THE JOURNAL OF FINANCE • VOL. LIII, NO. 6 • DECEMBER 1998

Value versus Growth: The International Evidence

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ABSTRACT

Value stocks have higher returns than growth stocks in markets around the world. For the period 1975 through 1995, the difference between the average returns on global portfolios of high and low book-to-market stocks is 7.68 percent per year, and value stocks outperform growth stocks in twelve of thirteen major markets. An international capital asset pricing model cannot explain the value premium, but a two-factor model that includes a risk factor for relative distress captures the value premium in international returns.

INVESTMENT MANAGERS CLASSIFY FIRMS that have high ratios of book-to-market equity (B/M), earnings to price (E/P), or cash flow to price (C/P) as value stocks. Fama and French (1992, 1996) and Lakonishok, Shleifer, and Vishny (1994) show that for U.S. stocks there is a strong value premium in average returns. High B/M, E/P, or C/P stocks have higher average returns than low B/M, E/P, or C/P stocks. Fama and French (1995) and Lakonishok et al. (1994) also show that the value premium is associated with relative distress. High B/M, E/P, and C/P firms tend to have persistently low earnings; low B/M, E/P, and C/P stocks tend to be strong (growth) firms with persistently high earnings.

Lakonishok et al. (1994) and Haugen (1995) argue that the value premium in average returns arises because the market undervalues distressed stocks and overvalues growth stocks. When these pricing errors are corrected, distressed (value) stocks have high returns and growth stocks have low returns. In contrast, Fama and French (1993, 1995, 1996) argue that the value premium is compensation for risk missed by the capital asset pricing model (CAPM) of Sharpe (1964) and Lintner (1965). This conclusion is based on evidence that there is common variation in the earnings of distressed firms that is not explained by market earnings, and there is common variation in the returns on distressed stocks that is not explained by the market return. Most directly, including a risk factor for relative distress in a multifactor version of Merton's (1973) intertemporal capital asset pricing model (ICAPM)

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or Ross's (1976) arbitrage pricing theory (APT) captures the value premiums in U.S. returns generated by sorting stocks on B/M, E/P, C/P, or D/P (dividend yield).

Still another position, argued by Black (1993) and MacKinlay (1995), is that the value premium is sample-specific. Its appearance in past U.S. returns is a chance result unlikely to recur in future returns. A standard check on this argument is to test for a value premium in other samples. Davis (1994) shows that there is a value premium in U.S. returns before 1963, the start date for the studies of Fama and French and others.

We present additional out-of-sample evidence on the value premium. We examine two questions.

- (i) Is there a value premium in markets outside the United States?
- (ii) If so, does it conform to a risk model like the one that seems to describe U.S. returns?

There is existing evidence on (i). Chan, Hamao, and Lakonishok (1991) document a strong value premium in Japan. Capaul, Rowley, and Sharpe (1993) argue that the value premium is pervasive in international stock returns. Their sample period is, however, short (ten years).

Our results are easily summarized. The value premium is indeed pervasive. Section II shows that sorts of stocks in thirteen major markets on B/M, E/P, C/P, and D/P produce large value premiums for the 1975 to 1995 period. Sections III and IV then show that an international two-factor version of Merton's (1973) ICAPM or Ross's (1976) APT seems to capture the value premium in the returns for major markets. Section V suggests that there is also a value premium in emerging markets.

I. The Data

We study returns on market, value, and growth portfolios for the United States and twelve major EAFE (Europe, Australia, and the Far East) countries. The U.S. portfolios use all NYSE, AMEX, and Nasdaq stocks with the relevant CRSP and COMPUSTAT data. Most of the data for major markets outside the United States are from the electronic version of Morgan Stanley's *Capital International Perspectives* (MSCI). The twelve countries we use are all those with MSCI accounting ratios (B/M, E/P, C/P, and D/P) for at least ten firms in each December from 1974 to 1994. We do not require that the same firms have data on all ratios. (See Table II, below, for details on how we construct the portfolios.)

The MSCI data have an important advantage. Other international databases often include only currently traded firms and so are subject to survivor bias. The MSCI database is just a compilation of the hard-copy issues of Morgan Stanley's *Capital International Perspectives*. It includes historical data for firms that disappear, but it does not include historical data for newly added firms, so there is no backfilling problem. Thus, the data are relatively free of survivor bias. Because the accounting data on MSCI are also from *Capital International Perspectives*, their availability on the hard-copy publication date is clear-cut.

