diversification instead. Subsequent studies by Baca, Garbe, and Weiss [2000], Cavaglia, Brightman, and Aked [2000], and L'Her, Sy, and Tnani [2002] strengthen and generalize this recommendation by reporting a clear upward trend in the importance of industry effects relative to country effects. These studies also seem to agree that, by the end of the 1990s, industry effects had become more important than country effects.

Finally, Brooks and Del Negro [2002a, 2002b], in two controversial articles, argue against the rising incidence of both country effects and industry effects. In their first article, they argue that the increasing importance of industry effects relative to country effects follows largely from the incidence of the TMT (telecommunications, media, and technology) industry and its recent bubble.<sup>1</sup> In their second article, they argue that a large part of the observed country effects are, in fact, explained by a

regional effect and advise portfolio managers to diversify across regions rather than across countries or industries.

Most of the articles in the literature that address the impact of country effects and industry effects focus their attention on developed markets; only a few articles include EMs in their sample. To our knowledge, in addition to our study, only Serra [2000], and Bruner, Conroy, and Li [2003], focus on this issue exclusively from the point of view of EMs.

## Normative Analyses and Positive Analyses

Most of the studies that deal with assessing the impact of a set of factors on performance suffer from a common flaw; they fail to disentangle the consequences of investor behavior from the opportunity set offered by capital markets. In response to this problem, Kritzman and Page [2002, 2003] propose a normative approach that controls for investor behavior and enables them to isolate the opportunity set. This approach, which we follow in this article, is discussed at length in their articles and we only review it very briefly here.

A positive approach basically consists of decomposing historical performance. Studies such as Brinson, Hood, and Beebower [1986], and Brinson, Singer, and Beebower [1991] on asset allocation and security selection produce results that combine two separate influences—the investment opportunities available to investors and the choices made by those investors. In other words, these studies provide a joint test of investor behavior and capital market opportunities, and reveal not what investors should (or should not) do, but rather what they choose to do.<sup>2</sup>

Kritzman and Page [2002, 2003], in contrast, propose a normative approach that disentangles the impact of investor behavior from the opportunities offered by the relevant assets. Such an approach reveals the choices that investors *should* emphasize if they are skillful, or the choices they *should* avoid if they lack skill. By following this approach we seek to isolate the opportunity sets associated with country allocation and industry allocation from the behavior and choices of investors.

## METHODOLOGY AND DATA

We tackle two issues in this section. First, we describe our data and the procedure we use to generate our country and industry indices. Then, we discuss our methodology which is based on bootstrapping.

## Data

Our data set includes annual returns and year-end market capitalizations for every security in the MSCI Emerging Markets Free (EMF) Index between the beginning of the year 1989 and the end of the year 2002. Both market capitalizations and returns are measured in dollars.

We focus on dollar returns for three reasons. First, although investors can hedge away the currency exposure of country portfolios, they are not required to do so; that is, some investors may want to eliminate this risk factor and others may want to exploit it. Second, it would not be correct to eliminate a country-specific risk factor and, at the same time, preserve all industry-specific risk factors. And third, the evidence shows that currency effects explain very little of country effects. As argued by Heston and Rouwenhorst [1994], it is “not possible to explain the large country effects in terms of currency movements. For many countries, stock returns measured in local currency are uncorrelated with exchange rate changes.”

We construct our indexes to ensure internal consistency between a broader component and its constituents. This construction is based on the MSCI classification of countries and industry groups. Exhibit A1 in the appendix shows the 3 regions, 25 countries, and 24 industry groups we consider. For ease of exposition, we will refer to “industry groups” simply as “industries,” although the MSCI methodology makes a distinction between the two.<sup>3</sup>

To illustrate the construction of our indices, consider the Russian oil company Yukos and the Energy industry group. The weight of Yukos in our Energy index equals Yukos’ market capitalization divided by the sum of the market capitalizations of all the companies in the Energy industry group. The weight of the Energy industry group in our broad index of EMs, in turn, equals the sum of the market capitalizations of all the companies in the Energy industry group, divided by the sum of the market capitalizations of all the companies we consider. We use the same approach to build our indices for countries and regions.

