

The Cross-Sectional Determinants of Emerging Equity Market Returns*

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Introduction

Regulatory changes, currency devaluations, failed economic plans, coups, and other national financial "shocks" are notoriously difficult to predict and may have disastrous consequences for global portfolios. These features often define the difference between investment in the capital markets of developed versus emerging economies.

Research on emerging markets has suggested three market characteristics: high average returns, high volatility, and low correlations both across the emerging markets and with developed markets. Indeed, the lesson of volatility was learned the hard way by many investors in December 1994 when the Mexican stock market began a fall that would reduce equity value in U.S. dollars by 80 percent over the next three months.

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But, we have learned far more about these fledgling markets. First, we need to be careful in interpreting the average performance of these markets. Errunza and Losq (1985) and Harvey (1995) point out that the International Finance Corporation (IFC) backfilled some of the index data resulting in a survivorship bias in the average returns. In addition, the countries that are currently chosen by the IFC are the ones that have a proven track record. This selection of winners induces another type of selection bias. Finally, Goetzmann and Jorion (1996) detail a re-emerging market bias. Some markets, like Argentina, have a long history beginning in the last half of the 19th century. At one point in the 1920s, Argentina's market capitalization exceeded that of the United Kingdom. However, this market submerged. To sample returns from 1976 (as the IFC does), only measures the "re-emergence" period. A longer-horizon mean, in this case, would be lower than the one calculated from 1976. This insight is consistent with the out-of-sample portfolio simulations carried out by Harvey (1993) indicating that the performance of the dynamic strategy was affected by the initial five years. It must also be realized that exposure as measured by the IFC is not necessarily attainable for world investors because of investment restrictions, high transactions costs, poor liquidity, and so forth [see Bekaert and Urias (1996)].

Second, we have learned that the emerging market returns are more predictable than developed market returns. Harvey (1995) details much higher explanatory power for emerging equity markets than for developed market returns. The sources of this predictability could be time-varying risk exposures and/or time-varying risk premiums, such as in Ferson and Harvey's (1991, 1993) study of U.S. and international markets. The predictability could also be induced by fundamental inefficiencies.

In many countries, the predictability is of a remarkably simple form: autocorrelation. For example, Harvey (1995) details 0.25 autocorrelation coefficient for Mexico in a sample that ends in June 1992. An investor who followed a strategy based on autocorrelation in this country would have lost 35 percent like everyone else in December 1994. However, the investor would have been completely out of the market in the next three months (or short, if possible). Momentum appears to be important for many of these markets.

Third, we have learned that the structure of the returns distribution is potentially unstable. Bekaert, Erb, Harvey, and Viskanta (1996) present evidence that the distribution of emerging equity market returns is different in the 1990s than in the 1980s. Garcia and Ghysels (1994) reject the structural stability of the prediction regressions presented in Harvey (1995). These regressions allow for the influence of both local and world

information. Bekaert and Harvey (1995, 1996a) present a model which explains the results of Garcia and Ghysels. The Bekaert and Harvey model allows for the relative influence of local and world information to change through time. They hypothesize that as a market becomes more "integrated" into world capital markets, the world information becomes relatively more important. Bekaert and Harvey (1996a) find that the changing relative importance of world information also influences volatility.

Fourth, the Bekaert and Harvey (1996a) framework suggests that the increasing influence of world factors on emerging expected returns may manifest itself in increased correlation with developed market benchmarks.

The goal of this chapter is to explore cross-sectional determinants of emerging-markets market strategies. We begin by examining some of the issues involved in using emerging-market equity data. These issues include investibility, survivorship, and nonnormality. We then investigate a wide variety of cross-sectional strategies. We attempt to answer the question of what matters in emerging-equity-market investing. We try to link the cross-section of expected returns to political, economic, and financial risk, as well as a number of fundamental attributes, such as price to book value. Some concluding remarks are made in the last section.

The Challenges of Emerging Market Data

Which Emerging Market Benchmarks Should Be Used?

The three main sources of emerging market benchmarks are the International Finance Corporation (IFC), Morgan Stanley Capital International (MSCI) and ING Barings' Emerging Markets Indices (BEMI). All provide country benchmark indices which are based on a value-weighted portfolio of a subset of stocks which account for a substantial amount of the market capitalization within each emerging market.

The IFC produces two types of indices: global (IFCG) and investable (IFCI). For nine countries, data exist back to 1976. Currently, the IFC provides data on 27 countries.¹ MSCI also produces both emerging markets global (EMG) and emerging-markets free indices (EMF) which resembles the IFCI. ING Barings only focuses on investible indices. Our chapter focuses on the global indices. Part of the interest in studying emerging markets is the impact capital market liberalizations have on the returns. Hence, we study markets before and after they are accessible to international investors.²

IFC, MSCI, and ING Barings all use different hierarchical processes in the company selection for their indices. MSCI follows the same technique that it uses in its popular developed-country benchmarks. First, the market is analyzed from the perspective of capitalization and industry categories. Next, a target of 60 percent coverage of the total capitalization of each market, with industry weightings approximating the total market's weightings is established. Finally, companies are selected based on liquidity, float, and cross-ownership to fulfill these goals.

In contrast, the IFC's order of preference is: size, liquidity, and industry. The IFC primarily targets the largest and most actively traded stocks in each market, with a goal of 60 percent of total market capitalization at the end of each year. As a second objective, the index targets 60 percent of the trading volume during the year. Industry is of tertiary priority.

ING Baring's indices focus on foreign institutional investibility for the global emerging markets. Their indices only contain the most accessible securities in the 20 markets they track. As a result, the number of securities tracked by BEMI is far less than MSCI and IFC.³ Aside from investibility, the primary factor for both company and country selection is liquidity. ING Barings considers other factors, including frequent financial reporting and the availability of high-quality data.

Although there are some hierarchical differences in the structure of construction, there is little difference in the behavior of the IFCG and the EMG. Table 1A details the difference between the IFCG and the EMG returns over identical samples for each index. The data are available through June 1996. Of the 22 countries where there is MSCI and IFC data, the returns indices have greater than 94 percent correlation. The volatility differences are quite small, as is the tracking error of the two indices.⁴

The only country where substantial deviations occur is Argentina. The IFC index produced a 10.3 percent lower average return and a 20.8 percent lower volatility. For this country, the correlation between the IFC index and the MSCI index is only 76 percent. However, much of the tracking error is due to 1988–1989 data. When we redo the comparison for Argentina beginning in January 1990, the tracking error drops from 61.9 percent to 10.6 percent. The correlation increases from 76 percent to 99 percent. There is no difference in the mean returns and little difference in the volatilities. Hence, even for Argentina, there does not appear to be a substantive difference between the MSCI and IFC indices.

Table 1B examines the differences between the MSCI free and the BEMI investible indices. The average tracking error is 9.6 percent. The countries with the highest tracking errors are Argentina, Brazil, and Tur-

TABLE 1A. Comparison of IFC and MSCI Emerging Market Global Indices

Country	Start Date	Ave. Return Difference IFCG-MSCI	Volatility Difference IFCG-MSCI	Tracking Error IFCG-MSCI	Correlation IFCG vs. MSCI
Argentina	Jan-88	10.3%	-20.8%	61.0%	0.76
Brazil	Jan-88	-1.9%	2.3%	19.1%	0.96
Chile	Jan-88	-1.7%	-0.8%	7.5%	0.96
Colombia	Jan-93	3.2%	-1.6%	7.8%	0.96
Greece	Jan-88	-6.6%	0.8%	11.8%	0.96
India	Jan-93	-4.5%	-1.7%	6.5%	0.98
Indonesia	Jan-90	1.0%	2.2%	8.9%	0.96
Jordan	Jan-88	4.4%	0.0%	11.7%	0.76
Malaysia	Jan-88	-0.6%	0.1%	4.7%	0.98
Mexico	Jan-88	-1.2%	-1.3%	10.8%	0.96
Pakistan	Jan-93	0.1%	2.1%	4.4%	0.99
Peru	Jan-93	0.5%	2.6%	6.8%	0.99
Philippines	Jan-88	-1.4%	-0.1%	9.7%	0.95
Poland	Jan-93	8.7%	3.2%	14.6%	0.99
Portugal	Jan-88	0.2%	0.5%	6.3%	0.96
South Africa	Jan-93	1.2%	-0.2%	3.1%	0.99
South Korea	Jan-88	0.2%	0.3%	6.6%	0.97
Sri Lanka	Jan-93	-1.3%	-0.4%	5.8%	0.98
Taiwan	Jan-88	-1.1%	-1.1%	7.1%	0.99
Thailand	Jan-88	-0.8%	0.5%	5.2%	0.98
Turkey	Jan-88	-2.8%	-2.6%	21.8%	0.94
Venezuela	Jan-93	3.0%	-2.0%	9.1%	0.98
Average		0.4%	-0.8%	11.4%	0.95

Monthly returns in US Dollars.

Data through June 1996.

Source: IFC Global Indices, MSCI EM Global Indices.

key. Nevertheless, the correlation of the indices averages 95 percent and is above 94 percent in 14 of the 17 countries.

Table 1C measures the differences between the Barings and IFC investibles. The tracking error is slightly less than the BEMI-MSCI Free, at 9.4 percent. The average correlation of the indices is 96 percent. There are only three countries of 18 that have correlations less than 94 percent.

The IFC family of indices presents the longest history and, as a result, we choose to focus on the IFC. In addition, we study total market returns measured in U.S. dollars. The local currency returns are not, in general, available to international investors. Furthermore, hedged returns are not available either. Table 2 presents the total sample of emerging

TABLE 1B. Comparison of Barings and MSCI Emerging Market Indices

Country	Start Date	Ave. Return Difference BEMI-MSCI	Volatility Difference BEMI-MSCI	Tracking Error BEMI-MSCI	Correlation IFCG vs. BEMI-MSCI
Argentina	Jan-92	-2.1%	-4.0%	13.7%	0.93
Brazil	Jan-92	5.7%	-3.2%	19.5%	0.90
Chile	Nov-93	1.4%	0.9%	8.7%	0.94
Colombia	May-95	1.6%	0.3%	6.1%	0.97
Greece	Jan-92	-5.6%	1.7%	6.3%	0.97
Indonesia	Jan-92	5.5%	-3.9%	8.5%	0.96
Malaysia	Jan-92	-3.0%	-1.6%	6.3%	0.97
Mexico*	Jan-92	2.1%	1.1%	11.3%	0.96
Pakistan	Jun-93	-11.7%	2.0%	9.9%	0.94
Peru	Jun-93	3.2%	1.6%	11.5%	0.96
Philippines*	Jan-92	-3.5%	4.1%	8.1%	0.98
Portugal	Jan-92	-0.4%	-0.8%	5.8%	0.96
South Africa	Jun-95	-6.0%	4.4%	9.8%	0.85
South Korea	Jan-92	3.4%	0.6%	7.3%	0.96
Taiwan	Jan-92	-4.4%	4.5%	7.1%	0.99
Thailand	Jan-92	-2.6%	0.7%	7.9%	0.96
Turkey	Jan-92	-6.7%	2.6%	15.4%	0.96
Average		-1.4%	0.6%	9.6%	0.95

Monthly returns in US Dollars.
Data through June 1996.

Source: Barings Emerging Market Indices, MSCI EM (*Free where applicable) Indices.

markets followed by the IFC and some summary measures of capitalization (in U.S. dollars) along with the number of countries in each index and the weight in the IFC Composite as of June 1996.

Summary Analysis of Emerging Market Returns

Some summary statistics for the emerging market returns over the common period of July 1991 to June 1996 are presented in Table 3 for the sample of 27 countries followed by the IFC global indices. We examine the mean returns, volatility, skewness, and kurtosis of the returns.

Consistent with the evidence in Harvey (1995) and Bekaert and Harvey (1996a), there are significant deviations from normality in the distributions of many of the emerging market returns. For the past five years, normality can be rejected by the Bera-Jarque (1982) test in 13 of 20 countries.

TABLE 1C. Comparison of Barings and IFC Emerging Market Investable Indices

Country	Start Date	Ave. Return Difference BEMI-IFCI	Volatility Difference BEMI-IFCI	Tracking Error BEMI-IFCI	Correlation IFC vs. BEMI
Argentina	Jan-92	4.3%	3.0%	13.0%	0.93
Brazil	Jan-92	6.4%	4.8%	20.3%	0.90
Chile	Nov-93	2.8%	0.6%	8.4%	0.95
China	Feb-96	-2.1%	-6.6%	7.1%	0.99
Colombia	May-95	-3.2%	-2.1%	5.0%	0.98
Greece	Jan-92	-5.8%	-0.1%	3.6%	0.99
Indonesia	Jan-92	9.1%	3.7%	7.9%	0.96
Malaysia	Jan-92	-1.3%	2.9%	7.7%	0.96
Mexico	Jan-92	1.4%	-0.3%	8.7%	0.97
Pakistan	Jun-94	-2.5%	0.1%	8.5%	0.96
Peru	Jun-94	-1.1%	-3.3%	12.0%	0.95
Philippines	Jan-92	-3.4%	-1.1%	8.9%	0.97
Portugal	Jan-92	0.7%	0.6%	5.8%	0.96
South Africa	Jun-95	-5.7%	-4.1%	9.2%	0.89
South Korea	Jan-92	-0.6%	-0.7%	7.7%	0.96
Taiwan	Jan-92	-5.2%	-2.6%	5.4%	0.99
Thailand	Jan-92	-3.1%	1.4%	8.1%	0.97
Turkey	Jan-92	-1.6%	3.4%	21.0%	0.94
Average		-0.6%	0.0%	9.4%	0.96

Monthly returns in US Dollars.
Data through June 1996.

Source: Barings Emerging Market Indices, IFC Emerging Market Indices.

We also investigate how these summary statistics change from the 1980s to the 1990s. Figures 1 and 2 show the means and volatilities in the 1980s and 1990s. Most of the capital market liberalizations took place before 1992. The graph shows that the mean returns in many countries are much lower in the 1990s compared to the 1980s. For example, the four countries who had greater than 65 percent returns in the 1980s all had less than 25 percent returns in the 1990s. Volatility is also lower in many countries. These results support the idea presented in Bekaert and Harvey (1995, 1996a) that time-varying world market integration impacts the distribution of returns.

We also detail the skewness and excess kurtosis over the 1980s and 1990s. Figures 3A and 3B show that the absolute value of the skewness parameter has shrunk for many (12 of 19) countries from the 1980s to the

TABLE 2. Market Weights in the IFC Indices—June 1996

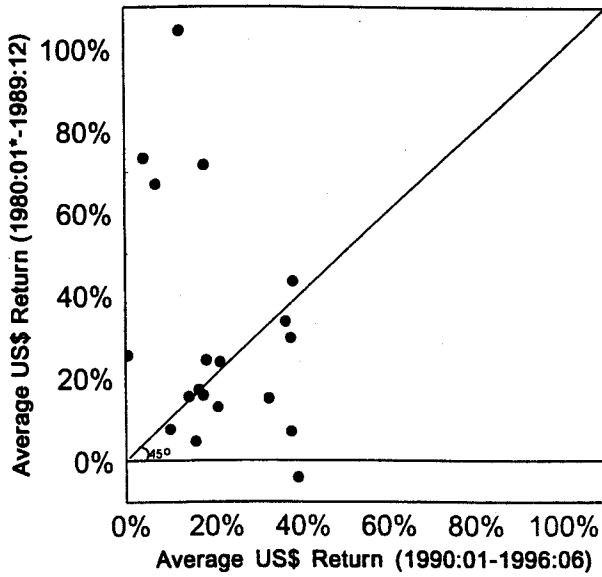
Market	IFC Global Indices			IFC Investable Indices		
	No. of Stocks	Market Capitalization (US\$ Mil)	Weight in IFC Composite	No. of Stocks	Market Capitalization (US\$ Mil)	Weight in IFC Composite
<i>Latin America</i>						
Argentina	35	25647	2.1	31	25461	3.8
Brazil	86	113553	9.4	68	76216	11.3
Chile	47	43085	3.6	43	42655	6.3
Colombia	28	6875	0.6	15	5519	0.8
Mexico	81	70922	5.9	65	63547	9.4
Peru	37	8423	0.7	21	7811	1.2
Venezuela	16	3814	0.3	5	2576	0.4
<i>East Asia</i>						
China	172	46186	3.8	24	3534	0.5
Korea	151	110558	9.2	145	20580	3.1
Philippines	46	46420	3.9	35	23430	3.5
Taiwan, China	83	154781	12.9	83	31561	4.7
<i>South Asia</i>						
India	131	79987	6.7	76	16670	2.5
Indonesia	45	55767	4.6	44	28254	4.2
Malaysia	123	165530	13.8	123	138973	20.6
Pakistan	68	7153	0.6	25	5417	0.8
Sri Lanka	44	1071	0.1	5	372	0.1
Thailand	73	91149	7.6	72	29156	4.3
<i>EMEA</i>						
Czech Republic	69	13541	1.1	5	5653	0.8
Greece	53	10416	0.9	47	9899	1.5
Hungary	16	3592	0.3	8	3069	0.5
Jordan	51	3029	0.3	8	1022	0.2
Nigeria	35	2090	0.2	0	0	0.0
Poland	23	4935	0.4	22	4918	0.7
Portugal	30	13045	1.1	26	9634	1.4
South Africa	63	99577	8.3	63	99577	14.7
Turkey	54	19783	1.6	54	19783	2.9
Zimbabwe	23	1831	0.2	5	420	0.1
<i>Regions</i>						
Composite	1683	1202760	100.0	1118	675707	100.0
Latin America	330	272319	22.6	248	223785	33.1
Asia	936	758603	63.1	632	297947	44.1
EMEA	417	171838	14.3	238	153976	22.8