MSCI includes only a subset of the firms in any market, primarily those in Morgan Stanley's EAFE index or in the MSCI index for a country's market. This means that most of the MSCI firms are large—in fact they account for the majority (MSCI's target is 80 percent) of a market's invested wealth, so they provide a good description of the market's performance. Preliminary tests we have done (but do not show) confirm, however, that a database of large stocks does not allow meaningful tests for a size effect, such as that found by Banz (1981) in U.S. returns, and that suggested by Heston, Rouwenhorst, and Wessels (1995) for international returns.

Table I summarizes our samples. The more complete U.S. sample (from CRSP and COMPUSTAT) always has at least ten times more firms than any of the twelve EAFE countries. But because MSCI covers mostly large stocks, the median and average market capitalizations of the MSCI stocks are typically several times those of the U.S. sample. (Other features of the samples reported in Table I are discussed later.)

Calculating returns from the MSCI data presents a problem. Stock prices are available for the end of each month, but information about dividends is limited to the dividend yield, defined as the ratio of the trailing year of dividends to the end-of-month stock price. The dividend yield allows accurate calculation of an annual return (without intrayear reinvestment of dividends). Annual returns suffice for estimating expected returns, but tests of asset pricing models (which also require second moments) are hopelessly imprecise unless returns for shorter intervals are used. To estimate monthly returns, we spread the annual dividend for a calendar year across all months of the year so that compounding the monthly returns reproduces the annual return. This approach maintains the integrity of average returns. But it assumes that the capital gain component of monthly returns, which is measured accurately, reproduces the volatility and covariance structure of total monthly returns.

II. The Value Premium

Tables II and III summarize global and country returns for 1975 through 1995 for value and growth portfolios formed on B/M, E/P, C/P, and D/P. For the twelve MSCI EAFE countries, the portfolios are formed at the end of each calendar year from 1974 to 1994, and returns are calculated for the following year. (Table II gives details.) We also form the U.S. portfolios at the end of December of each year, using year-end CRSP stock prices and COMPUSTAT accounting data for the most recent fiscal year. Because the availability date for accounting data is less clear-cut for COMPUSTAT than for MSCI, we calculate returns on the U.S. portfolios beginning in July, six months after portfolio formation (as in Fama and French (1996)).

Table I

Some Characteristics of the Country Samples

Panel A shows the number of firms for each country in the Morgan Stanley Capital International (MSCI) database at the beginning of 1975, 1985, and 1995, and the average number of firms for all years (Ave). Panel B shows the MSCI country weights used to form the global portfolios in later tables. Panel C shows the average size (market capitalization, price times shares outstanding) of firms in the market, high book-to-market (HB/M) and low book-to-market (LB/M) portfolios of each country. (See Table II for details on how the portfolios are constructed.) The averages are calculated first across firms for a given year and then across years. Panel D shows the median firm size for the three portfolios, averaged across years. Panel E shows the value weight average of B/M for the three portfolios, averaged across years. The thirteen countries are the United States (US), Japan (JP), Great Britain (UK), France (FR), Germany (GM), Italy (IT), the Netherlands (NL), Belgium (BE), Switzerland (SZ), Sweden (SD), Australia (AS), Hong Kong (HK), and Singapore (SG).

	US	JP	UK	FR	GM	IT	NL	BE	SZ	SD	AS	HK	SG
Panel A: Number of Firms in Country													
1975	3333	191	179	109	99	72	41	36	45	37	74	26	39
1985	4566	249	161	85	86	61	36	26	53	34	72	32	54
1995	6258	528	227	126	130	140	47	39	91	54	90	70	51
Ave	4434	325	185	108	103	94	42	34	74	46	80	39	50
Panel B: MSCI Country Weights (%)													
1975	62.9	13.6	5.5	2.8	5.7	1.4	1.8	1.1	1.7	1.0	1.8	0.4	0.3
1985	57.1	22.1	7.9	1.4	3.0	0.9	1.5	0.5	1.6	0.7	1.7	0.9	0.9
1995	38.9	30.0	10.2	3.7	4.2	1.4	2.3	0.7	3.0	1.1	1.7	1.9	0.8
Ave	48.8	24.7	9.0	2.6	4.4	1.2	1.7	0.7	2.3	0.8	1.8	1.2	0.7
Panel C: Average Size (market capitalization, $millions)													
Market	431	2985	1796	978	1410	570	1397	790	979	700	710	1059	517
HB/M	257	2949	1370	887	1298	535	2144	697	950	617	484	747	578
LB/M	512	4329	2247	1064	1334	898	1467	886	1396	977	909	1349	801
Panel D: Median Size (market capitalization, $millions)													
Market	42	1389	907	530	534	257	344	551	391	472	362	465	260
HB/M	21	1400	798	460	573	251	289	370	545	437	304	297	259
LB/M	53	1888	1195	605	571	411	551	536	607	623	498	467	544
Panel E: Value-Weight Average Book-to-Market Equity (B/M)													
Market	0.78	0.43	0.82	0.98	0.62	0.98	1.13	0.98	0.82	0.86	0.82	0.64	0.55
HB/M	1.63	0.70	1.64	2.26	0.88	2.12	2.56	1.90	1.98	1.82	1.74	1.50	1.06
LB/M	0.40	0.26	0.41	0.35	0.30	0.34	0.66	0.60	0.42	0.44	0.47	0.26	0.34