## Methodology

Our approach is based on bootstrapping, a procedure that consists of generating samples by randomly selecting observations from a data set. Bootstrapping

differs from Monte Carlo simulation in that the former draws randomly from an empirical sample, whereas the latter draws randomly from a theoretical distribution. We use bootstrapping to generate random portfolios that represent the available opportunity set.

We perform the country allocation simulations as follows. We first choose 100 country index returns with replacement 10,000 times from a sample of 25 countries. When we select a return we also select its capitalization, so that we can scale the returns according to their relative capitalization within the equity component. Industry and individual security weights within each country are fixed according to their relative capitalization. This procedure generates 10,000 portfolios for each of the years between 1989 and 2002 that vary randomly by their country weights, which we subsequently rank by cumulative performance.<sup>4</sup>

The industry allocation simulation is performed in a similar way. We randomly select 100 industry returns with replacement 10,000 times from a sample of 24 industry groups. Again, when we select a return we also select its capitalization, so that we can scale the returns according to their relative capitalization within the equity component. Country and individual security weights within each industry are fixed according to their relative capitalization. Thus, we randomly generate 10,000 portfolios for each of the years between 1989 and 2002 that vary by their global industry weights, which we subsequently rank by cumulative performance.

## THE EVIDENCE

We discuss our results in this section. We first tackle our central question from three different angles: dispersion in returns, dispersion in utility, and option prices. Then, we assess whether there is any trend in the relative impact of country effects and industry effects. And finally, we re-evaluate our results from a regional perspective.

### Dispersion in Returns

In this section we address the extent to which a skillful portfolio manager or investor can improve upon average performance by engaging in either country allocation or industry allocation. In this regard, dispersion in returns is important for skillful investors because the higher the dispersion, the higher the magnitude of potential above-average performance.<sup>5</sup>

## EXHIBIT 1

### Global Results

Percentile	Returns		Utility		Option Prices	
	CA	IA	CA	IA	CA	IA
5%	1.8%	1.3%	2.0	1.4	1.5%	1.6%
25%	0.7%	0.5%	0.8	0.6	2.2%	1.8%
75%	-0.7%	-0.5%	-0.8	-0.6	2.0%	1.7%
95%	-1.8%	-1.2%	-2.1	-1.4	1.9%	1.5%

CA: Country allocation; IA: Industry allocation. Annual figures.

Exhibit 1 shows that dispersion in returns arising from country allocation ( $-1.8\%$  to  $1.8\%$  for the lower and upper 5th percentiles) is substantially larger than that arising from industry allocation ( $-1.2\%$  to  $1.3\%$  for the same percentiles). Thus, from a normative point of view, country allocation in EMs is more important than industry allocation, for two reasons: 1) it provides skillful investors with more opportunities to outperform the averages, and 2) it poses a greater risk to those investors who are not skilful.

It could be argued that dispersion in returns is not an appropriate criterion because it ignores risk. However, the risk of the simulated country portfolios measured by the standard deviation ( $38.7\%$ ) is virtually identical to that of the industry portfolios ( $38.6\%$ ). Hence, in EMs, country allocation also dominates industry allocation from the point of view of risk-adjusted returns.

### Dispersion in Utility

The results of the previous section can be strengthened by analyzing the impact of country allocation and industry allocation on utility, which enables us to jointly consider both risk and return. To that purpose, consider the expression

$$U \approx \ln(1 + \mu) - \frac{(1/2)\sigma^2}{(1 + \mu)^2} \quad (1)$$

where  $U$  denotes utility, and  $\mu$  and  $\sigma$  denote the mean and standard deviation of a portfolio's return.<sup>6</sup>

Exhibit 1 shows that the dispersion in utility arising from country allocation ( $-2.1$  to  $2.0$  for the lower and upper 5th percentiles) is substantially larger than that arising from industry allocation ( $-1.4$  to  $1.4$  for the same percentiles). Thus, we confirm our previous argument that, from a normative point of view, in EMs, country allocation is more important than industry allocation.