TABLE 3. Summary Statistics: July 1991-June 1996

Country	Start Date	Arithmetic Return	Geometric Return	Standard Deviation	Skewness	Kurtosis	First Order Autocorrelation	Beta MSCI World	Beta MSCI AC World	Beta MSCI Composite
Argentina	Jul-91	38.6%	29.5%	56.6%	3.08	16.94	0.06	1.54	1.71	0.89
Brazil	Jul-91	36.0%	28.3%	48.6%	0.79	1.72	0.11	1.12	1.36	1.31
Chile	Jul-91	22.8%	21.4%	26.1%	0.36	-0.32	0.21	0.28	0.40	0.67
China	Jan-93									
Colombia	Jul-91	39.3%	37.3%	40.3%	1.33	1.95	0.52	0.03	0.09	0.31
Czech Republic	Jan-95									
Greece	Jul-91	3.4%	0.8%	22.6%	-0.40	0.58	0.02	0.45	0.46	0.24
Hungary	Jan-93									
India	Jul-91	15.6%	9.4%	37.2%	0.61	1.24	0.23	-0.70	-0.57	0.74
Indonesia	Jul-91	12.9%	9.3%	28.6%	0.14	0.18	0.16	0.48	0.64	1.02
Jordan	Jul-91	8.3%	7.6%	14.3%	0.36	-0.72	0.07	0.14	0.15	0.10
Malaysia	Jul-91	19.9%	18.5%	23.9%	-0.04	1.03	-0.14	0.57	0.67	0.88
Mexico	Jul-91	11.2%	4.2%	36.3%	-1.10	2.39	0.31	0.83	1.09	1.35
Nigeria	Jul-91	42.1%	17.7%	69.5%	1.13	11.78	-0.03	1.15	1.13	-0.07
Pakistan	Jul-91	20.7%	16.0%	35.3%	1.07	1.94	0.29	0.12	0.21	0.53
Peru	Jan-93									
Philippines	Jul-91	27.0%	25.9%	28.6%	1.34	4.46	0.04	0.45	0.60	1.06
Poland	Jan-93									
Portugal	Jul-91	11.5%	10.1%	19.4%	0.32	1.67	0.00	0.98	1.00	0.22
South Africa	Jan-93									
South Korea	Jul-91	7.2%	3.6%	27.5%	0.85	1.07	0.03	0.50	0.62	0.75
Sri Lanka	Jan-93									
Taiwan	Jul-91	11.6%	5.3%	38.5%	2.08	6.30	0.08	0.86	1.09	1.49
Thailand	Jul-91	22.7%	20.3%	29.6%	1.08	1.98	0.02	0.15	0.31	1.11
Turkey	Jul-91	20.0%	2.6%	61.0%	0.58	0.39	0.04	-0.22	-0.09	0.88
Venezuela	Jul-91	4.1%	-7.7%	47.7%	-0.45	1.53	-0.17	0.46	0.57	0.63
Zimbabwe	Jul-91	5.6%	-0.3%	35.0%	0.36	0.81	0.31	0.89	0.96	0.55
MSCI World	Jul-91	12.4%	12.5%	10.2%	-0.23	-0.37	-0.25	1.00	1.01	0.19
MSCI AC World	Jul-91	12.2%	12.4%	10.1%	-0.14	-0.43	-0.21	0.98	1.00	0.24
IFCG Composite	Jul-91	12.1%	11.3%	16.7%	0.89	3.15	0.38	0.51	0.67	1.00

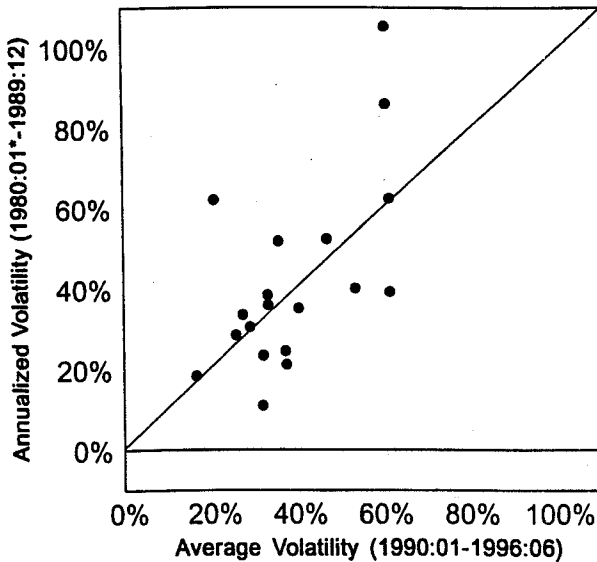
Source: IFC Global Indices, MSCI EM Indices. Monthly returns in US dollars.

FIGURE 1. Emerging Market Returns, 1980s vs. 1990s
IFC Global Indices—Total Returns US\$



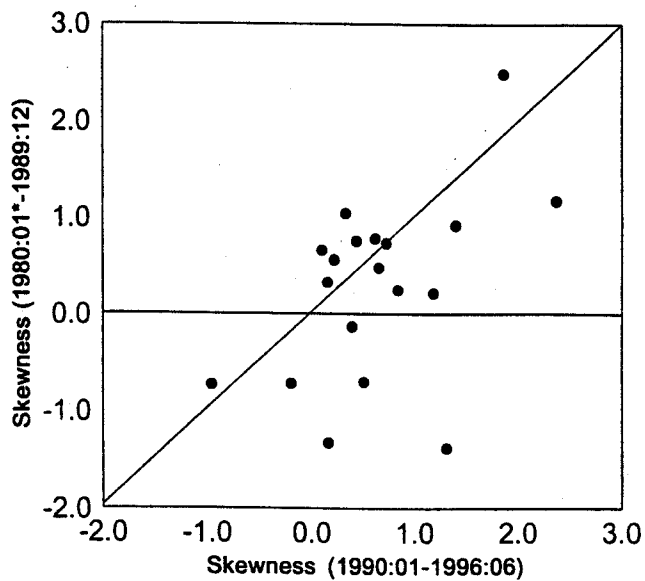
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FIGURE 2. Emerging Market Volatility, 1980s vs. 1990s
IFC Global Indices—Total Returns US\$



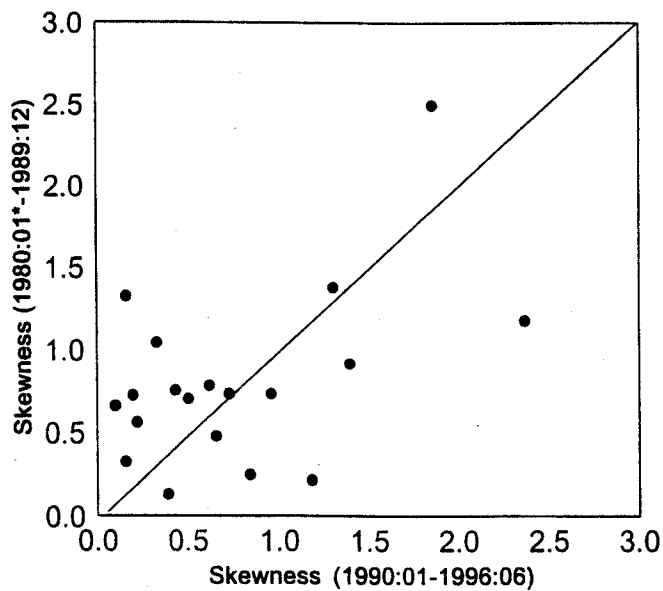
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FIGURE 3A. Emerging Market Skewness, 1980s vs. 1990s
IFC Global Indices—Total Returns US\$



*Or inception, if later.

FIGURE 3B. Emerging Market Absolute Skewness, 1980s vs. 1990s
IFC Global Indices—Total Returns US\$



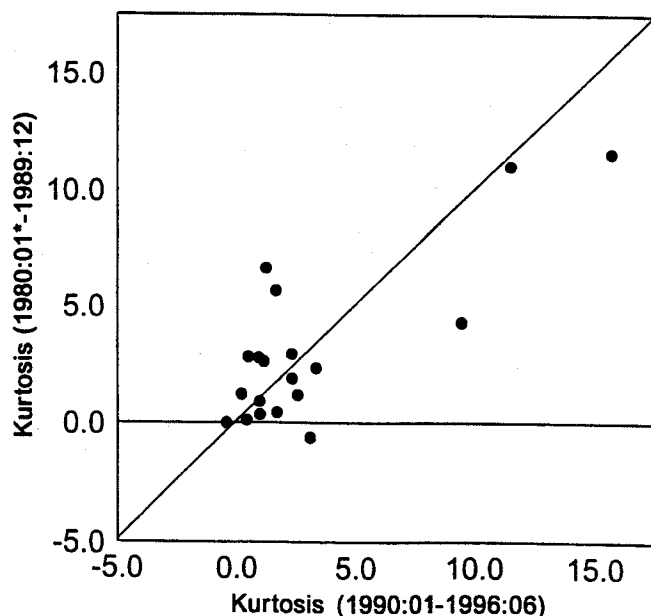
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1990s. For excess kurtosis, there is no particular pattern over the 1980s and 1990s as is clear from Figure 4.

We looked at the patterns in correlations following Bekaert and Harvey (1996a) who present a model of conditional correlation where the means, volatilities, and covariances are influenced by both local and world information. Their model predicts that as a market becomes more integrated with world capital markets, the relative influence of world and local information changes. Figure 5 shows that the correlations generally have increased over the longer horizon. Correlations have increased in 11 of 19 countries, remained the same in six countries and decreased in only two countries. This suggests that the benefits of diversification have decreased for many emerging markets. However, the correlations are still sufficiently low to attract most global portfolio investors.

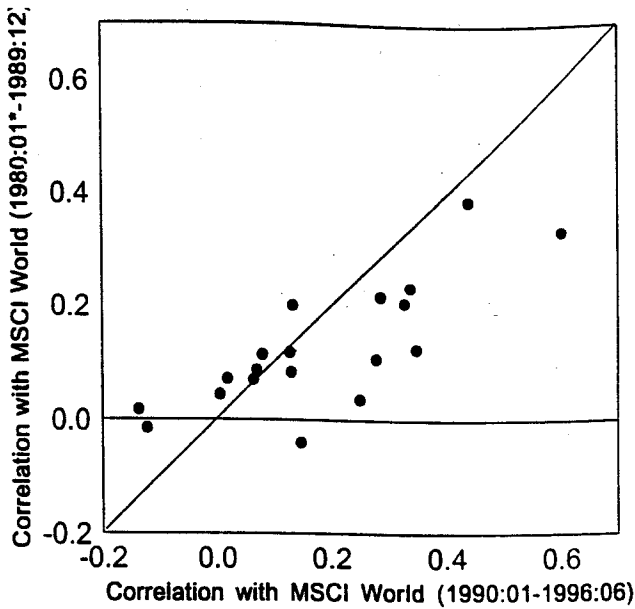
The betas presented in Figure 6 mimic the correlations. For many countries, the beta with respect to the MSCI-all countries index has increased from the 1980s to the 1990s. This suggests that country returns are more affected by world market returns, and this is consistent with the impact of degree of capital market integration detailed in Bekaert and Harvey (1995, 1996a).

FIGURE 4. Emerging Market Excess Kurtosis, 1980s vs. 1990s
IFC Global Indices—Total Returns US\$



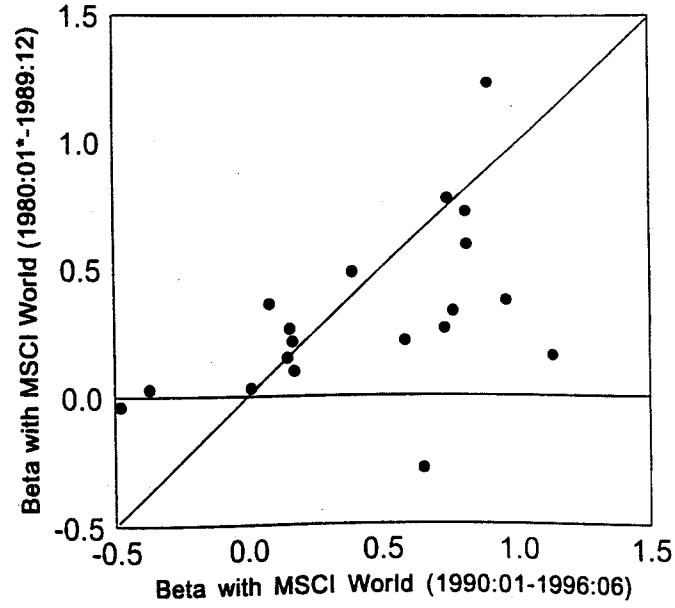
*Or inception, if later.

FIGURE 5. Emerging Market Correlations, 1980s vs. 1990s IFC Global Indices—Total Returns US\$



*Or inception, if later.

FIGURE 6. Emerging Market Betas, 1980s vs. 1990s IFC Global Indices—Total Returns US\$



*Or inception, if later.

Cross-Sectional Portfolio Strategies for Emerging Market Returns

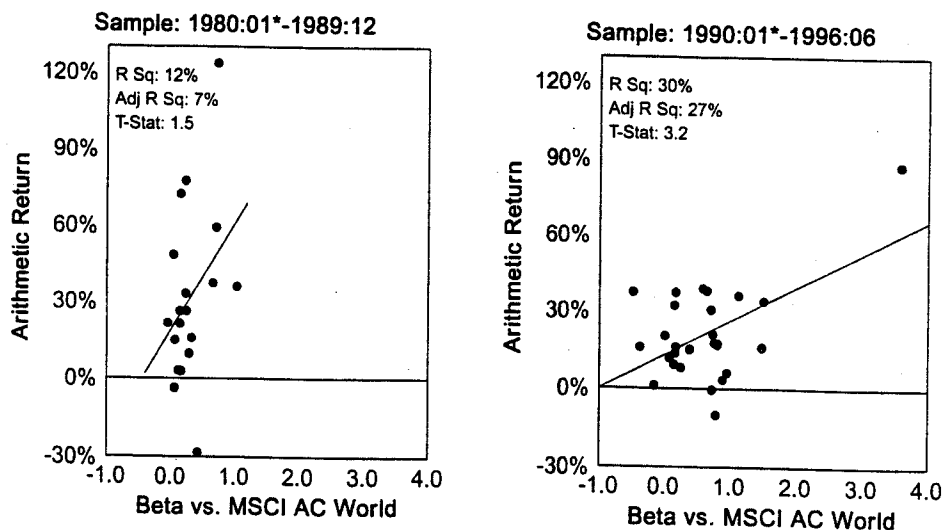
Asset Pricing Theory and Emerging Market Returns

Risk is notoriously difficult to measure in emerging market returns. A simple implementation of the capital asset pricing model (CAPM) of Sharpe (1964) and Lintner (1965) is problematic. In these markets, there is little relation between the risk measured by the CAPM and expected returns.

Consider Figure 7 which plots the average returns versus beta against the world-all countries index over the 1980s and the 1990s. The betas over the past five years, July 1991 to June 1996 are presented in Table 3. In the 1980s, there is a positive relation between beta and average returns, the t-statistic on the beta coefficient is 1.5, which is marginally significant at conventional levels.

The beta-average returns relation appears stronger over the 1990s. However, as is obvious from Figure 7, there is one influential observation—Poland—which had a high average return and very high beta. If the average returns are regressed on the betas, the t-statistic is 3.2, and the R-square measure is 27 percent. When Poland is removed from the analysis, the t-statistic drops to 0.4 and the R-square is 0 percent.

FIGURE 7. Risk and Return
IFCG Indices



*Or inception, if later.