The value portfolio for a ratio (indicated with a leading H, for high) includes firms whose B/M, E/P, C/P, or D/P is among the highest 30 percent for a country. The growth portfolio (indicated with a leading L, for low) includes firms in the bottom 30 percent. For example, HB/M is the high book-to-market (value) portfolio and LB/M is the low book-to-market (growth) portfolio. Firms are value-weighted in the country portfolios, and we use

Table II

Annual Dollar Returns for Global Market, Value, and Growth Portfolios: 1975–1995

We form portfolios at the end of each year from 1974 to 1994, based on sorted values of B/M, E/P, C/P, and D/P. P and M are based on price per share at the time of portfolio formation. E, C, and D are the most recent available trailing year of earnings, cashflow (earnings plus depreciation), and dividends per share. B is the most recent available book common equity per share. Value portfolios (indicated with a leading H, for high) include firms whose ratio (B/M, E/P, C/P, or D/P) is among the highest 30 percent for a given country. Growth portfolios (indicated with a leading L, for low) include firms in the bottom 30 percent. H − L is the difference between the high and low returns. Market is the global market portfolio return. The global portfolios include the thirteen countries in Table I. Firms are weighted by their market capitalization in the country portfolios; countries are weighted by Morgan Stanley's country (basically value) weights in the global portfolios. The international returns for 1975 through 1994 and all international accounting data are from MSCI. The international returns for 1995 are from Datastream. The accounting data for the United States are from COMPUSTAT (as described in Fama and French (1996)), and stock prices and returns are from CRSP. Firms are included in a portfolio for a given ratio (B/M, E/P, C/P, or D/P) even if they do not have data on all four ratios. Mean is a portfolio's average annual return. Std. is the standard deviation of the annual returns; t(Mn) is the ratio of the average return to its standard error.

	Market	HB/M	LB/M	H-LB/M	HE/P	LE/P	H-LE/P	HC/P	LC/P	H-LC/P	HD/P	LD/P	H-LD/P
Panel A: Annual Value-Weight Dollar Returns in Excess of T-bill Rate													
Mean	9.60	14.76	7.09	7.68	13.66	6.84	6.82	13.49	5.89	7.61	12.67	7.11	5.56
Std.	15.67	16.33	16.13	9.94	17.11	15.59	8.85	17.77	16.05	11.11	16.72	16.09	10.44
t(Mn)	2.74	4.04	1.96	3.45	3.57	1.96	3.45	3.40	1.64	3.06	3.39	1.98	2.38
Panel B: Annual Value-Weight Dollar Returns in Excess of Dollar Return on Local Market													
Mean		5.16	−2.52		4.06	−2.76		3.89	−3.72		3.07	−2.49	
Std.		6.95	3.31		5.95	3.49		6.86	5.47		6.07	4.67	
t(Mn)		3.32	−3.40		3.05	−3.54		2.54	−3.04		2.26	−2.38	

Table III

Annual Dollar Returns in Excess of U.S. T-Bill Rate for Market, Value, and Growth Portfolios: 1975–1995

Value and growth portfolios are formed on book-to-market equity (B/M), earnings/price (E/P), cashflow/price (C/P), and dividend/price (D/P), as described in Table II. We denote value (high) and growth (low) portfolios by a leading H or L; the difference between them is H − L. The first row for each country is the average annual return. The second is the standard deviation of the annual returns (in parentheses) or the *t*-statistic testing whether H − L is different from zero [in brackets].