### Option Pricing

Although dispersion in returns and dispersion in utility clearly show the relative importance of country and industry allocation, an options-based approach yields more intuitive results. In this section, we use a variation of the Black-Scholes model to price an exchange option, which basically gives its owner the right to exchange one risky asset for another.

The exchange option we price is one that enables its owner to exchange median performance for top-quartile (and 5th percentile) performance, and another to exchange bottom-quartile (and 5th percentile) performance for median performance. The option price follows from the expressions

$$EO = N(d_1) - N(d_2) \quad (2)$$

$$d_1 = \frac{\ln(V_p/V_m) + (1/2)\sigma^2 t}{\sigma\sqrt{t}} \quad (3)$$

$$d_2 = d_1 - \sigma\sqrt{t} \quad (4)$$

where  $EO$  denotes the value (price) of the exchange option;  $N$  the cumulative normal distribution;  $V_p$  and  $V_M$  the starting value of the chosen percentile portfolio and the starting value of the median portfolio, respectively;  $\sigma$  the relative volatility between  $V_p$  and  $V_M$  (also known as tracking error); and  $t$  the time remaining to expiration (as a fraction of a year).

Expressions (2) to (4) yield the value of an exchange option assuming that income is reinvested and the starting value of the portfolios is 1.0. As shown in Exhibit 1, the value of an option to acquire top-quartile skill as a country allocator equals 2.2% of the portfolio's asset value. In contrast, the value of an option to acquire top-quartile skill as an industry allocator is only 1.8% of the portfolio's asset value.<sup>7</sup> We, thus, confirm the results of our two previous approaches: Portfolio managers and investors in EMs should focus on countries rather than on industries.

### Country Effects and Industry Effects: Is There a Trend?

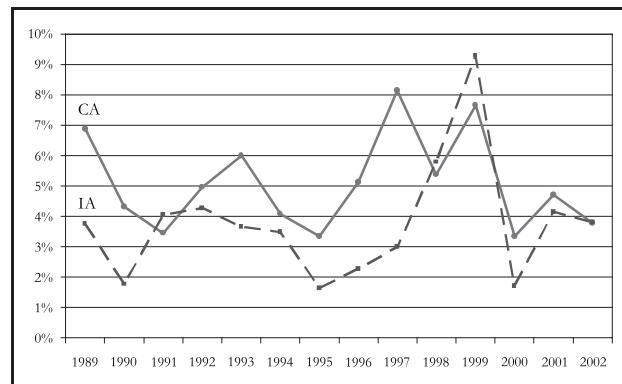
As discussed above, many studies show that in terms of diversification benefits the importance of countries has been decreasing, and that of industries increasing, over time. We explore this issue by focusing again on dispersion in returns and calculating the difference between top-quartile performance and bottom-quartile performance each year between 1989 and 2002. Our results are displayed in Exhibit 2.

Exhibit 2 shows, in fact, that the dispersion in returns generated by industry allocation has grown relative to that generated by country allocation. Although in 1989 the difference between top-quartile and bottom-quartile performance for industry allocation was 3.8% and that for country allocation 6.9%, by the end of 2002 both differences had converged to 3.8%. However, as is also clear from the exhibit, the relative importance of these two effects fluctuated widely over time *without* any clear trend.