The failure of the CAPM to explain emerging market returns could be interpreted in a number of ways. First, following Roll and Ross (1994) and Kandel and Stambaugh (1995), the benchmark world portfolio may not be mean-variance efficient. Second, perhaps a multifactor representation, following Merton (1973), Ross (1976), and Chen, Roll, and Ross (1986) is more appropriate for emerging markets. Third, following Ferson and Harvey (1991), an examination of average returns and average risk could be misleading if the risk and expected returns change through time. Finally, the CAPM is not the appropriate framework if these markets are not integrated into world capital markets. In integrated capital markets, the projects of identical risk command identical expected returns, irrespective of domicile [see Stulz (1981a,b); Solnik (1983); Campbell and Hamao (1992); Chan, Karolyi, and Stulz (1992); Heston, Rouwenhorst, and Wessels (1995); Bekaert (1995); Harvey (1991, 1995); and Bekaert and Harvey (1995)].

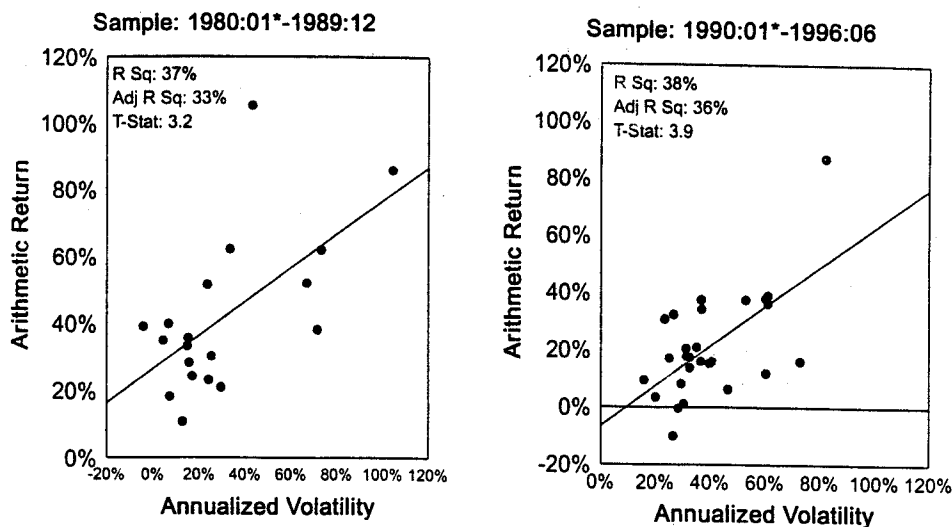
It is likely that many of these markets are not fully integrated into world capital markets. As a result, the beta suggested by the CAPM may not be that useful in explaining the cross-section of average returns. Indeed, in completely segmented capital markets, the volatility is the correct measure of risk. The relation between average returns and volatility is detailed in Figure 8. Similar to the beta graph, there is a positive relation which is now significant at conventional levels of confidence (R-square is 33 percent in the 1980s, and 36 percent in 1990s). However, it should be noted that even among the segmented markets, the relation between volatility and expected returns may appear weak because the premium accorded to volatility could vary across countries [see Bekaert and Harvey (1995)].

We examine two attributes based on asset pricing theory in our portfolio strategies: the trailing three-year beta against the MSCI-all countries index and the trailing three-year conditional volatility. If markets were perfectly integrated and a world version of the CAPM held, then higher-beta countries should earn higher expected returns. If markets were perfectly segmented and a local version of the CAPM held, then higher-volatility countries should have higher expected returns, assuming that risk aversion is the same across countries.

Alternative Risk Attributes

Following Ferson and Harvey (1994), Erb, Harvey, and Viskanta (1995a, 1996b) and others, we examine the relation between some country-specific risk attributes and the distribution of returns. We group these attributes into the following categories:

FIGURE 8. Risk and Return
IFCG Indices



*Or inception, if later.

Survey-Based Measures

The first of these measures is *Institutional Investor's* country credit rating (IICCR). *Institutional Investor's* country credit ratings are based on a survey of leading international banks who are asked to rate each country on a scale from zero to 100 (where 100 represents the maximum creditworthiness). *Institutional Investor* averages these ratings, providing greater weights to respondents with higher worldwide exposure and more sophisticated country analysis systems. These ratings have appeared in the March and September issues of *Institutional Investor* since 1979, and the ratings now cover over 135 countries, for additional details see Erb, Harvey, and Viskanta (1996a).

Whenever a survey or expert panel is used to subjectively rate creditworthiness, it is hard to exactly define the parameters taken into account. At any given point in time, an expert's recommendation will be based on those factors that the expert feels are relevant. In a recent survey of participants, the most important factors for assessing emerging markets' credit rating were (1) debt service, (2) political outlook, (3) economic outlook, (4) financial reserves/current account, and (5) trade balance/foreign direct investment.

The next four measures are from Political Risk Services' *International Country Risk Guide*. They include the political risk index (ICRGP), economic risk index (ICRGE), financial risk index (ICRGF), and the composite risk index (ICRGC). The political index is studied in Harlow (1993) and Diamonte, Liew, and Stevens (1996). Erb, Harvey, and Viskanta (1996b) examine the information in all four of the ICRG risk indices.

On a monthly basis, *ICRG* uses a blend of quantitative and qualitative measures to calculate risk indices for political, financial, and economic risk, as well as a composite index. Five financial factors, 13 political and six economic factors are used. Each factor is assigned a numerical rating within a specified range. A higher score represents lower risk; for additional details see Erb, Harvey, and Viskanta (1996b).

The composite index is simply a linear combination of the three sub-indices. The political risk is weighted twice that of either financial or economic risk. *ICRG*, as well as many of the other providers, think of country risk as being composed of two primary components: ability to pay and willingness to pay. Political risk is associated with a willingness to pay, while financial and economic risk are associated with an ability to pay.

We also include *Euromoney's* country credit risk (EMCCR). *Euromoney's* rating system is based on both qualitative and quantitative methods. The political component is a qualitative survey of experts. The economic component is quantitative and based on *Euromoney's* global economic projections. The financial component is also quantitative and based on (1) debt indicators, (2) debt in default or rescheduled, (3) credit rating (Moody's or Standard and Poors), (4) access to bank finance, (5) access to short-term financing, and (6) access to international bond and syndicated loan markets.

Macroeconomy

The survey-based measures indirectly gauge the future macroeconomic conditions in each country. One of the primary economic measures that influences these ratings is the inflationary environment. Ferson and Harvey (1993, 1994) argue that asset exposure versus world inflation helps explain both the cross-section and time-series of expected returns in 18 developed markets. Erb, Harvey, and Viskanta (1995b) examine the interaction of inflation and asset returns in emerging markets. We use a trailing 12-month measure of inflation represented by the consumer price index reported in the International Financial Statistics database of the International Monetary Fund. This variable is lagged by six months to

allow for reporting delays. In the case of Taiwan, who is not a member of the IMF, we use inflation reported in their national accounts.

Demographics

Bakshi and Chen (1994) propose a life-cycle investment hypothesis. Younger investors have a higher demand for housing than for equities. As age increases, more investment is allocated to the stock market. As a result, a rise in average age should be accompanied by a rise in the stock market. Bakshi and Chen (1994) find support for this hypothesis using U.S. data. Erb, Harvey, and Viskanta (1996c) find that average-age growth explains the risk premiums in a number of developed countries. We examine three variables: population growth, average age, and average-age growth. All of these data are based on annual statistics compiled by the United Nations.

Market Integration

Bekaert and Harvey (1996a) argue that the size of the trade sector to the total economy is a reasonable proxy for the openness of both the economy and the investment sector. They use exports plus imports divided by GDP as an instrument for market integration. This variable, along with other proxies for market integration, is used in a function which assigns time-varying weights to world versus local information. Bekaert and Harvey find that increases in this ratio are associated with the increased importance of world relative to local information for both the mean and the volatility of the country's stock returns.

Bekaert and Harvey (1996a) also suggest that the size of the stock market serves as a proxy for the degree of financial integration. Larger market size suggests that the country is more likely to be integrated into world capital markets. We specify this variable as the ratio of market capitalization to the previous year's gross domestic product (GDP).

Persistence

A number of researchers have pointed to momentum as an important firm-specific attribute [see Jegadeesh and Titman (1993), Asness, Liew and Stevens (1996), Ferson and Harvey (1996)]. We examine two measures of momentum: the lagged monthly return and the lagged quarterly return from four months ago to one month ago (i.e., the quarterly return lagged by an extra month).

Size

We follow a number of papers, beginning with Banz (1981), that document a relation between firm size and expected returns. Recently, Berk (1995, 1996) has argued that size measured by market capitalization should be a proxy for risk. This attribute has recently been studied on a country-level basis by Keppler and Traub (1993) and by Asness, Liew, and Stevens (1996) who find that size helps explain the cross-section of expected returns in a sample of developed markets.

Fundamental Valuation Measures

Following a number of papers that link "fundamental attributes" to asset valuation [see, for example, Chan, Hamao, and Lakonishok (1991); Keppler (1991); Fama and French (1992); and Ferson and Harvey (1994)], we use three valuation ratios: price to book value, price to earnings, and price to dividend. Value-weighted indices of company-level data are produced by the IFC. Ferson and Harvey (1996) show that some of these ratios, most notably price to book, appear to capture information regarding changing risk in a sample of 21 developed countries. In addition, sudden changes in these ratios may also reflect changes in the degree of market integration [see Bekaert and Harvey (1996b)]. A change in the marginal investor from domestic to international could lead to a change in the fundamental valuation ratios and a change in the riskiness.

Summary Statistics

Some summary measures for many of these attributes are included in Table 4. The March 1996 value of the attribute is reported. In the lower panel, the rank/order correlation of all of the attributes is reported. Most of the correlations follow from intuition. Consider the ICRG indices. These indices are highly correlated with the *Euromoney* and *Institutional Investor* country credit risk measures. All of the survey measures are negatively correlated with inflation (high inflation means low rating). The most negative correlation with inflation is found for the ICRG economic risk index. Average age is positively correlated with the survey risk indices, indicating that low average-age is associated with a low rating. Size is positively related to the ICRG ratings (smaller markets appear riskier). There is also a positive relation between the size of the trade sector and the ICRG ratings. The lowest correlations are found for the ICRG indices and the fundamental attributes.

TABLE 4. Country Attributes—March 1996

Country	ICRGC	ICRGP	ICRGF	ICRGE	IICCR	EMCRR	IN-FLATE	TRDGP	MKCP-GDP	POPGR	AAGEGR	AVERAGE	EMKTCAP	BETA	VOL	P/E	P/B	P/D
Argentina	72.5	76.0	35.0	34.0	38.4	57.2	0.7%	0.13	0.08	1.2%	0.3%	30.9	22308	1.9	35%	16.7	1.4	29.2
Brazil	65.5	64.0	34.0	33.0	35.8	55.4	29.2%	0.14	0.23	1.7%	0.8%	27.1	93940	0.6	43%	40.3	0.5	28.9
Chile	80.5	76.0	43.0	41.5	59.2	79.8	7.6%	0.42	0.88	1.6%	0.6%	29.0	39421	1.0	27%	15.9	1.9	26.1
China	72.0	68.0	38.0	38.0	56.4	70.8			0.07	1.0%	0.9%	29.6	29495	0.8	72%	31.8	2.0	37.6
Colombia	66.0	58.0	39.0	35.0	46.7	62.6	19.1%	0.61	0.12	1.6%	0.9%	26.2	6659	0.1	28%	12.0	1.0	36.8
Czech Rep.	82.5	82.0	42.0	40.5	60.1	74.6	8.6%	0.60	0.29	0.3%	0.6%	38.9	11200	0.9	18%	13.4	1.0	87.7
Greece	75.0	76.0	38.0	36.0	49.8	73.3	8.5%	0.50	0.02	-0.5%	0.2%	37.3	2957	1.9	43%	21.4	1.1	24.6
Hungary	76.0	79.0	40.0	32.5	43.6	67.7	29.6%	0.17	0.19	1.9%	0.5%	26.0	71141	0.4	29%	14.3	2.3	65.8
India	67.0	62.0	36.0	36.0	45.8	66.7	9.7%	0.44	0.22	1.5%	0.8%	26.2	54571	1.1	30%	26.6	3.5	112.4
Indonesia	70.5	65.0	39.0	37.0	51.8	73.2	10.5%	0.30	0.58	4.6%	0.3%	21.4	3276	0.2	15%	15.6	1.7	50.0
Jordan	74.5	73.0	38.0	38.0	30.5	54.3	7.0%	1.30	0.97	2.3%	0.6%	24.8	162134	1.1	29%	28.4	3.7	83.3
Malaysia	79.5	75.0	43.0	41.0	68.4	84.5	3.3%	1.66	1.97	2.0%	0.9%	24.8	65162	1.6	42%	18.6	1.7	117.6
Mexico	69.5	66.0	40.0	33.0	41.2	58.8	43.8%	0.37	0.25	3.0%	0.0%	21.5	1712	1.4	81%	12.2	3.3	23.3
Nigeria	50.5	54.0	23.0	24.0	14.8	32.3	69.9%	0.41	0.04	3.0%	0.0%	21.5	1712	1.4	29%	16.4	2.1	45.7
Pakistan	60.0	54.0	34.0	31.5	29.5	50.7	9.8%	0.35	0.13	2.8%	0.3%	21.9	6647	0.1	38%	13.8	2.7	90.1
Peru	64.0	59.0	34.0	34.5	27.2	47.5	11.6%	0.20	0.14			24.0	7422	1.6	32%	21.2	3.8	153.8
Philippines	68.5	63.0	37.0	36.5	38.1	63.5	12.3%	0.54	0.46	2.1%	0.6%	24.0	39729	1.2	32%	21.2	3.8	153.8
Poland	77.5	77.0	41.0	37.0	40.2	56.5	20.4%	0.38	0.02	0.1%	0.6%	34.3	3893	4.0	88%	8.5	1.8	84.7
Portugal	83.5	83.0	43.0	41.0	68.8	81.9	2.5%	0.56	0.13	-0.1%	0.6%	36.6	11405	1.0	19%	14.8	1.5	35.1
South Africa	76.0	75.0	41.0	35.5	46.3	64.9	6.8%	0.38	1.28	2.2%	0.2%	25.0	105981	0.9	25%	19.2	2.7	49.0
South Korea	82.0	77.0	46.0	41.0	72.0	85.0	4.5%	0.54	0.32	1.0%	1.0%	30.5	125037	0.6	20%	21.0	1.3	54.3
Sri Lanka	66.5	61.0	36.0	35.5	32.5	50.6	11.8%	0.81	0.11	1.3%	0.9%	28.2	1315	0.0	32%	8.9	1.5	39.8
Taiwan	83.0	75.0	48.0	43.0	78.9	91.5	3.0%	0.87	0.48	1.0%	1.2%	27.9	114475	1.2	38%	21.6	2.8	85.5
Thailand	76.5	69.0	43.0	41.0	63.4	82.1	5.4%	0.65	0.66	1.9%	0.6%	26.5	95036	1.2	33%	20.5	3.1	55.9
Turkey	60.5	55.0	36.0	30.0	40.4	58.4	78.9%	0.32	0.14	2.2%	0.8%	25.1	20641	0.6	64%	12.2	3.7	40.2
Venezuela	64.5	65.0	33.0	31.0	30.1	44.7	78.1%	0.40	0.05	2.2%	0.8%	25.1	2652	0.1	49%	16.3	2.6	63.3
Zimbabwe	63.5	66.0	28.0	32.5	32.2	50.5	25.8%	0.75	0.16	2.4%	0.2%	21.4	1677	0.4	33%	8.2	1.4	21.1

TABLE 4 (continued)

Rank Correlations

Country	ICRGC	ICRGP	ICRGF	ICRGE	IICCR	EMCRR	INFLATE	TRDGD	MKCPGDP	POPGR	AAGEGR	AVERAGE	MKTAP	BETA	VOL	P/E	P/B
ICRGC	1.00	0.89	0.90	0.84	0.82	0.82	-0.70	0.40	0.38	-0.59	0.25	0.57	0.47	0.36	-0.38	0.28	-0.17
ICRGP		1.00	0.68	0.59	0.61	0.61	-0.55	0.24	0.13	-0.59	0.04	0.61	0.23	0.40	-0.27	0.15	-0.36
ICRGF			1.00	0.83	0.88	0.88	-0.59	0.43	0.50	-0.50	0.42	0.44	0.58	0.28	-0.38	0.31	-0.03
ICRGE				1.00	0.79	0.81	-0.76	0.52	0.55	-0.39	0.43	0.33	0.54	0.15	-0.47	0.29	0.03
IICCR					1.00	0.97	-0.61	0.39	0.41	-0.58	0.54	0.53	0.66	0.16	-0.36	0.36	-0.02
EMCRR						1.00	-0.65	0.38	0.48	-0.54	0.44	0.48	0.71	0.22	-0.40	0.45	0.06
INFLATE							1.00	-0.31	-0.49	0.24	-0.10	-0.27	-0.50	-0.14	0.66	-0.28	0.02
TRDGD								1.00	0.30	0.02	0.18	-0.11	-0.06	-0.19	-0.43	-0.02	0.06
MKCPGDP									1.00	0.35	0.11	-0.38	0.69	-0.05	-0.50	0.38	0.24
POPGR										1.00	-0.47	-0.95	-0.09	-0.37	-0.04	-0.05	0.35
AAGEGR											1.00	0.39	0.36	-0.14	-0.04	0.26	-0.12
AVERAGE												1.00	0.07	0.30	0.02	0.02	-0.36
MKTAP													1.00	0.23	-0.21	0.68	0.26
BETA														1.00	0.35	0.22	0.20
VOL															1.00	0.05	0.13
P/E																1.00	0.15
P/B																	1.00
P/D																	

Legend	ICRGC	ICRGP	ICRGF	ICRGE	IICCR	EMCRR	INFLATE	TRDGD	MKCPGDP	POPGR	AAGEGR	AVERAGE	MKTAP	BETA	VOL	P/E	P/B
International Country Risk Guide Composite Index																	
International Country Risk Guide Political Index																	
International Country Risk Guide Financial Index																	
International Country Risk Guide Economic Index																	
Institutional Investor Country Credit Ratings																	
Euro money Country Risk Ratings																	
Annual Consumer Inflation: IFS Database																	
(Exports+Imports)/GDP: IFS Database																	
ICF Global Market Capitalization/GDP																	
Annual Growth in Population - UN Data																	
AAGEGR																	
Average Age of Population - UN Data																	
ICF Global Market Capitalization																	
ICF Global Beta with MSCI AC World - 36 months trailing																	
ICF Global Volatility - 36 months trailing																	
Trailing USD Total Return - Prior Month																	
Trailing USD Total Return - Months -4 to -2																	
ICF Global Price/Earnings Ratio																	
ICF Global Price/Book Ratio																	
ICF Global Price/Dividend Ratio																	

What Matters in Choosing an Emerging Market for Portfolio Investment?