Kritzman and Page [2003], and Brooks and Del Negro [2002a] argue that the rising importance of industry effects has been largely associated with the performance of the TMT industry. Our results provide some support to this argument. Exhibit 3 shows the difference between top-quartile and bottom-quartile performance for country and industry allocations after removing all TMT stocks

## EXHIBIT 2

### Global Results: Dispersion in Returns (1989–2002)



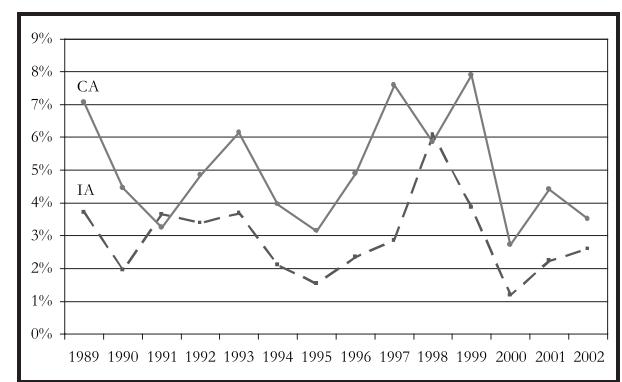
from our sample. The main difference between these results and those displayed in Exhibit 2 is in the year 1999, when in the absence of TMT stocks the country effect dominated the industry effect. Furthermore, by the end of 2002, Exhibit 3 (unlike Exhibit 2) shows that the dispersion in returns generated by country allocation (3.5%) was still larger than that generated by industry allocation (2.6%).

### Regional Results

Finally, we address whether the results discussed above hold across the three different regions into which EMs are usually split—Asia, Latin America, and EMEA

## EXHIBIT 3

### Global Results: Dispersion in Returns, Excluding TMT (1989–2002)



(Europe, Mid-East, and Africa). Our results are displayed in Exhibits 4 and A2.

Exhibit 4 shows that what is true for EMs in general is not necessarily true within each individual region. In Asia, both dispersion in returns and dispersion in utility confirm the superiority of the country approach over the industry approach. In Latin America, however, the opposite is true; industry effects dominate country effects, as shown in both panels A and B of Exhibit 4. Finally, in EMEA the industry effects dominate country effects, but to a lesser degree than they do in Latin America.

The results of the options approach, however, are not perfectly aligned with the previous results. Panel C of

Exhibit 4 shows that the value of an option to acquire top-quartile skill as a country allocator (2.2% of the portfolio's asset value in Asia, 3.8% in EMEA, and 1.6% in Latin America) is higher than the value to acquire top-quartile skill as an industry allocator (1.8% of the portfolio's asset value in Asia, 2.3% in EMEA, and 1.4% in Latin America) in all three regions.

Finally, Exhibit A2 in the appendix shows the evolution of the dispersion in returns (the yearly difference between top-quartile and bottom-quartile performance) during the period 1989 to 2002 for the three regions. The two general results that follow from this exhibit are, first, that there is no clear trend in the relative importance

## **E X H I B I T 4**

### **Regional Results**

<u>Percentile</u>	<u>Asia</u>		<u>EMEA</u>		<u>Latin America</u>	
	<u>CA</u>	<u>IA</u>	<u>CA</u>	<u>IA</u>	<u>CA</u>	<u>IA</u>
<i><u>Panel A: Dispersion in Returns</u></i>						
5%	1.5%	1.3%	1.9%	2.0%	1.3%	1.6%
25%	0.6%	0.5%	0.8%	0.8%	0.5%	0.7%
75%	-0.6%	-0.5%	-0.8%	-0.8%	-0.5%	-0.6%
95%	-1.5%	-1.3%	-1.9%	-1.9%	-1.3%	-1.7%
<i><u>Panel B: Dispersion in Utility</u></i>						
5%	1.8	1.4	1.9	2.2	1.5	1.7
25%	0.7	0.6	0.8	0.9	0.6	0.7
75%	-0.7	-0.6	-0.8	-0.9	-0.6	-0.7
95%	-1.8	-1.4	-1.9	-2.1	-1.5	-1.8
<i><u>Panel C: Option Prices</u></i>						
5%	2.6%	1.8%	3.0%	2.8%	1.3%	1.6%
25%	2.2%	1.8%	3.8%	2.3%	1.6%	1.4%
75%	2.3%	1.9%	3.2%	2.2%	1.2%	1.7%
95%	1.9%	2.4%	3.1%	2.2%	1.0%	2.1%

*CA: Country allocation; IA: Industry allocation. Annual figures.*

of country and industry effects (although by the end of the period industry effects seem to dominate country effects in all three regions); and, second, that the results are quite sensitive to the inclusion or exclusion of TMT stocks in the sample.