Portfolio Approach

A commonly used technique in examining the cross-sectional importance of a fundamental variable is to form unique portfolios based on their ranking. We will examine the country risk variables by forming portfolios based on the risk level itself. These portfolios are investible with respect to the attribute. That is, lagged attribute information is used to determine which countries are in the portfolios, and the analysis is conducted out of sample. Given the small number of emerging markets, we examine only three portfolios: high, middle, and low attribute. In each case, we track the returns to portfolios that are equally weighted by country, those that are weighted by each country's equity market capitalization, and those that are weighted by value of trading volume. To reduce potential transactions costs, the minimum holding period that we consider is quarterly. We also examine strategies that have semiannual rebalancing.

Table 5A presents the results of the quarterly portfolio strategies over the January 1985–June 1996 period. This portfolio includes all the countries in the IFC–Global database. However, for much of this period many of the returns were not attainable due to investment restrictions [see Bekaert and Urias (1996)]. To address this problem, Table 5B examines the same strategies evaluated over the past five years. In the late 1980s and early 1990s, most of these markets experienced substantial liberalizations. Tables 5C and 5D display the same strategies with semiannual rebalancing. Tables 5E and 5F examine quarterly and semiannual strategies over the past five years using only the investible indices. The very last column in each of the tables reports the abnormal excess return with respect to the MSCI–all-country portfolio. The annualized abnormal returns are large in absolute magnitude for many of the attributes.

ICRG

Consider the results for the ICRG composite index (ICRGC). With equal weighting, the low-rating portfolio averaged 30.8 percent annual return with 30.3 percent volatility. The high-rating portfolio had both higher returns, 34.1 percent, and lower volatility of 27.6 percent. The alpha measure is 6.5 percent on an annual basis. The results are even more impressive with the capitalization weights. The alpha increases to 14.2 percent. The most impressive results occur over the past 5 years (Table 5B) where the capitalization-weighted alpha is 24.3 percent for the ICRGC.⁵ Similar results are documented for the semiannual holding periods in Tables 5C

TABLE 5A. Emerging Market Risk Level Portfolio Strategy
IFCG Indices—Quarterly Rebalancing: January 1985—June 1996

Risk Attribute	High Triffle					Low Triffle					Low-High Attribute															
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis		
<i>Equal Weighted</i>																										
ICRGC	30.8%	30.3%	0.82	16.3%*	1.59	6.53	56%	34.1%	27.6%	0.03	28.4%***	1.46	4.28	64%	3.3%	6.5%	36.5%	64%	3.3%	6.5%	36.5%	6.5%	36.5%	6.5%	36.5%	6.5%
ICRGP	31.6%	31.9%	0.94	15.8%*	0.72	4.32	69%	28.0%	20.4%	0.07	21.7%***	0.03	-0.12	51%	-3.6%	33.7%	33.7%	51%	-3.6%	33.7%	33.7%	33.7%	33.7%	33.7%	33.7%	33.7%
ICRGE	26.5%	29.0%	0.76	12.6%	1.76	8.38	52%	36.7%	34.0%	0.05	30.8%***	2.16	8.54	74%	10.2%	43.2%	43.2%	74%	10.2%	43.2%	43.2%	43.2%	43.2%	43.2%	43.2%	
IICCR	28.0%	28.7%	0.80	13.6%*	1.26	5.30	64%	40.5%	32.3%	0.44	30.3%***	0.20	-0.28	93%	12.6%	32.3%	32.3%	93%	12.6%	32.3%	32.3%	32.3%	32.3%	32.3%	32.3%	
EMCRR	28.3%	28.0%	0.84	13.7%*	1.37	5.71	32%	38.7%	28.3%	0.46	28.2%***	0.37	0.52	45%	10.5%	30.7%	30.7%	45%	10.5%	30.7%	30.7%	30.7%	30.7%	30.7%	30.7%	
	27.6%	27.9%	0.82	13.2%*	1.41	5.89	40%	45.2%	31.6%	0.62	32.9%***	0.44	0.16	57%	17.6%*	34.7%	34.7%	57%	17.6%*	34.7%	34.7%	34.7%	34.7%	34.7%	34.7%	
INFLATE	52.4%	35.9%	0.54	41.2%***	0.31	0.35	68%	21.3%	20.2%	0.48	10.5%*	0.71	1.93	64%	-31.1%***	32.5%	32.5%	64%	-31.1%***	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%	
TRDGD	28.6%	28.4%	0.85	13.7%*	1.40	5.67	37%	37.4%	30.7%	0.25	29.2%***	0.47	-0.08	40%	8.8%	33.0%	33.0%	40%	8.8%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	
MKCPGDP	23.8%	32.1%	0.84	9.0%	1.83	9.74	62%	46.6%	28.4%	-0.01	41.2%***	0.26	0.63	76%	22.8%**	38.2%	38.2%	76%	22.8%**	38.2%	38.2%	38.2%	38.2%	38.2%	38.2%	
POPGR	23.9%	19.1%	-0.02	18.6%***	0.03	0.55	27%	36.9%	33.7%	0.87	22.0%**	1.07	2.29	41%	13.0%	36.1%	36.1%	41%	13.0%	36.1%	36.1%	36.1%	36.1%	36.1%	36.1%	
AAGEGR	37.8%	30.9%	1.03	21.0%**	0.47	1.96	38%	22.0%	25.2%	0.07	15.8%**	1.13	1.94	32%	-15.7%	35.8%	35.8%	32%	-15.7%	35.8%	35.8%	35.8%	35.8%	35.8%	35.8%	
AVERAGE	43.2%	35.9%	0.95	27.7%***	1.14	2.14	43%	27.5%	20.2%	0.49	16.6%***	-0.23	0.72	25%	-15.7%	33.1%	33.1%	25%	-15.7%	33.1%	33.1%	33.1%	33.1%	33.1%	33.1%	
MKTCAP	24.9%	26.4%	0.79	10.7%	-0.36	2.96	49%	44.2%	27.1%	0.11	37.5%***	-0.25	-0.32	69%	19.3%*	34.9%	34.9%	69%	19.3%*	34.9%	34.9%	34.9%	34.9%	34.9%	34.9%	
BETA	37.8%	32.8%	0.40	28.0%***	1.40	3.74	103%	29.1%	25.3%	0.44	18.9%**	0.20	-0.16	104%	-8.7%	37.0%	37.0%	104%	-8.7%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%	
VOL	27.8%	39.8%	0.50	17.0%**	1.40	5.32	69%	28.2%	21.0%	0.46	17.6%***	0.98	2.21	67%	0.5%	42.4%	42.4%	67%	0.5%	42.4%	42.4%	42.4%	42.4%	42.4%	42.4%	
MOM-1	38.3%	30.1%	0.84	23.9%***	0.20	0.15	272%	24.3%	27.2%	0.48	13.3%	1.12	2.69	277%	-13.9%	31.5%	31.5%	277%	-13.9%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	
MOM-2-4	37.8%	38.0%	0.79	23.8%**	1.21	5.92	268%	29.7%	27.1%	0.25	21.5%**	0.71	1.13	267%	-8.0%	44.2%	44.2%	267%	-8.0%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%	
P/E*	19.6%	28.6%	0.87	8.0%	0.17	2.84	102%	38.9%	25.3%	0.19	32.1%***	-0.32	0.13	107%	19.3%*	31.7%	31.7%	107%	19.3%*	31.7%	31.7%	31.7%	31.7%	31.7%	31.7%	
P/B*	19.8%	28.0%	0.87	8.0%	0.75	1.98	96%	47.4%	27.5%	0.38	39.4%***	0.34	0.16	112%	27.6%***	30.4%	30.4%	112%	27.6%***	30.4%	30.4%	30.4%	30.4%	30.4%	30.4%	
P/D	29.6%	36.9%	0.58	17.9%	1.26	3.09	110%	28.4%	22.5%	0.54	16.9%**	0.22	-0.51	88%	-1.2%	39.5%	39.5%	88%	-1.2%	39.5%	39.5%	39.5%	39.5%	39.5%	39.5%	

TABLE 5A (continued)

Notes:

Significance level: * 10%, ** 5%, *** 1%.

IFC Global and MSCI World Indices in US dollars: Unhedged.

From January 1985-December 1987 the MSCI World Index was substituted for the MSCI All Country (AC) World Index.

Price/Earnings and Price/Book ratios are unavailable until January 1986.

Portfolios were formed by sorting the countries into three trilles based on the level of the attribute.

Portfolios were reformed quarterly.

Legend

ICRGC	International Country Risk Guide Composite Index	AAGEGR	Annual Growth in Average Age of Population - UN Data
ICRGP	International Country Risk Guide Political Index	AVERAGE	Average Age of Population - UN Data
ICRGF	International Country Risk Guide Financial Index	MKTCAP	IFC Global Market Capitalization
ICRGE	International Country Risk Guide Economic Index	BETA	IFC Global Beta with MSCI AC World - 36 months trailing
II CCR	Institutional Investor Country Credit Ratings	VOL	IFC Global Volatility - 36 months trailing
EMCRR	Euro money Country Risk Ratings	MOM-1	Trailing USD Total Return - Prior Month
INFLATE	Annual Consumer Inflation: IFS Database	MOM-2-4	Trailing USD Total Return - Months -4 to -2
TRDGDP	(Exports+Imports)/GDP: IFS Database	P/E*	IFC Global Price/Earnings Ratio
MKCPGDP	IFC Global Market Capitalization/GDP	P/B*	IFC Global Price/Book Ratio
POPGR	Annual Growth in Population - UN Data	P/D	IFC Global Price/Dividend Ratio

TABLE 5B. Emerging Market Risk Level Portfolio Strategy
IFCG Indices—Quarterly Rebalancing: July 1991—June 1996

Risk Attribute	High Triflute					Low Triflute					Low-High Attribute						
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Average Annual Return	Standard Dev.	MSCI AC World Alpha
<i>Equal Weighted</i>																	
ICRGC	22.0%	22.6%	0.83	10.5%	1.51	3.75	41%	25.3%	26.2%	0.56	16.1%	0.25	-0.89	74%	3.3%	22.1%	1.59
ICRGP	17.2%	24.0%	1.13	3.3%	0.78	1.11	74%	23.3%	25.2%	0.06	18.2%	0.13	-0.53	67%	6.1%	21.1%	10.89
ICRGF	14.2%	20.1%	0.18	7.9%	1.25	3.32	45%	27.6%	27.7%	0.74	17.3%	-0.03	-0.18	60%	13.4%	25.9%	5.39
ICRGE	17.7%	20.0%	0.66	7.5%	1.86	4.75	61%	32.5%	30.4%	0.16	26.7%	-0.14	-1.15	77%	14.9%	27.4%	15.19
II CCR	12.1%	19.3%	0.51	3.3%	1.34	2.05	25%	30.7%	30.2%	1.51	13.8%	-0.02	-0.60	37%	18.7%	27.0%	6.39
EMCRR	22.0%	19.2%	1.09	8.5%	0.80	0.21	7%	36.6%	49.8%	2.37	9.4%	0.00	-0.92	12%	14.6%	43.0%	-4.89
INFLETE	39.7%	36.3%	1.23	25.3%	0.07	-1.07	53%	14.6%	20.9%	0.66	4.3%	1.90	5.97	51%	-25.0%	35.0%	-25.29
TRDGD	14.2%	23.7%	0.80	2.6%	2.05	5.74	31%	39.2%	34.1%	1.14	25.6%	0.32	-0.47	40%	25.0%	30.2%	18.99
MKCPGD	11.2%	22.1%	0.60	1.6%	2.31	7.45	45%	37.3%	30.6%	0.66	27.9%*	-0.07	-0.49	74%	26.1%	33.5%	22.39
POPGR	19.4%	24.6%	1.35	4.0%	0.13	-0.06	28%	21.4%	23.1%	1.23	7.1%	0.08	-0.91	35%	2.0%	20.5%	-1.19
AAGEGR	23.4%	25.8%	0.28	16.4%	0.46	0.03	34%	20.7%	24.7%	1.44	5.0%	-0.15	-1.00	32%	-2.7%	24.1%	-15.69
AVERAGE	23.6%	23.4%	1.18	9.9%	0.06	-0.93	30%	18.4%	25.4%	1.08	5.1%	0.11	0.18	29%	-5.2%	22.0%	-8.99
MKTCAP	17.5%	23.9%	0.08	12.0%	1.07	1.84	43%	32.8%	33.9%	1.85	13.4%	-0.06	-1.07	69%	15.4%	35.8%	-2.69
BETA	24.7%	20.6%	0.14	19.0%*	-0.35	0.21	84%	17.0%	24.9%	1.54	0.4%	0.71	-0.12	69%	-7.6%	25.9%	-22.79
VOL	25.4%	25.2%	1.23	11.4%	-0.52	-0.83	62%	22.3%	26.3%	0.99	9.6%	1.63	2.37	70%	-3.1%	26.9%	-5.99
MOM-1	13.5%	22.8%	0.90	1.7%	0.79	0.80	265%	27.0%	24.9%	0.68	16.8%	0.13	-0.42	262%	13.5%	18.4%	11.09
MOM-2-4	20.1%	27.9%	1.02	8.1%	0.67	-0.45	271%	23.3%	21.9%	0.71	12.9%	0.22	-0.06	266%	3.2%	22.0%	0.69
P/E*	12.6%	22.0%	0.45	5.0%	0.74	-0.09	94%	31.8%	32.5%	1.67	13.3%	-0.06	-0.82	108%	19.2%*	29.9%	4.29
P/B*	16.1%	24.2%	0.17	10.0%	1.61	3.97	76%	32.2%	27.4%	1.49	15.3%	0.06	-0.56	94%	16.2%	29.6%	1.29
P/D	16.6%	25.5%	0.54	7.8%	0.73	1.34	99%	20.3%	24.4%	1.63	2.8%	0.00	-0.71	68%	3.8%	25.8%	-9.19

TABLE 5B (continued)

Risk Attribute	High Trifile					Low Trifile					Low-High Attribute					
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Alpha	
<i>Capitalization Weighted</i>																
ICRGC	13.5%	25.2%	0.43	5.2%	1.94	5.78	23%	30.1%	37.3%	-0.97	33.6%*	1.38	2.54	16.6%	36.3%	24
ICRGP	11.0%	24.6%	0.47	2.4%	1.58	4.15	49%	32.3%	38.9%	-2.01	43.8%**	1.14	0.87	21.4%	34.7%	37
ICRGF	9.9%	25.0%	0.55	0.5%	1.74	4.70	15%	19.3%	33.1%	-1.35	26.0%	0.18	-0.49	9.4%	39.8%	21
ICRGE	13.5%	23.8%	0.62	3.5%	1.84	5.10	26%	34.3%	40.0%	-0.92	37.0%*	0.72	0.99	20.8%	38.0%	29
II CCR	11.1%	24.2%	0.66	0.9%	1.84	5.07	12%	30.6%	36.8%	0.73	20.0%	0.30	0.72	19.5%	35.9%	14
EMCRR	10.7%	24.1%	0.65	0.5%	1.88	5.20	15%	28.9%	37.8%	0.81	17.7%	0.29	0.64	18.3%	37.4%	13
INFLATE	28.7%	39.0%	0.90	16.8%	0.62	0.91	36%	10.8%	26.1%	0.85	-1.1%	1.90	5.51	-17.9%	39.9%	-22
TRDGD	14.7%	32.0%	0.70	3.8%	2.08	6.83	10%	22.1%	29.4%	-0.24	19.5%	0.02	-0.48	7.4%	30.8%	11
MKCPGDP	10.0%	24.5%	0.44	1.7%	2.05	6.20	26%	23.5%	30.7%	-0.39	22.8%	0.75	0.25	13.5%	29.2%	17
POPGR	20.8%	22.1%	0.72	10.3%	0.96	3.51	21%	10.1%	21.5%	0.76	-0.5%	1.25	1.44	-10.7%**	19.6%	-15
AAGEGR	14.7%	26.7%	0.31	7.4%	0.31	0.05	15%	12.0%	20.7%	0.65	2.5%	0.33	1.64	-2.7%	22.9%	-9
AVERAGE	10.6%	18.5%	0.48	2.4%	0.78	-0.36	14%	18.6%	31.7%	0.34	11.2%	0.33	0.36	8.0%	23.4%	4
MKTCAP	13.0%	24.0%	0.34	5.4%	1.29	2.60	21%	28.9%	31.0%	1.54	12.3%	0.09	-0.69	15.9%	34.0%	2
BETA	22.1%	26.7%	0.33	14.6%	1.53	2.31	69%	22.5%	31.7%	0.10	17.7%	0.55	-0.57	0.4%	28.4%	-1
VOL	11.0%	27.2%	1.00	-1.8%	0.95	1.25	42%	17.5%	30.0%	-0.30	14.7%	1.09	1.82	6.6%	29.4%	12
MOM-1	7.8%	21.1%	0.14	2.3%	0.53	1.04	285%	24.1%	31.5%	0.20	17.1%	0.76	2.82	16.3%	23.5%	10
MOM-2-4	2.7%	25.2%	-0.43	2.1%	0.56	0.41	200%	19.5%	28.7%	1.00	7.0%	1.29	2.13	16.8%*	21.7%	0
P/E*	4.7%	23.4%	0.13	-0.7%	1.33	3.12	62%	23.6%	32.4%	0.69	13.1%	-0.37	0.47	18.9%	28.9%	9
P/B*	8.2%	25.0%	0.20	1.8%	1.04	2.42	44%	18.7%	25.0%	1.03	5.7%	0.43	0.82	10.5%	26.6%	-0
P/D	6.4%	26.6%	-0.05	1.9%	1.14	1.42	71%	14.4%	22.7%	1.20	0.4%	-0.16	-1.16	8.0%	27.1%	-5

IFC Composite	13.3%	23.6%	0.37	5.5%**	1.23	2.66
MSCI AC World	12.1%	6.8%	1.00		-1.28	3.17

TABLE 5B (continued)

Notes:

Significance level: * 10%, ** 5%, *** 1%.

IFC Global and MSCI World Indices in US dollars: Unhedged.

From January 1985-December 1987 the MSCI World Index was substituted for the MSCI All Country (AC) World Index.

Price/Earnings and Price/Book ratios are unavailable until January 1986.

Portfolios were formed by sorting the countries into three tritiles based on the level of the attribute.

Portfolios were reformed quarterly.

Legend

ICRGC	International Country Risk Guide Composite Index	AGEGR	Annual Growth in Average Age of Population - UN Data
ICRGP	International Country Risk Guide Political Index	AVERAGE	Average Age of Population - UN Data
ICRGF	International Country Risk Guide Financial Index	MKTCAP	IFC Global Market Capitalization
ICRGE	International Country Risk Guide Economic Index	BETA	IFC Global Beta with MSCI AC World - 36 months trailing
II CCR	Institutional Investor Country Credit Ratings	VOL	IFC Global Volatility - 36 months trailing
EMCRR	Euromoney Country Risk Ratings	MOM-1	Trailing USD Total Return - Prior Month
INFLATE	Annual Consumer Inflation: IFS Database	MOM-2-4	Trailing USD Total Return - Months -4 to -2
TRDGDP	(Exports+Imports)/GDP: IFS Database	P/E*	IFC Global Price/Earnings Ratio
MKCPGDP	IFC Global Market Capitalization/GDP	P/B*	IFC Global Price/Book Ratio
POFGR	Annual Growth in Population - UN Data	P/D	IFC Global Price/Dividend Ratio

TABLE 5C. Emerging Market Risk Level Portfolio Strategy
 IFCG Indices—Semi-Annual Rebalancing: January 1985—June 1996

Risk Attribute	High Triffle						Low Triffle						Low-High Attribute						
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	
<i>Equal Weighted</i>																			
ICRGC	26.4%	25.9%	1.20	11.8%	1.29	1.33	42%	27.4%	0.77	22.2%***	0.74	0.78	49%	24.1%	0.77	22.2%***	0.74	0.78	
ICRGP	32.9%	30.5%	1.05	16.6%*	0.80	0.26	53%	22.6%	0.74	17.3%**	0.33	-0.43	44%	31.3%	0.74	17.3%**	0.33	-0.43	
ICRGF	28.1%	22.7%	0.77	17.2%**	0.46	-0.23	45%	29.8%	0.84	22.3%**	0.43	-0.30	59%	25.0%	0.84	22.3%**	0.43	-0.30	
ICRGE	27.6%	26.7%	0.93	14.5%*	1.06	1.08	48%	34.2%	1.00	23.1%**	0.00	-0.74	70%	28.5%	1.00	23.1%**	0.00	-0.74	
II CCR	25.9%	24.6%	0.95	12.5%*	0.54	-0.19	28%	30.2%	1.08	24.3%***	0.35	-0.66	43%	29.4%	1.08	24.3%***	0.35	-0.66	
EMCRR	27.0%	25.1%	0.94	13.4%*	0.48	-0.40	34%	33.2%	1.55	22.3%**	0.03	-1.42	52%	30.6%	1.55	22.3%**	0.03	-1.42	
INFLATE	57.3%	35.1%	1.09	40.8%***	-0.08	-0.97	64%	22.2%	0.77	9.3%	1.47	2.27	52%	29.2%	0.77	9.3%	1.47	2.27	
TRDGDP	26.9%	28.2%	1.19	11.7%	1.36	1.99	34%	34.9%	0.82	23.8%**	0.83	-0.36	37%	33.0%	0.82	23.8%**	0.83	-0.36	
MKCPGDP	22.7%	23.0%	0.95	8.2%	1.15	0.60	43%	30.9%	0.61	40.8%***	-0.04	-0.21	70%	29.6%***	0.61	40.8%***	-0.04	-0.21	
POPGR	25.7%	24.0%	-0.40	21.6%***	0.80	-0.11	27%	27.8%	0.91	23.2%***	0.01	-0.85	37%	33.7%	0.91	23.2%***	0.01	-0.85	
AAGEGR	36.5%	28.0%	1.11	21.0%**	0.09	-0.99	34%	24.8%	0.30	13.4%	0.84	-0.01	28%	29.6%	0.30	13.4%	0.84	-0.01	
AVERAGE	41.6%	31.8%	1.21	24.3%***	0.55	0.01	39%	30.0%	0.86	15.3%**	0.55	-0.36	24%	27.3%	0.86	15.3%**	0.55	-0.36	
MKTCAP	23.5%	24.1%	1.02	7.7%	0.64	-0.16	35%	30.9%	0.38	36.5%***	0.10	-0.87	59%	34.4%	0.38	36.5%***	0.10	-0.87	
BETA	32.4%	27.7%	0.33	26.9%***	0.06	-1.20	74%	37.4%	0.45	25.7%**	0.32	-0.95	79%	49.5%	0.45	25.7%**	0.32	-0.95	
VOL	30.9%	38.8%	0.88	17.9%	0.52	-0.38	57%	22.1%	0.55	17.8%***	0.85	0.18	54%	43.4%	0.55	17.8%***	0.85	0.18	
MOM-1	37.9%	33.9%	1.75	13.9%*	0.52	-1.25	148%	27.1%	0.64	15.4%*	0.84	0.05	142%	36.3%	0.64	15.4%*	0.84	0.05	
MOM-2-4	43.9%	38.7%	1.09	26.6%**	1.12	0.97	144%	28.0%	0.51	18.1%*	1.24	1.79	141%	51.1%	0.51	18.1%*	1.24	1.79	
P/E*	18.8%	25.9%	0.73	7.3%	0.50	0.06	71%	50.4%	0.22	44.0%***	0.56	-0.53	90%	31.6%***	0.22	44.0%***	0.56	-0.53	
P/B*	15.5%	28.2%	1.08	3.5%	0.93	1.67	61%	50.4%	0.52	43.4%***	0.06	-0.93	85%	34.9%***	0.52	43.4%***	0.06	-0.93	
P/D	25.1%	29.6%	0.81	8.9%	0.79	0.70	76%	39.1%	1.19	25.0%***	0.13	-0.56	72%	37.8%	1.19	25.0%***	0.13	-0.56	

TABLE 5C (continued)

Risk Attribute	High Tritle					Low Tritle					Low-High Attribute					
	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Standard Dev.	MSCI World Alpha	
<i>Capitalization Weighted</i>																
ICRGC	19.5%	16.9%	1.18	5.4%	0.92	0.51	10%	27.0%	27.3%	0.47	17.9%**	1.08	35%	7.5%	25.9%	6.8%
ICRGP	18.2%	14.5%	1.23	2.4%	0.45	-0.22	26%	23.7%	23.1%	0.35	14.9%*	0.93	19%	5.5%	29.4%	6.9%
ICRGF	19.0%	16.8%	0.98	8.1%	0.95	0.76	13%	27.1%	34.1%	1.08	9.7%	0.62	29%	8.1%	28.5%	-4.1%
ICRGE	19.3%	16.6%	1.08	6.1%	0.86	0.45	15%	25.1%	39.2%	1.15	6.8%	0.08	37%	5.9%	35.1%	-5.0%
IICCR	17.8%	15.3%	1.07	6.1%	0.87	0.55	8%	29.7%	37.0%	1.44	12.5%	0.27	10%	11.9%	32.3%	0.9%
EMCRR	18.9%	16.3%	1.05	5.8%	0.83	0.38	7%	35.4%	49.4%	2.35	8.1%	0.03	12%	16.5%	41.4%	-3.3%
INFLATE	28.4%	23.3%	1.20	10.5%	0.05	-1.40	16%	21.8%	34.7%	1.15	8.4%	1.29	16%	-6.6%	38.2%	-7.7%
TRDGD	21.5%	17.6%	1.26	7.0%	0.95	0.82	8%	22.0%	33.1%	0.68	7.9%	0.18	10%	0.5%	34.1%	-4.7%
MKCPGDP	19.0%	15.3%	1.33	1.1%	0.75	-0.10	16%	34.7%	24.0%	0.77	21.8%***	-0.69	32%	15.7%**	27.1%	15.0%
POGR	19.3%	17.7%	0.37	10.0%	0.83	1.79	9%	21.4%	22.4%	1.02	5.8%	0.58	9%	2.0%	28.8%	-9.8%
AAGEGR	20.0%	17.2%	0.95	2.8%	0.76	-0.10	9%	14.2%	20.3%	0.51	3.8%	0.45	11%	-5.9%	26.6%	-4.7%
AVERAGE	23.2%	20.8%	1.10	5.5%	0.83	1.49	14%	30.5%	38.2%	1.16	12.3%	0.57	9%	7.4%	44.5%	1.2%
MKTCAP	17.4%	14.5%	1.00	2.7%	0.69	0.37	13%	43.4%	32.0%	0.15	34.0%***	0.43	31%	26.1%**	44.9%	25.7%
BETA	25.1%	19.1%	0.70	15.3%	0.63	-0.23	37%	36.4%	36.8%	0.88	17.8%*	1.23	32%	11.3%	55.4%	-3.2%
VOL	19.5%	8.0%	0.87	5.8%	0.44	-0.38	21%	30.5%	27.5%	0.84	16.9%**	0.51	28%	11.0%	52.9%	5.4%
MOM-1	22.8%	19.2%	1.74	-0.1%	0.28	-0.31	155%	17.4%	38.1%	0.83	9.7%	0.95	142%	-5.4%	43.0%	4.2%
MOM-2-4	25.3%	20.8%	1.24	7.7%	1.09	1.83	78%	25.2%	39.6%	0.70	13.8%	1.20	100%	-0.1%	52.8%	0.4%
P/E*	13.0%	7.9%	1.26	-1.0%	0.50	-0.18	31%	36.3%	41.0%	0.95	27.4%**	1.03	37%	23.3%**	33.7%	22.9%
P/B*	11.7%	5.3%	1.09	1.0%	0.93	0.74	28%	33.9%	35.7%	1.02	25.3%**	1.35	27%	22.2%*	39.3%	18.7%
P/D	19.1%	14.7%	1.41	0.5%	0.41	-0.11	32%	27.2%	28.4%	1.15	13.7%	0.30	42%	8.1%	33.6%	7.5%

IFC Composite	18.3%	26.7%	0.77	4.2%*	0.74	0.29										
MSCI AC World	16.6%	15.4%	1.00		0.13	0.02										

TABLE 5C (continued)

Notes:

Significance level: * 10%, ** 5%, *** 1%.
 IFC Global and MSCI World Indices in US dollars: Unhedged.
 From January 1985-December 1987 the MSCI World Index was substituted for the MSCI All Country (AC) World Index.
 Price/Earnings and Price/Book ratios are unavailable until January 1986.
 Portfolios were formed by sorting the countries into three triles based on the level of the attribute.
 Portfolios were reformed semi-annually.

Legend

ICRGC	International Country Risk Guide Composite Index	AAGEGR	Annual Growth in Average Age of Population - UN Data
ICRGP	International Country Risk Guide Political Index	AVERAGE	Average Age of Population - UN Data
ICRGF	International Country Risk Guide Financial Index	MKTCAP	IFC Global Market Capitalization
ICRGE	International Country Risk Guide Economic Index	BETA	IFC Global Beta with MSCI AC World - 36 months trailing
II CCR	Institutional Investor Country Credit Ratings	VOL	IFC Global Volatility - 36 months trailing
EMCRR	EuroMoney Country Risk Ratings	MOM-1	Trailing USD Total Return - Prior Month
INFLATE	Annual Consumer Inflation: IFS Database	MOM-2-4	Trailing USD Total Return - Months -4 to -2
TRDGDGP	(Exports+Imports)/GDP: IFS Database	P/E*	IFC Global Price/Earnings Ratio
MKCPGDP	IFC Global Market Capitalization/GDP	P/B*	IFC Global Price/Book Ratio
POPGR	Annual Growth in Population - UN Data	P/D	IFC Global Price/Dividend Ratio

TABLE 5D. Emerging Market Risk Level Portfolio Strategy
 IFCG Indices—Semi-Annual Rebalancing: July 1991—June 1996