## CONCLUSION

One of the critical issues portfolio managers and investors in EMs must address is whether to focus their diversification efforts across countries or across industries. The literature on the topic, however, has not provided an unambiguous answer. Although there seems to be a consensus that industry effects have grown in importance relative to country effects, the issue of which of the two effects is currently more important remains controversial.

Our contribution largely stems from approaching this issue using a different methodology. Our normative approach allows us to isolate the opportunity sets associated with country allocation and industry allocation from the behavior of investors, thus emphasizing the choices they should make if they are skillful and the choices they should avoid if they are not.

Our main result can be summarized in a single recommendation: Skillful portfolio managers and investors

in EMs should focus on countries rather than on industries. This advice follows from the fact that country allocation generates a higher dispersion in returns and utility, as well as higher exchange option values, than does industry allocation. Our results also imply that, for investors in EMs, country analysts may be more important than industry analysts. In other words, knowledge of the local legal and institutional frameworks, local politics, and local economic events are critical for investors in EMs.

We also find that the trend in the relative importance of country effects and industry effects is not so clear. The dispersion in returns generated by these two approaches have fluctuated widely over time, but converged by year-end 2002. However, we also find that when removing the impact of the TMT bubble from our results, country effects still dominated industry effects by year-end 2002, as they did throughout the 1989–2002 period with the exception of the years 1991 and 1998.

Finally, our regional results indicate that although country effects dominate industry effects in Asia, the opposite is the case in both Latin America and EMEA. In other words, regional portfolio managers and investors in EMs should interpret the results in the literature, including our own, with caution.

## APPENDIX

### EXHIBIT A1

#### Regions, Countries, and Industry Groups

Regions and Countries	Industry Groups
<i>Asia</i>	Automobiles and Components
China	Banks
India	Capital Goods
Indonesia	Commercial Services and Supplies
Korea	Consumer Durables and Apparel
Malaysia	Diversified Financials
Pakistan	Energy
Philippines	Food and Staples Retailing
Taiwan	Food, Beverage and Tobacco
Thailand	Health Care Equipment and Services
	Hotel, Restaurants, and Leisure
	Household and Personal Products
<i>Europe, Mid-East, and Africa</i>	Insurance
Czech Republic	Materials
Egypt	Media
Hungary	Pharmaceuticals and Biotechnology
Israel	Real Estate
Morocco	Retailing
Poland	Semiconductors and Semiconductor Equipment
Russia	Software and Services
South Africa	Technology Hardware and Equipment
Turkey	Telecommunication Services
	Transportation
	Utilities
<i>Latin America</i>	
Argentina	
Brazil	
Chile	
Colombia	
Mexico	
Peru	
Venezuela	

Regions and industry groups based on the MSCI classification.