Risk Attribute	High Trifile					Low Trifile					Low-High Attribute						
	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Standard Dev.	MSCI World Alpha		
<i>Equal Weighted</i>																	
ICRGC	16.7%	26.2%	0.64	6.5%	2.40	6.49	34%	24.9%	26.6%	0.94	12.1%	0.53	0.39	57%	8.2%	19.2%	1.5
ICRGP	18.5%	29.2%	1.49	1.1%	1.28	1.19	52%	20.9%	23.2%	0.28	13.8%	1.01	1.00	53%	2.4%	19.6%	8.6
ICRGE	14.5%	21.8%	0.07	8.8%	1.95	4.49	42%	30.3%	30.5%	1.80	10.5%	0.17	-1.21	51%	15.7%	25.7%	-2.4
ICRGE	18.4%	27.6%	0.54	8.6%	2.68	7.79	52%	29.6%	31.7%	1.71	10.9%	-0.18	-0.66	56%	11.3%	24.3%	-1.9
II CCR	11.8%	21.3%	0.27	4.7%	1.33	1.93	22%	33.3%	34.6%	2.25	9.5%	0.72	-0.36	37%	21.5%	27.5%	0.6
EMCRR	11.4%	25.0%	0.59	1.3%	1.93	4.33	6%	29.2%	33.0%	1.34	12.9%	-0.09	-1.70	16%	17.8%	26.9%	7.5
INFLATE	43.1%	39.8%	2.68	16.0%	0.28	-1.56	49%	16.5%	25.9%	0.63	5.8%	2.44	6.39	47%	-26.6%	33.7%	-14.3
TRDGDP	15.4%	32.6%	0.69	4.2%	2.65	7.56	31%	39.6%	43.9%	2.88	10.9%	0.88	-0.73	40%	24.1%	37.1%	2.6
MKCPGDP	12.8%	24.1%	0.60	2.6%	2.35	6.18	34%	35.4%	36.5%	2.15	13.7%	0.85	0.62	63%	22.6%	37.5%	6.9
POPGR	20.0%	25.4%	1.51	2.9%	0.87	0.80	27%	24.2%	30.0%	1.66	5.7%	0.79	0.04	36%	4.2%	18.0%	-1.3
AAGEGR	20.7%	24.0%	0.71	9.9%	1.08	0.77	29%	23.7%	31.2%	1.66	5.7%	0.74	-0.70	30%	3.0%	20.5%	-8.4
AVERAGE	26.0%	27.7%	1.61	8.2%	0.50	-1.24	30%	19.6%	25.7%	1.15	5.4%	1.25	1.46	24%	-6.3%	15.5%	-6.9
MKTCAP	16.5%	22.7%	0.40	8.1%	1.94	4.67	29%	38.4%	38.6%	2.68	11.4%	0.60	-1.00	58%	21.9%	31.7%	-0.8
BETA	24.3%	23.7%	0.52	15.3%	0.68	-0.27	55%	23.9%	39.7%	2.83	-3.7%	0.71	-0.39	64%	-0.4%	34.5%	-23.0
VOL	26.7%	31.4%	2.00	5.8%	-0.47	-1.22	52%	23.5%	28.7%	1.51	6.3%	1.34	0.68	57%	-3.2%	30.3%	-3.6
MOM-1	19.8%	27.6%	1.34	4.4%	0.96	-0.14	131%	24.2%	31.1%	1.63	6.0%	1.20	0.68	141%	4.5%	14.0%	-2.5
MOM-2-4	21.2%	32.8%	1.56	4.4%	1.00	0.35	132%	20.6%	25.0%	1.31	4.6%	0.52	0.03	133%	-0.6%	26.1%	-3.9
P/E*	15.1%	25.0%	0.87	3.5%	0.90	0.68	69%	36.0%	35.5%	1.76	16.4%	0.65	0.16	89%	21.0%**	18.2%	8.8
P/B*	16.6%	30.1%	0.23	10.0%	1.70	3.82	51%	31.7%	30.9%	2.11	9.1%	0.10	-2.01	76%	15.0%	34.1%	-5.0
P/D	18.0%	25.5%	0.96	5.6%	0.77	0.23	62%	23.2%	29.1%	2.23	0.3%	0.06	-1.27	58%	5.3%	15.7%	-9.4

TABLE 5D (continued)

Risk Attribute	High Triflile					Low Triflile					Low-High Attribute				
	Average Annual Return	Standard Dev.	MSCI AC Beta	MSCI World Alpha	MSCI AC Skewness	Average Annual Return	Standard Dev.	MSCI AC Beta	MSCI World Alpha	MSCI AC Kurtosis	Average Annual Return	Standard Dev.	MSCI AC Beta	MSCI World Alpha	MSCI AC Skewness
<i>Capitalization Weighted</i>															
ICRGC	11.1%	23.2%	0.53	1.7%	2.67	7.87	27.4%	-0.47	25.9%	0.41	-0.42	15.0%	24.5%	20.1	
ICRGP	11.7%	23.6%	0.51	2.6%	2.02	4.63	28.4%	-1.06	32.3%*	0.92	0.23	16.6%*	18.3%	25.6	
ICRGF	9.8%	24.6%	0.41	1.2%	2.50	7.07	17.5%	0.03	13.1%	0.31	-0.91	7.6%	25.8%	7.7	
ICRGE	13.6%	25.8%	0.59	3.4%	2.03	4.69	24.1%	0.47	15.8%	0.31	-0.81	10.5%	21.7%	8.2	
II CCR	10.9%	24.8%	0.51	1.5%	2.01	4.72	28.2%	1.27	12.8%	-0.22	-1.73	17.2%	26.3%	7.2	
EMCRR	14.5%	22.8%	0.69	3.6%	1.03	0.30	36.2%	1.80	16.2%	0.48	-0.98	21.7%*	25.9%	8.4	
INFLATE	27.4%	33.0%	1.57	9.6%	0.15	-1.58	11.1%	0.70	-0.1%	2.41	6.44	-16.3%	33.3%	-13.8	
TRDGD	14.6%	35.2%	0.63	3.8%	2.18	5.56	19.1%	0.79	8.0%	0.90	0.34	4.5%	23.8%	0.0	
MKCPGD	10.8%	25.0%	0.57	0.9%	2.39	6.35	21.9%	1.36	6.7%	-0.62	-0.97	11.1%	26.3%	1.7	
POPGR	19.8%	24.5%	0.61	9.8%	2.32	6.70	9.5%	0.56	0.0%	2.05	5.32	-10.4%**	10.3%	-13.9	
AAGEGR	13.2%	20.6%	0.51	3.9%	1.36	2.70	16.9%	0.73	6.1%	0.88	2.89	3.6%	18.8%	-2.0	
AVERAGE	9.8%	11.1%	0.27	3.0%	1.28	2.11	18.4%	0.97	5.4%	1.47	2.72	8.5%	25.9%	-1.7	
MKTCAP	12.9%	23.1%	0.53	3.3%	2.13	5.28	35.1%	2.32	11.4%	1.03	1.17	22.2%	37.8%	4.0	
BETA	18.9%	27.0%	0.32	11.2%	0.66	-0.38	23.2%	1.44	7.5%	0.74	-0.69	4.3%	30.4%	-7.8	
VOL	14.9%	32.7%	1.12	0.5%	0.30	-1.44	15.8%	0.15	9.3%	2.23	5.94	0.9%	33.1%	4.6	
MOM-1	12.7%	23.8%	0.42	4.2%	1.79	3.83	16.1%	1.17	-3.3%	0.92	0.95	-1.0%	18.4%	-11.7	
MOM-2-4	13.3%	26.4%	0.71	3.3%	0.54	-0.53	23.3%	1.54	5.2%	0.97	-0.11	9.9%**	23.8%	-2.3	
P/E*	8.2%	27.4%	0.69	-2.6%	1.55	3.38	26.1%	0.15	19.7%	1.17	3.11	18.0%**	16.4%	18.1	
P/B*	11.2%	33.9%	0.39	2.6%	2.14	5.45	17.0%	0.93	4.1%	-0.33	-1.03	5.7%	31.2%	-2.6	
P/D	8.3%	23.7%	0.24	1.2%	0.91	0.86	11.9%	1.33	-3.5%	0.35	-0.81	3.7%	14.6%	-8.8	

IFC	13.2%	24.4%	0.61	3.1%*	2.10	5.26
Composite						
MSCI	12.4%	8.5%	1.00	-0.56	0.52	
AC World						

TABLE 5D (continued)

Notes:

Significance level: * 10%, ** 5%, *** 1%.

IFC Global and MSCI World Indices in US dollars: Unhedged.

From January 1985-December 1987 the MSCI World Index was substituted for the MSCI All Country (AC) World Index.

Price/Earnings and Price/Book ratios are unavailable until January 1986.

Portfolios were formed by sorting the countries into three triles based on the level of the attribute.

Portfolios were reformed semi-annually.

Legend

ICRGC	International Country Risk Guide Composite Index	AAGEGR	Annual Growth in Average Age of Population - UN Data
ICRGP	International Country Risk Guide Political Index	AVERAGE	Average Age of Population - UN Data
ICRGF	International Country Risk Guide Financial Index	MKT/CAP	IFC Global Market Capitalization
ICRGE	International Country Risk Guide Economic Index	BETA	IFC Global Beta with MSCI AC World - 36 months trailing
II CCR	Institutional Investor Country Credit Ratings	VOL	IFC Global Volatility - 36 months trailing
EMCRR	Euro money Country Risk Ratings	MOM-1	Trailing USD Total Return - Prior Month
INF LATE	Annual Consumer Inflation: IFS Database	MOM-2-4	Trailing USD Total Return - Months -4 to -2
TRD GDP	(Exports+Imports)/GDP: IFS Database	P/E*	IFC Global Price/Earnings Ratio
MKCPGDP	IFC Global Market Capitalization/GDP	P/B*	IFC Global Price/Book Ratio
POPGR	Annual Growth in Population - UN Data	P/D	IFC Global Price/Dividend Ratio

TABLE 5E. Emerging Market Risk Level Portfolio Strategy
IFCG Indices—Quarterly Rebalancing: July 1991—June 1996

Risk Attribute	High Trifile					Low Trifile					Low-High Attribute				
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Average Annual Turnover	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Average Annual Turnover	Kurtosis	Skewness	Average Annual Return	Standard Dev.	MSCI World
<i>Equal Weighted</i>															
ICRGC	21.3%	24.5%	1.11	7.8%	1.41	2.65	29.7%	1.58	19.6%	0.29	-0.92	83%	15.6%	20.0%	7.7
ICRGP	21.0%	26.6%	1.53	3.8%	0.77	0.36	29.8%	0.54	19.4%	0.96	0.19	79%	7.6%	20.1%	11.5
ICRGF	16.1%	22.4%	0.29	8.7%	1.63	4.91	28.4%	1.51	15.8%	0.43	-0.64	88%	16.1%	26.4%	2.9
ICRGE	17.8%	21.9%	0.43	9.6%	1.57	3.63	30.4%	1.11	23.0%	-0.23	-1.48	76%	18.7%	26.7%	9.3
II CCR	13.2%	23.6%	0.54	3.8%	1.55	4.21	32.6%	1.54	24.0%	0.21	-0.74	44%	27.9%*	29.2%	16.1
EMCRR	12.2%	21.5%	0.64	2.1%	1.51	3.81	33.7%	1.47	25.0%	0.67	0.22	57%	29.2%*	29.6%	18.8
INFLATE	43.6%	42.4%	1.89	24.1%	0.66	0.14	23.5%	0.55	4.6%	1.33	3.89	51%	-29.4%	40.5%	-23.6
TRDGDP	20.1%	24.3%	0.26	12.6%	1.57	3.68	34.4%	1.81	18.2%	0.70	0.51	45%	17.1%	27.4%	1.4
MKCPGDP	15.0%	23.5%	0.48	6.3%	2.28	8.00	38.5%	1.75	20.5%	1.23	2.89	89%	23.7%	38.3%	10.0
POPGR	26.9%	28.2%	1.55	9.9%	1.14	1.23	25.5%	1.47	7.1%	0.43	-0.29	44%	-3.2%	16.5%	-6.9
AAGEGR	24.1%	30.2%	0.60	14.4%	1.21	1.91	26.6%	1.70	8.6%	0.59	-0.49	40%	2.5%	19.8%	-9.9
AVERAGE	25.0%	26.2%	1.55	8.1%	0.27	-0.57	27.5%	0.93	15.3%	0.91	0.87	28%	2.5%	20.8%	3.1
MKTCAP	22.5%	25.0%	0.55	13.8%	-0.01	-1.08	31.3%	1.33	15.4%	0.97	0.25	86%	8.7%	24.6%	-2.6
BETA	25.2%	26.4%	-0.33	23.2%	0.19	-0.65	33.4%	1.94	13.6%	1.21	1.39	97%	8.2%	43.5%	-13.8
VOL	30.4%	32.8%	1.54	14.0%	0.13	-1.50	17.2%	0.49	8.6%	1.77	3.86	53%	-12.9%	30.7%	-9.5
MOM-1	16.5%	24.0%	1.21	2.2%	0.92	0.33	27.1%	1.24	21.2%	0.32	0.19	293%	19.3%**	16.5%	14.9
MOM-2-4	30.8%	34.9%	1.99	10.9%	1.57	2.89	28.5%	0.52	19.4%	0.29	0.00	302%	-2.2%	30.6%	4.4
P/E	17.3%	26.7%	1.55	1.0%	1.27	1.67	33.9%	1.07	20.0%	0.40	-0.41	130%	16.5%*	26.1%	14.9
P/B	11.6%	27.3%	1.03	-1.7%	1.33	3.09	32.1%	1.21	30.0%*	0.52	-0.69	120%	32.6%	37.0%	27.5
P/D	29.2%	33.7%	1.13	15.9%	0.78	0.26	104%	1.07	2.6%	0.23	-0.63	92%	-13.1%	32.9%	-17.3

TABLE 5E (continued)

Risk Attribute	High Trifile						Low Trifile						Low-High Attribute			
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Return	Standard Dev.	MSCI AC World Alpha	
<i>Capitalization Weighted</i>																
ICRGC	23.5%	26.2%	0.22	16.9%	0.90	1.98	42%	37.6%	1.17	23.5%	0.81	1.70	77%	14.1%	35.5%	2.4'
ICRGP	17.3%	26.9%	0.44	9.1%	0.74	1.33	68%	31.9%	0.30	24.5%	1.00	0.80	52%	14.6%	31.3%	11.3'
ICRGF	14.5%	27.7%	0.29	7.1%	0.81	2.17	20%	24.1%	0.80	13.8%	0.16	-0.52	69%	9.6%	35.4%	2.5'
ICRGE	23.0%	23.2%	0.38	15.0%	0.48	1.77	27%	29.9%	0.38	22.2%	0.21	0.82	53%	6.9%	31.7%	3.1'
II CCR	19.3%	26.1%	0.47	10.5%	0.70	2.76	10%	36.0%	0.73	25.6%	0.27	0.40	25%	16.7%	39.5%	11.0'
EMCRR	18.1%	25.2%	0.55	8.7%	0.74	2.67	21%	37.0%	0.75	26.6%	0.43	0.35	45%	18.9%	38.3%	13.8'
INFLATE	27.7%	38.2%	1.31	12.8%	0.60	0.40	42%	15.6%	0.64	5.2%	0.50	1.74	24%	-12.1%	35.1%	-11.7
TRDGDGP	21.3%	29.4%	0.52	12.0%	0.85	3.48	10%	21.6%	0.49	13.2%	-0.04	-0.55	14%	0.4%	23.9%	-2.9
MKCPGDGP	16.2%	24.6%	0.09	10.7%	1.16	3.16	32%	26.5%	0.79	16.1%	0.42	-0.47	39%	10.3%	23.2%	1.3
POPGR	20.7%	25.9%	0.52	11.8%	0.52	0.96	17%	16.0%	1.07	3.1%	0.78	1.63	33%	-4.7%	13.4%	-12.8
AAGEGR	17.9%	34.0%	0.19	11.6%	-0.02	-0.38	22%	19.6%	0.98	7.0%	0.68	1.84	20%	1.7%	26.9%	-8.7
AVERAGE	15.5%	22.6%	0.97	3.7%	0.08	0.69	24%	20.9%	0.38	13.0%	0.55	1.00	16%	5.4%	19.3%	5.2
MKTCAP	18.7%	29.1%	0.48	10.2%	0.02	-0.48	14%	22.9%	1.15	8.9%	0.84	0.86	37%	4.2%	25.9%	-5.4
BETA	25.5%	31.6%	-0.11	21.8%	0.92	2.07	67%	35.7%	2.78	9.6%	1.44	3.57	63%	10.2%	54.9%	-16.3
VOL	26.6%	35.1%	1.03	14.1%	0.28	-0.36	23%	19.2%	0.48	10.1%	1.10	2.67	43%	-7.4%	32.5%	-8.1
MOM-1	10.3%	23.6%	0.13	5.0%	0.20	-0.84	300%	33.9%	0.67	23.6%	-0.10	1.03	328%	23.6%*	24.0%	14.5
MOM-2-4	7.7%	25.7%	0.80	-2.3%	-0.28	-0.29	186%	34.9%	0.02	29.9%**	0.48	0.12	199%	27.3%***	27.2%	28.0
P/E	15.0%	25.9%	1.47	-1.1%	0.02	1.29	72%	25.7%	0.20	19.3%	-0.30	0.44	85%	10.7%	26.6%	16.2
P/B	12.3%	27.5%	1.35	-3.5%	0.35	1.56	46%	31.1%	0.70	21.1%	-0.23	-0.58	63%	18.8%	35.8%	20.5
P/D	30.8%	36.7%	0.19	24.6%	0.19	-0.41	89%	10.7%	1.13	-3.2%	0.01	-0.54	66%	-20.1%	40.2%	-31.5

TABLE 5E (continued)

Risk Attribute	High Trile						Low Trile						Low-High Attribute					
	Average Annual Return		Standard Dev.		MSCI AC World Alpha		Average Annual Return		Standard Dev.		MSCI AC World Alpha		Average Annual Return		Standard Dev.		MSCI AC World Alpha	
	Return	Dev.	Beta	Alpha	World	Alpha	Return	Dev.	Beta	Alpha	World	Alpha	Return	Dev.	Beta	Alpha	World	Alpha
<i>Liquidity Weighted</i>																		
ICRGC	16.8%	28.3%	0.25	9.7%	1.32	2.94	35%	42.4%	1.18	28.1%	0.70	1.07	71%	25.6%	40.2%	14.3%	14.3%	14.3%
ICRGP	11.4%	27.7%	0.64	1.4%	0.74	1.66	48%	38.8%	0.23	32.0%	1.28	2.62	68%	27.4%**	34.9%	26.5%	26.5%	26.5%
ICRGE	9.8%	29.3%	0.23	2.7%	1.06	2.38	10%	30.3%	1.27	16.1%	-0.07	-0.39	69%	20.4%	39.2%	9.2%	9.2%	9.2%
IICCR	16.8%	26.2%	0.33	9.1%	1.34	4.28	15%	34.4%	0.58	24.9%	0.07	0.60	45%	17.6%	34.8%	11.7%	11.7%	11.7%
EMCRR	14.9%	26.4%	0.30	7.4%	1.35	4.38	9%	42.5%	0.82	31.7%	0.26	0.04	14%	27.5%	49.6%	20.2%	20.2%	20.2%
	15.2%	26.2%	0.45	6.4%	1.33	4.21	29%	45.8%	1.12	32.6%	0.31	-0.13	42%	30.6%	48.6%	22.0%	22.0%	22.0%
INFLATE	29.8%	39.0%	1.56	12.9%	0.65	0.79	31%	11.0%	0.49	1.7%	0.94	2.76	26%	-18.8%	38.1%	-15.3%	-15.3%	-15.3%
TRDGD	20.1%	24.3%	0.26	12.6%	1.57	3.68	38%	37.2%	1.81	18.2%	0.70	0.51	45%	17.1%	27.4%	1.4%	1.4%	1.4%
MKCPGDP	9.8%	29.0%	0.09	4.1%	1.63	4.72	38%	32.7%	0.74	22.8%	0.04	-0.61	31%	22.9%	28.2%	14.6%	14.6%	14.6%
POPGR	17.2%	33.2%	0.79	6.2%	0.13	0.17	5%	15.8%	0.60	6.4%	1.29	3.08	33%	-1.4%	14.8%	-4.0%	-4.0%	-4.0%
AAGEGR	19.7%	34.8%	0.19	13.4%	-0.16	-0.21	21%	14.8%	1.53	-1.9%	0.45	1.28	14%	-4.9%	28.0%	-19.4%	-19.4%	-19.4%
AVERAGE	12.8%	22.3%	0.76	2.3%	0.02	0.59	23%	17.6%	0.43	9.4%	0.15	0.09	5%	4.9%	20.1%	3.0%	3.0%	3.0%
MKTCAP	22.1%	31.9%	0.71	11.8%	-0.30	-0.49	8%	25.3%	1.34	9.6%	1.12	0.55	51%	3.3%	25.5%	-6.4%	-6.4%	-6.4%
BETA	29.1%	32.7%	-0.38	27.4%	0.60	0.99	54%	49.0%	4.15	12.5%	2.01	5.98	65%	19.9%	71.0%	-19.1%	-19.1%	-19.1%
VOL	31.9%	37.0%	0.92	20.3%	0.48	0.41	14%	20.0%	0.61	9.8%	1.44	3.99	39%	12.0%	36.7%	-14.6%	-14.6%	-14.6%
MOM-1	7.5%	25.6%	-0.12	4.2%	0.25	-0.30	319%	32.1%	0.88	19.9%	0.15	1.87	323%	24.6%*	27.3%	34.8%	34.8%	34.8%
MOM-2-4	-1.3%	28.1%	0.69	-11.0%	-0.23	-0.58	184%	35.0%	0.27	27.9%*	0.35	-0.17	215%	36.4%***	31.4%	11.6%	11.6%	11.6%
P/E	10.8%	25.4%	1.35	-4.3%	0.07	1.83	62%	34.2%	0.55	24.9%	0.43	0.62	67%	23.5%	35.1%	25.0%	25.0%	25.0%
P/B	10.5%	28.1%	1.23	-4.3%	0.28	1.36	47%	40.7%	0.58	31.7%	0.17	-0.55	52%	30.2%	46.5%	31.9%	31.9%	31.9%
P/D	36.1%	39.1%	0.49	27.6%	0.46	-0.45	82%	11.0%	2.50	13.9%	0.49	0.14	60%	-25.1%	47.3%	-45.6%	-45.6%	-45.6%

TABLE 5E (continued)

IFC Composite	17.3%	26.5%	0.66	7.3%**	0.41	0.12
MSCI AC World	12.1%	6.8%	1.00		-1.28	3.17

Notes:

Significance level: * 10%, ** 5%, *** 1%.

IFC Investables and MSCI World Indices in US dollars: Unhedged.

Portfolios were formed by sorting the countries into three triles based on the level of the attribute.

Portfolios were reformed semi-annually.

Liquidity weighted portfolios based on IFC USD value traded - 12 month average.

Legend

ICRGC	International Country Risk Guide Composite Index	AAGEGR	Annual Growth in Average Age of Population - UN Data
ICRGP	International Country Risk Guide Political Index	AVERAGE	Average Age of Population - UN Data
ICRGF	International Country Risk Guide Financial Index	MKTCAP	IFC Global Market Capitalization
ICRGE	International Country Risk Guide Economic Index	BETA	IFC Global Beta with MSCI AC World - 36 months trailing
II CCR	Institutional Investor Country Credit Ratings	VOL	IFC Global Volatility - 36 months trailing
EMCRR	Euro money Country Risk Ratings	MOM-1	Trailing USD Total Return - Prior Month
INFLATE	Annual Consumer Inflation: IFS Database	MOM-2-4	Trailing USD Total Return - Months -4 to -2
TRDGDP	(Exports+Imports)/GDP: IFS Database	P/E*	IFC Global Price/Earnings Ratio
MKCPGDP	IFC Global Market Capitalization/GDP	P/B*	IFC Global Price/Book Ratio
POPGR	Annual Growth in Population - UN Data	P/D	IFC Global Price/Dividend Ratio

TABLE 5F. Emerging Market Risk Level Portfolio Strategy
IFCG Indices—Semi-Annual Rebalancing: July 1991—June 1996

Risk Attribute	High Triflute										Low Triflute										Low-High Attribute									
	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Average Annual Return	Standard Dev.	MSCI World Alpha						
<i>Equal Weighted</i>																														
ICRGC	18.4%	31.8%	1.37	2.1%	2.15	5.16	50%	36.3%	40.2%	2.11	14.4%	0.95	0.00	73%	18.0%	24.7%	2.11	14.4%	0.95	0.00	73%	18.0%	24.7%	8.1%						
ICRGP	25.2%	36.7%	2.09	2.5%	1.34	1.66	57%	24.5%	30.2%	0.76	13.4%	1.33	2.05	55%	-0.7%	17.5%	0.76	13.4%	1.33	2.05	55%	-0.7%	17.5%	6.7%						
ICRGF	17.0%	25.9%	0.25	9.5%	2.13	5.30	45%	38.2%	40.7%	2.72	11.1%	0.84	-0.39	76%	21.2%	35.5%	2.72	11.1%	0.84	-0.39	76%	21.2%	35.5%	-2.5%						
ICRGE	18.7%	24.0%	0.48	9.7%	2.16	5.79	48%	34.8%	36.7%	1.91	14.6%	0.66	-0.71	55%	16.1%	25.1%	1.91	14.6%	0.66	-0.71	55%	16.1%	25.1%	0.7%						
II CCR	12.9%	26.0%	0.39	4.4%	2.03	5.00	28%	44.7%	45.8%	2.59	18.3%	0.96	-0.51	43%	31.8%**	37.3%	2.59	18.3%	0.96	-0.51	43%	31.8%**	37.3%	9.8%						
EMCRR	13.7%	24.5%	0.84	1.3%	1.58	2.12	38%	44.5%	45.0%	2.54	18.8%	1.06	-0.15	57%	30.8%**	38.4%	2.54	18.8%	1.06	-0.15	57%	30.8%**	38.4%	13.3%						
INFLATE	49.5%	53.0%	3.48	16.3%	0.95	-0.18	55%	17.1%	28.6%	0.63	6.3%	2.21	5.50	46%	-32.4%	49.8%	0.63	6.3%	2.21	5.50	46%	-32.4%	49.8%	-14.2%						
TRDGD	21.2%	34.2%	0.24	13.4%	2.56	7.27	38%	38.7%	47.5%	3.28	6.7%	1.08	-0.27	46%	17.5%	41.8%	3.28	6.7%	1.08	-0.27	46%	17.5%	41.8%	-10.8%						
MKCPGD	16.2%	21.6%	0.46	7.3%	2.01	4.99	44%	40.4%	53.6%	3.16	10.4%	1.34	1.67	65%	24.2%	49.9%	3.16	10.4%	1.34	1.67	65%	24.2%	49.9%	-1.0%						
POPGR	28.3%	36.5%	2.31	4.6%	1.25	0.16	30%	27.1%	36.4%	2.20	3.7%	1.15	0.76	45%	-1.2%	15.3%	2.20	3.7%	1.15	0.76	45%	-1.2%	15.3%	-5.0%						
AAGEGR	22.6%	31.6%	0.87	10.5%	1.46	1.04	38%	29.4%	39.9%	2.37	5.6%	1.32	0.33	36%	6.8%	18.0%	2.37	5.6%	1.32	0.33	36%	6.8%	18.0%	-9.1%						
AVERAGE	28.1%	34.9%	2.11	5.8%	0.76	-0.62	39%	28.1%	30.4%	1.35	12.1%	1.28	1.01	28%	0.1%	10.2%	1.35	12.1%	1.28	1.01	28%	0.1%	10.2%	2.2%						
MKTCAP	22.6%	28.5%	1.33	7.1%	1.32	0.47	31%	28.6%	37.3%	1.76	8.8%	1.11	1.45	67%	6.0%	20.8%	1.76	8.8%	1.11	1.45	67%	6.0%	20.8%	-2.4%						
BETA	23.5%	22.1%	0.75	12.6%	0.47	-1.57	63%	32.5%	38.1%	2.27	9.4%	0.76	-0.04	93%	9.0%	33.5%	2.27	9.4%	0.76	-0.04	93%	9.0%	33.5%	-7.4%						
VOL	33.6%	43.9%	3.04	4.4%	0.46	-1.13	60%	15.2%	17.4%	0.49	6.2%	1.04	0.92	36%	-18.3%	40.1%	0.49	6.2%	1.04	0.92	36%	-18.3%	40.1%	-2.3%						
MOM-1	24.4%	38.3%	2.33	1.0%	1.34	1.23	144%	31.5%	39.8%	1.96	10.7%	1.03	-0.11	152%	7.2*	16.2%	1.96	10.7%	1.03	-0.11	152%	7.2*	16.2%	5.6%						
MOM-2-4	25.9%	38.9%	1.98	4.9%	1.56	1.90	154%	29.3%	38.5%	2.37	4.8%	0.96	-0.45	158%	3.4%	14.2%	2.37	4.8%	0.96	-0.45	158%	3.4%	14.2%	-4.2%						
P/E	20.4%	31.0%	1.66	2.4%	1.41	0.57	93%	41.9%	34.4%	1.48	24.5%	0.77	-0.01	101%	21.4%***	15.7%	1.48	24.5%	0.77	-0.01	101%	21.4%***	15.7%	18.0%						
P/B	11.6%	32.3%	0.47	2.6%	1.98	4.81	66%	52.1%	57.1%	2.90	24.4%	2.31	6.06	93%	40.6%	62.1%	2.90	24.4%	2.31	6.06	93%	40.6%	62.1%	17.7%						
P/D	33.3%	43.8%	2.24	10.3%	1.43	1.46	74%	17.7%	30.4%	1.48	0.6%	0.27	-0.89	67%	-15.6%	42.3%	1.48	0.6%	0.27	-0.89	67%	-15.6%	42.3%	-13.8%						

TABLE 5F (continued)

Risk Attribute	High Tritle					Low Tritle					Low-High Attribute				
	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC Alpha	MSCI World Alpha	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC Alpha	MSCI World Alpha	Average Annual Return	Standard Dev.	MSCI World Beta	MSCI AC Alpha	MSCI World Alpha
<i>Capitalization Weighted</i>															
ICRGC	16.6%	29.6%	1.04	2.7%	2.02	5.52	34.1%	1.64	13.8%	0.00	-1.86	45%	15.3%	37.6%	6.9%
ICRGP	21.8%	30.5%	0.71	11.0%	1.67	4.50	32.3%	0.22	18.6%	1.79	3.28	36%	3.6%	17.0%	3.5%
ICRGF	14.9%	30.1%	0.17	8.1%	2.15	5.74	30.6%	1.43	6.6%	0.37	0.20	61%	7.1%	35.7%	-5.7%
ICRGE	24.9%	29.7%	0.55	14.9%	1.89	4.69	29.4%	0.97	13.3%	0.53	-0.71	44%	1.1%	24.4%	-5.7%
IICCR	19.8%	31.2%	0.50	10.3%	1.81	4.76	35.7%	1.60	16.9%	0.19	-1.24	16%	14.8%	38.1%	2.5%
EMCRR	19.5%	30.3%	0.67	8.6%	1.71	4.12	36.3%	1.74	18.4%	0.34	-1.24	17%	17.8%	36.0%	5.7%
INFILATE	30.1%	32.0%	1.74	11.1%	0.13	-2.06	34.6%	0.62	7.2%	1.97	4.80	14%	-12.0%	37.4%	-8.1%
TRDGD	22.6%	37.1%	0.54	12.5%	2.03	5.60	28.4%	1.46	2.7%	1.17	1.01	8%	-3.2%	26.5%	-13.9%
MKCPGDP	18.8%	25.4%	0.38	10.4%	1.82	4.59	35.4%	2.53	4.4%	0.66	-0.22	26%	10.5%	34.6%	-10.2%
POPGR	20.8%	25.8%	1.08	6.8%	1.70	4.12	30.7%	1.40	1.3%	1.41	1.99	28%	-3.3%	15.5%	-9.6%
AAGEGR	15.8%	27.9%	0.54	6.4%	1.25	1.84	25.2%	1.35	4.6%	1.61	3.34	15%	4.9%	20.8%	-5.9%
AVERAGE	16.3%	26.4%	1.18	2.4%	0.73	0.35	25.4%	0.89	8.4%	1.78	4.67	19%	4.6%	20.1%	1.8%
MKTCAP	18.1%	27.8%	1.07	4.4%	1.57	3.08	26.0%	1.40	4.9%	0.96	0.50	22%	3.4%	21.0%	-3.6%
BETA	28.4%	25.9%	0.60	18.1%	1.00	0.22	52.9%	3.19	6.6%	1.10	1.46	34%	8.3%	50.4%	-15.7%
VOL	26.9%	34.0%	2.13	4.9%	-0.02	-1.95	32.3%	0.54	7.2%	1.81	4.45	42%	-9.6%	35.2%	-1.8%
MOM-1	14.2%	21.0%	0.90	2.6%	0.33	-1.04	38.0%	2.02	0.2%	1.03	0.28	179%	7.7%	28.2%	-6.5%
MOM-2-4	15.6%	31.4%	1.45	-0.5%	0.79	0.64	32.4%	1.71	-1.3%	1.57	2.93	78%	2.6%	25.1%	-4.9%
P/E	16.2%	32.4%	1.73	-3.0%	1.42	3.15	29.1%	-0.06	25.2%	0.30	0.48	46%	13.3%	24.5%	24.0%**
P/B	14.5%	34.3%	0.73	3.1%	1.96	5.54	36.9%	1.93	17.7%	1.30	2.04	39%	23.5%	44.0%	10.5%
P/D	31.0%	35.5%	1.25	16.2%	0.91	0.15	32.3%	1.42	-2.7%	0.13	-0.76	47%	-17.4%	37.4%	-23.0%

TABLE 5F (continued)