## EXHIBIT A2

### Regional Results: Dispersion in Returns

Exhibit A2-1: Asia

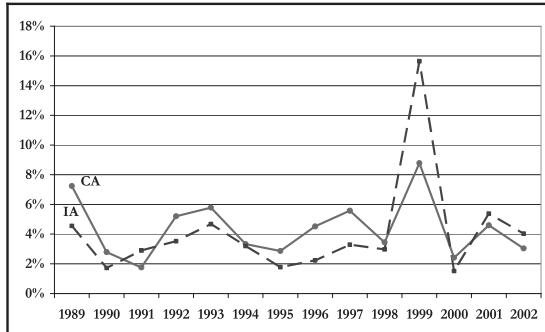


Exhibit A2-2: Asia, Excluding TMT

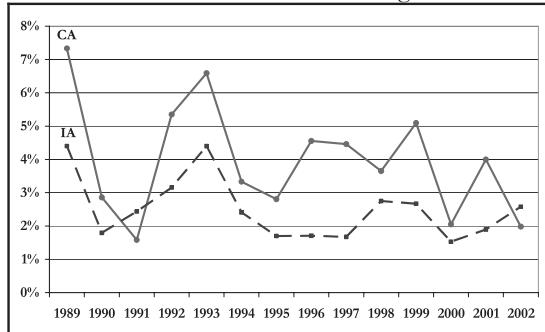


Exhibit A2-3: EMEA

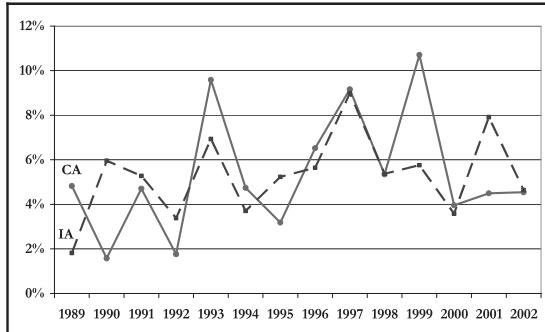


Exhibit A2-4: EMEA, Excluding TMT

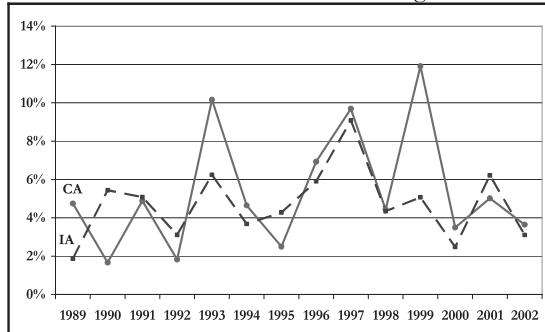


Exhibit A2-5: Latin America

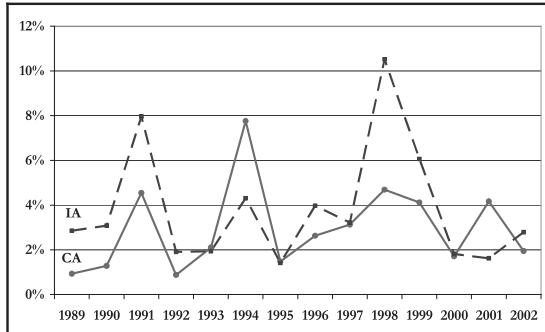
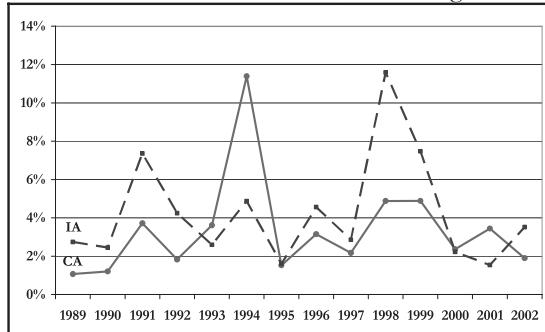


Exhibit A2-6: Latin America, Excluding TMT



## ENDNOTES

<sup>1</sup>This issue had been previously raised by Kritzman and Page [2003].

<sup>2</sup>Furthermore, because these studies look at variation in absolute return through time (rather than cross-sectionally), they implicitly assume that the default asset mix is to not invest at all.

<sup>3</sup>According to the MSCI Global Industry Classification Standard, there are 62 industries and 24 industry groups.

<sup>4</sup>Note that when we select returns we scale them according to their relative capitalization, so that the expected returns of the randomly selected portfolios should correspond very closely to the relevant indices' returns. Our convergence tests, not reported, show that this is in fact the case.

<sup>5</sup>It is also true, of course, that dispersion in returns is harmful for unskillful investors because it exposes them to below-average performance.

<sup>6</sup>Expression (1) is a two-term Taylor approximation to expected utility based on a logarithmic utility function. This utility function is widely used because it displays decreasing absolute risk aversion and constant relative risk aversion.