Risk Attribute	High Triflile					Low Triflile					Low-High Attribute						
	Average Annual Return	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Standard Dev.	MSCI AC World Beta	MSCI AC World Alpha	Skewness	Kurtosis	Average Annual Turnover	Standard Dev.	MSCI AC World Alpha		
<i>Liquidity Weighted</i>																	
ICRGC	12.4%	27.1%	0.84	0.2%	1.91	4.70	21%	33.6%	33.7%	1.97	12.8%	-0.02	-2.12	40%	21.2%	37.0%	8.5%
ICRGP	15.6%	27.9%	0.75	4.5%	1.88	4.73	24%	31.9%	29.9%	0.56	22.4%	0.85	-0.39	52%	16.4%**	21.1%	13.8%
ICRGF	10.9%	31.1%	0.14	4.1%	2.04	5.02	5%	26.3%	29.0%	2.05	5.9%	-0.47	0.36	68%	15.4%	39.4%	-2.4%
ICRGE	18.0%	28.4%	0.42	9.1%	2.11	5.77	9%	29.2%	30.9%	1.33	13.4%	0.16	-1.34	42%	11.3%	25.0%	0.1%
II CCR	16.0%	30.6%	0.33	7.8%	1.95	5.00	4%	39.6%	42.9%	2.07	18.5%	0.94	0.96	12%	23.6%	49.2%	6.6%
EMCRR	17.9%	30.9%	0.69	6.5%	1.65	3.40	13%	47.7%	45.0%	2.81	19.9%	0.69	-0.53	17%	29.7%	46.7%	9.3%
INFLATE	31.2%	36.4%	2.29	7.9%	0.22	-1.99	19%	13.1%	32.6%	0.44	3.7%	2.01	4.84	12%	-18.1%	41.9%	-8.3%
TRDGDGP	17.1%	30.7%	0.40	8.7%	1.50	5.39	13%	20.3%	36.9%	1.19	6.1%	-0.60	-0.02	8%	3.1%	32.5%	-6.7%
MKCPGDGP	12.5%	31.0%	0.24	5.2%	1.96	5.05	28%	34.3%	39.3%	2.74	7.6%	0.78	-0.24	19%	21.8%	39.2%	-1.6%
POPGR	16.2%	34.3%	1.31	0.6%	1.39	2.15	2%	17.6%	29.5%	0.96	4.8%	2.05	4.48	29%	1.3%	14.4%	0.1%
AAGEGR	16.3%	27.2%	0.48	7.3%	1.05	1.72	18%	16.8%	34.8%	1.92	-3.6%	1.61	3.94	9%	0.5%	24.8%	-15.0%
AVERAGE	14.6%	24.9%	1.06	1.4%	1.44	1.36	19%	16.1%	33.1%	0.90	3.6%	1.48	3.03	2%	1.5%	20.6%	-1.9%
MKTCAP	19.7%	29.0%	1.41	3.1%	1.16	1.33	4%	27.3%	39.3%	2.13	4.4%	1.32	1.91	13%	7.6%	18.6%	-2.9%
BETA	26.4%	27.8%	0.62	15.7%	0.43	-0.84	41%	61.6%	82.7%	5.98	8.4%	1.50	2.12	39%	35.2%	79.8%	-11.4%
VOL	31.4%	36.0%	2.07	9.7%	0.02	-2.15	11%	17.8%	33.2%	0.66	6.7%	1.94	4.94	39%	-13.6%	37.8%	-7.1%
MOM-1	5.7%	23.3%	0.59	-4.0%	0.56	-1.53	165%	18.0%	35.7%	2.00	-3.3%	0.85	-0.39	173%	12.3%	32.5%	-3.4%
MOM-2.4	5.3%	31.5%	1.19	-9.2%	1.16	2.52	98%	25.3%	41.4%	2.01	2.9%	1.70	3.57	91%	19.9%**	21.5%	8.0%
P/E	13.2%	29.2%	1.63	-5.2%	1.02	1.21	24%	34.7%	34.4%	0.23	28.0%	0.17	-0.55	40%	21.5%*	23.4%	29.1%
P/B	11.6%	38.8%	1.18	-3.4%	1.70	3.70	27%	42.9%	45.3%	2.39	19.0%	1.80	4.09	17%	31.3%	56.2%	18.3%
P/D	37.8%	45.4%	1.99	17.2%	1.41	2.44	43%	12.5%	43.8%	2.85	-16.2%	0.45	-1.10	30%	-25.4%	53.8%	-37.5%

TABLE 5F (continued)

IFC Composite	17.2%	27.8%	1.15	2.7%*	1.71	3.94
MSCI AC World	12.4%	8.5%	1.00		-0.56	0.52

Notes:

Significance level: * 10%, ** 5%, *** 1%.

IFC Investables and MSCI World Indices in US dollars: Unhedged.

Portfolios were formed by sorting the countries into three tritiles based on the level of the attribute.

Portfolios were reformed semi-annually.

Liquidity weighted portfolios based on IFC USD value traded - 12 month average.

Legend

ICRGC	International Country Risk Guide Composite Index	AAGEGR	Annual Growth in Average Age of Population - UN Data
ICRGP	International Country Risk Guide Political Index	AVERAGE	Average Age of Population - UN Data
ICRGF	International Country Risk Guide Financial Index	MKTCAP	IFC Global Market Capitalization
ICRGE	International Country Risk Guide Economic Index	BETA	IFC Global Beta with MSCI AC World - 36 months trailing
II CCR	Institutional Investor Country Credit Ratings	VOL	IFC Global Volatility - 36 months trailing
EMCRR	Euro money Country Risk Ratings	MOM-1	Trailing USD Total Return - Prior Month
INFLATE	Annual Consumer Inflation: IFS Database	MOM-2-4	Trailing USD Total Return - Months -4 to -2
TRDGDP	(Exports+Imports)/GDP: IFS Database	P/E*	IFC Global Price/Earnings Ratio
MKCPGDP	IFC Global Market Capitalization/GDP	P/B*	IFC Global Price/Book Ratio
POPGR	Annual Growth in Population - UN Data	P/D	IFC Global Price/Dividend Ratio

and 5D. The investible strategies detailed in Tables 5E and 5F also indicate that there is information in the risk ratings. In all three portfolio-weighting schemes and over both rebalancing rules, the ICRG earns positive abnormal returns. Interestingly, the ICRGC composite is not even the most successful attribute. The ICRG economic-risk and political-risk attributes consistently produce higher abnormal returns. These results are consistent with those presented in Erb, Harvey, and Viskanta (1996b).

Institutional Investor and Euromoney

Both the *Institutional Investor* and the *Euromoney* credit ratings provide less impressive discrimination between high and low expected-return securities. None of the abnormal returns are significantly different from zero and the performance deteriorates in the past five years. For example, the EMCCR provided impressive abnormal performance in the overall period (14.4 percent alpha with equal weighting). In the past five years, the abnormal returns were negative. However, the negative returns are largely due to noninvestible countries. Tables 5E and 5F show that the EMCCR generates 18.8 percent, 13.8 percent, and 22.0 percent alpha over the equal capitalization-weighted and liquidity-weighted strategies with quarterly rebalancing.

Inflation

Inflation appears to be an important instrument in portfolio selection. In this case, the high-attribute portfolio has much higher expected returns than the low-attribute portfolio. However, in contrast to some of the ICRG results, the high-attribute portfolio has much higher volatility than the low-attribute portfolio. The high minus low equally weighted portfolio results in an alpha of 36.3 percent over the full sample and 25.2 percent over the past five years. The alphas are smaller for the capitalization-weighted portfolios but still large compared to other attributes. In addition, the results are robust to less frequent rebalancing. Finally, inflation is an important attribute in all of the investible strategies.

Trade Sector

Trade to GDP has some ability to distinguish between high and low expected returns. Countries with small trade sectors have higher expected returns than countries with large trade sectors. This is consistent with the Bekaert and Harvey (1996b) idea that the size of the trade sector serves as a proxy for market integration. In addition, the beta of the low-

attribute portfolio may be low because the market is not integrated. The size of the trade-sector attribute produces a 12.6 percent alpha in the full sample with the equally weighted portfolio and 18.9 percent over the last five years. The alphas are lower for the capitalization-weighted portfolio strategies. The alphas are also low for the investible strategies in Tables 5E and 5F.

Market Size

Market size to GDP provides significant information regarding portfolio performance. This is consistent with the arguments of Bekaert and Harvey (1996b) that the size of the equity market relative to economic activity is an important indicator of financial market integration. For the equally weighted portfolios, the alpha is 26.6 percent in the overall period and 22.3 percent in the last five years. The value-weighted portfolios produce equally impressive results. In the overall period, the alpha is 18.7 percent, and in the last five years, 21.6 percent. With quarterly rebalancing, the investible alphas are 10.0 percent, 1.3 percent, and 14.6 percent for the three weighting schemes.

Market size itself provides less information regarding portfolio performance. This contrasts with the results of Asness, Liew, and Stevens (1996) for developed countries. For equally weighted portfolios, the low-minus high-size portfolio produced 21.2 percent alpha in the overall period but -2.6 percent in the last five years. Similarly, the capitalization-weighted portfolios produced a 22.1 percent alpha over the full sample and only a 3.3 percent abnormal return in the last five years. Market capitalization has no information when the investible strategies are examined. For each of the three weighting schemes and over the two rebalancing strategies, capitalization always produces negative abnormal returns.

Demographics

The three demographic variables: population growth, average-age growth, and average age offer only limited ability to discriminate between high and low expected-return countries. The demographic asset pricing theory presented in Bakshi and Chen (1994) is most appropriate for time-series analysis of developed countries. That is, holding other factors constant, an increasing average age will be associated with higher demand for equities. It is difficult, if not impossible, to hold other factors constant in emerging markets. For example, a changing degree of market integration could confound the relation between demographics and returns. In addition, given that the age dynamics are predictable, the

demographic analysis is best directed at explaining long-horizon expected returns [see Erb, Harvey, and Viskanta (1996c)].

For the equally-weighted-portfolio strategy, low minus high average-age growth produces an alpha of 10.9 percent in the overall period and 15.6 percent in the last five years. With capitalization weighting, the alpha is 9.3 percent in the overall period and 6.9 percent over the last five years. Examining the investible strategies, average-age growth delivers 9.9 percent, 8.7 percent, and 19.4 percent over the three quarterly-weighting schemes. The other variables, average age and population growth, produce inconsistent results over the different portfolio formation techniques and time periods.

Momentum

The evidence for the momentum variables is inconsistent. For example, the capitalization-weighted strategy which examines the previous month's return produces an alpha of -9.8 percent in the overall period and 10.3 percent in the last five years. The momentum strategies do better when the investible indices are examined. In the quarterly strategies, the relative lagged return produces 14.9 percent, 14.5 percent, and 11.6 percent over the three weighting schemes. It is important to note that this strategy induces dramatically more turnover than any of the other attributes.

Valuation

The final set of attributes involves the traditional accounting ratios. While dividend yields (DP) are available on all the indices one year after the market enters the IFC data, the price to book (PB) and price to earnings (PE) ratios are only available from January 1986. Hence, the evaluation of the PB and PE ratios is over a different sample than all of the other portfolio simulations.

Of the three accounting attributes, PE produces the most consistent results. For equally weighted strategies, the alpha for the overall period is 18.7 percent and 4.2 percent in the last five years. For the capitalization-weighted strategies, the alpha for the overall period is 10.9 percent and 8.9 percent in the last five years. With the investibles, the quarterly strategies produced 14.9 percent, 16.2 percent, and 25.0 percent over the three weighting methods. The portfolio results for PB and PD are inconsistent across portfolio weighting schemes using the global data. However, with the investible strategies, low minus high PB produces more impressive results than low minus high PE. As is expected, the portfolio's strategy

needs to be reversed for dividend yield. The high minus low PD produces consistently high abnormal performance over each of the investible strategies.

Asset Pricing Theory

Tables 5A to 5F also present results based on two risk attributes implied by asset pricing theory: the trailing three-year beta and the trailing three-year volatility. The beta is measured against the MSCI-all countries world index, and beta is only a valid risk measure if these markets are integrated into world capital markets. The results are intriguing. In the global strategies, the low- minus high-beta portfolio always earns a negative return, which is what one would expect from asset pricing theory. However, it is important to note that the "beta" of the investment strategies (buy low-beta portfolio or buy high-beta portfolios) are not that different. At first, this appears puzzling. Remember, a trailing beta was used to form the portfolio. The beta of the portfolio is not the weighted sum of the individual country betas because the portfolio is based on an out-of-sample use of the trailing betas. Similar results are observed in the investible strategies.

Volatility also has some ability to distinguish between high and low expected returns. In the global strategies, the high- minus low-volatility strategies produce positive excess returns for the equally weighted portfolios and negative excess returns for the capitalization-weighted portfolios. In the investible strategies, the excess returns are positive for equal capitalization-weighted and liquidity-weighted strategies.

Summary

These results suggest that there are a number of useful attributes in discriminating among those countries which will experience high and low expected returns. It is likely, as argued in Ferson and Harvey (1994, 1996), that these attributes are related to risk. Unfortunately, determining the appropriate measure of risk is difficult in emerging markets.

Trading Emerging Market Portfolios

The cost of trading is high in emerging markets. Table 6 presents estimates of transactions costs from Barings Securities. The percent spread calculation is the difference between the offer and bid price divided by the average of the offer and bid price. Barings uses the midpoint in the divisor in order to avoid the problems caused by large fluctuations in the current price.

The percent spreads in Table 6 are based on snapshots of individual stocks during the weeks of July 17 and July 24, 1995. The country spreads are calculated by capitalization weighting the percentage spreads of the individual firms within each country.

TABLE 6. Estimated Transaction Costs in the Emerging Markets

Baring Securities Emerging Market Index Spread Analysis

Country	Basis Points	BEMI	+Standalones
Argentina	155	5.9%	5.5%
Brazil	85	15.7%	14.4%
Chile	393	6.5%	5.9%
China	134	0.0%	1.7%
Colombia*	100	0.0%	1.1%
Greece	48	1.8%	1.7%
India*	150	0.0%	4.4%
Indonesia	112	3.1%	2.9%
Jordan	58	0.0%	0.3%
Malaysia	69	14.3%	13.1%
Mexico	93	11.7%	10.7%
Pakistan	38	0.6%	0.5%
Peru	111	2.3%	2.1%
Philippines	94	4.5%	4.1%
Poland*	150	0.0%	0.7%
Portugal	93	1.9%	1.8%
South Africa	112	12.2%	11.2%
South Korea	41	4.6%	4.2%
Taiwan	47	5.2%	4.8%
Thailand	70	8.2%	7.5%
Turkey	160	1.6%	1.5%

*Spread numbers are approximate.

Global Spread (Basis Points)

Index	Cap Weight	Cap Weight +Standalones	Equal Weight	Equal Weight +Standalones
Global	108	110	108	110
Asia	69	80	67	84
Europe+Africa	108	109	103	104
Latin America	146	145	167	156

Please note that these figures represent spreads only, and do not include either commissions or taxes. Countries and weights differ from both IFC and MSCI.

Source: Baring Securities (July 1995)

The percentage spreads are, in many countries, much larger than one would expect in developed markets. The spread in Chile is close to 400 basis points. In both Argentina and Turkey, the percentage spread is more than 150 basis points. These high transactions costs reinforce the need to minimize trading. Indeed, many investment managers do not practice active stock-selection strategies in emerging markets because of the massive transactions costs. "Active" management in emerging markets is often interpreted in the context of country selection rather than stock selection.

While the portfolio analysis in Tables 5A to 5F does not explicitly account for transactions costs, we do include a measure of average turnover. Approximate transactions costs can be estimated with the turnover data. Assume that one-way transactions costs are 200 basis points for each country. If a portfolio experienced 100 percent turnover, this would imply that the average return should be adjusted down by 400 basis points. The highest turnover is found with the momentum strategies. The turnover is so high that it is unlikely that these strategies could be successfully implemented in the form specified here. The lowest turnover is found with the demographic variables. This is not unexpected given that the data are only available annually and there is little variation over the years.

The most impressive ratios of low/high portfolio returns to turnover are found for the survey risk attributes and for the market integration measures, trade to GDP and market capitalization to GDP.

Conclusions

The idea of this chapter is to explore what matters for emerging market investment. The traditional beta-risk paradigm is problematic in emerging markets because a number of the markets are unlikely to be fully integrated into world capital markets. Indeed, in a completely segmented market, country variance (which is usually considered idiosyncratic) is the appropriate measure of risk. We explore a group of risk attributes that have been successfully applied in developed markets. These attributes include traditional risk attributes like beta and volatility as well as a wide range of country characteristics including political risk, inflation, demographics, market integration, and fundamental values. We find that a number of these attributes such as market capitalization to GDP, inflation price earnings ratios, and survey-based risk measures identify high and low expected-return environments.

Endnotes

1. The IFC announced on June 20, 1996, that 17 new emerging markets will be added September 30, 1996.
2. Over the July 1989–June 1996 period, the correlation between the IFCI and the MSCI EMF indices is 92 percent. Over the July 1991–March 1996 period, the correlation between the IFCI and the MSCI EMF is 98 percent. The correlation between the EMG (EMF) and the MSCI world–all countries is 45 percent (45 percent).
3. The IFCI index contains 1,116 securities, MSCI 868 and BEMI 417 as of May 1996.
4. Tracking error, in this case, is the standard deviation of the difference between the index returns.
5. Some caution needs to be exercised in interpreting the “alpha” as an abnormal return. The abnormal return depends on the benchmark. We also report the average returns and volatility of the IFC index, 13.3 percent and 23.6 percent. An alternative comparison would be to compare the Sharpe ratios of the investment strategies to that of the IFC composite.

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