<sup>7</sup>It should be noted that the price of an exchange option is a direct function of its tracking error, which in turn is directly related to dispersion in returns. However, there is no direct relationship between tracking error and the terminal ranking of a portfolio. In other words, a portfolio with a low tracking error may end up at the top of the ranking, and another with high tracking error at the bottom.

## REFERENCES

- Baca, Sean, Brian Garbe, and Richard Weiss. "The Rise of Sector Effects in Major Equity Markets." *Financial Analysts Journal*, Vol. 56, No. 5 (2000), pp. 34–40.
- Brinson, Gary, Randolph Hood, and Gilbert Beebower. "Determinants of Portfolio Performance." *Financial Analysts Journal*, Vol. 42, No. 4 (1986), pp. 39–44.
- Brinson, Gary, Brian Singer, and Gilbert Beebower. "Determinants of Portfolio Performance II: An Update." *Financial Analysts Journal*, Vol. 47, No. 3 (1991), pp. 40–48.
- Brooks, Robin, and Marco Del Negro. "The Rise in Comovement Across National Stock Markets: Market Integration or IT Bubble?" Working Paper 2002-17a, Federal Reserve Bank of Atlanta, 2002a.
- . "International Stock Returns and Market Integration: A Regional Perspective." Working Paper 2002-20, Federal Reserve Bank of Atlanta, 2002b.
- Bruner, Robert, Robert Conroy, and Wei Li. "The Relative Importance of Country and Industry Factors in Emerging Markets." Working Paper, University of Virginia, 2003.
- Cavaglia, Stefano, Christopher Brightman, and Michael Aked. "The Increasing Importance of Industry Factors." *Financial Analysts Journal*, Vol. 56, No. 5 (2000), pp. 41–54.
- Drummen, Martin, and Heinz Zimmermann. "The Structure of European Stock Returns." *Financial Analysts Journal*, Vol. 48, No. 4 (1992), pp. 15–26.
- Freimann, Eckhard. "Economic Integration and Country Allocation in Europe." *Financial Analysts Journal*, Vol. 54, No. 5 (1998) 32–41.
- Griffin, John, and Andrew Karolyi. "Another Look at the Role of the Industrial Structure of Markets for International Diversification Strategies." *Journal of Financial Economics*, Vol. 50 (1998), pp. 351–373.
- Grinold, Richard, Andrew Rudd, and Dan Stefk. "Global Factors: Fact or Fiction?" *Journal of Portfolio Management* (Fall 1989), pp. 79–88.
- Heston, Steven, and Geert Rouwenhorst. "Does Industrial Structure Explain the Benefits of International Diversification?" *Journal of Financial Economics*, Vol. 36 (1994), pp. 3–27.
- . "Industry and Country Effects in International Stock Returns." *Journal of Portfolio Management* (Spring 1995), pp. 53–58.
- Kritzman, Mark, and Sébastien Page. "Asset Allocation Versus Security Selection: Evidence from Global Markets." *Journal of Asset Management*, Vol. 3 (2002), pp. 202–212.
- . "The Hierarchy of Investment Choice: A Normative Interpretation." *Journal of Portfolio Management* (Summer 2003), pp. 11–24.
- L'Her, Jean-Francois, Oumar Sy, and Mohamed Tnani. "Country, Industry, and Risk Factor Loadings in Portfolio Management." *Journal of Portfolio Management* (Summer 2002), pp. 70–79.
- Rouwenhorst, Geert. "European Equity Markets and the EMU." *Financial Analysts Journal*, Vol. 55, No. 3 (1999), pp. 57–64.
- Serra, Ana Paula. "Country and Industry Factors in Returns: Evidence from Emerging Markets' Stocks." *Emerging Markets Review*, Vol. 1 (2000), pp. 127–151.

To order reprints of this article, please contact Dewey Palmieri at dpalmieri@iijournals.com or 212-224-3675