	Market	HB/M	LB/M	H-LB/M	HE/P	LE/P	H-LE/P	HC/P	LC/P	H-LC/P	HD/P	LD/P	H-LD/P
U.S.	9.57	14.55	7.75	6.79	14.09	7.38	6.71	13.74	7.08	6.66	11.75	8.01	3.73
	(14.64)	(16.92)	(15.79)	[2.17]	(18.10)	(15.23)	[2.28]	(16.73)	(15.99)	[2.08]	(13.89)	(17.04)	[1.22]
Japan	11.88	16.91	7.06	9.85	14.14	6.67	7.47	14.95	5.66	9.29	16.81	7.27	9.54
	(28.67)	(27.74)	(30.49)	[3.49]	(26.10)	(27.62)	[4.00]	(31.59)	(29.22)	[3.03]	(35.01)	(27.51)	[2.53]
U.K.	15.33	17.87	13.25	4.62	17.46	14.81	2.65	18.41	14.51	3.89	15.89	12.99	2.90
	(28.62)	(30.03)	(27.94)	[1.08]	(32.32)	(27.00)	[0.83]	(35.11)	(26.55)	[0.85]	(32.18)	(26.32)	[0.72]
France	11.26	17.10	9.46	7.64	15.68	8.70	6.98	16.17	9.30	6.86	15.12	6.25	8.88
	(32.35)	(36.60)	(30.88)	[2.08]	(37.05)	(32.35)	[2.16]	(36.92)	(31.26)	[2.29]	(30.06)	(33.16)	[2.48]
Germany	9.88	12.77	10.01	2.75	11.13	10.58	0.55	13.28	5.14	8.13	9.99	10.42	−0.43
	(31.36)	(30.35)	(32.75)	[0.92]	(24.62)	(34.82)	[0.14]	(29.05)	(26.94)	[2.62]	(24.88)	(34.42)	[−0.10]
Italy	8.11	5.45	11.44	−5.99	7.62	12.99	−5.37	11.05	0.37	10.69	10.07	12.68	−2.61
	(43.77)	(35.53)	(50.65)	[−0.91]	(42.36)	(54.68)	[−0.84]	(43.52)	(38.42)	[1.73]	(38.28)	(56.66)	[−0.33]
Netherlands	13.30	15.77	13.47	2.30	14.37	9.26	5.11	11.66	11.84	−0.19	13.47	13.05	0.41
	(18.81)	(33.07)	(21.01)	[0.44]	(21.07)	(20.48)	[1.04]	(33.02)	(23.26)	[−0.03]	(21.38)	(30.81)	[0.07]
Belgium	12.62	14.90	10.51	4.39	15.12	12.90	2.22	16.46	12.03	4.44	15.16	12.26	2.91
	(25.88)	(28.62)	(27.63)	[1.99]	(30.47)	(27.88)	[0.78]	(28.84)	(25.57)	[1.27]	(26.47)	(29.26)	[1.29]
Switzerland	11.07	13.84	10.34	3.49	12.59	11.04	1.54	12.32	9.78	2.53	12.62	10.44	2.18
	(27.21)	(30.00)	(28.57)	[0.80]	(31.44)	(28.81)	[0.36]	(36.58)	(27.82)	[0.41]	(31.00)	(27.83)	[0.63]
Sweden	12.44	20.61	12.59	8.02	20.61	12.42	8.19	17.08	12.50	4.58	16.15	11.32	4.83
	(24.91)	(38.31)	(26.26)	[1.16]	(42.43)	(24.76)	[1.03]	(30.56)	(23.58)	[0.90]	(29.55)	(25.13)	[1.05]
Australia	8.92	17.62	5.30	12.32	15.64	5.97	9.67	18.32	4.03	14.29	14.62	6.83	7.79
	(26.31)	(31.03)	(27.32)	[2.41]	(28.19)	(28.89)	[1.71]	(29.08)	(27.46)	[2.85]	(28.43)	(28.57)	[1.65]
Hong Kong	22.52	26.51	19.35	7.16	27.04	22.05	4.99	29.33	20.24	9.09	23.66	23.30	0.35
	(41.96)	(48.68)	(40.21)	[1.35]	(44.83)	(40.81)	[0.82]	(46.24)	(42.72)	[1.37]	(38.76)	(42.05)	[0.09]
Singapore	13.31	21.63	11.96	9.67	15.21	13.12	2.09	13.42	8.03	5.39	10.64	13.10	−2.46
	(27.29)	(36.89)	(27.71)	[2.36]	(29.55)	(34.68)	[0.65]	(26.24)	(28.92)	[1.49]	(22.01)	(33.93)	[−0.45]

Morgan Stanley's country (basically total value of market) weights to construct global portfolios. The country weights at the beginning of 1975, 1985, and 1995 are in Table I.

Tables II and III are strong evidence of a consistent value premium in international returns. The average returns on the global value portfolios in Table II are 3.07 percent to 5.16 percent per year higher than the average returns on the global market portfolio, and the average returns on the global value portfolios are 5.56 percent to 7.68 percent higher than the average returns on the corresponding global growth portfolios. Since the United States and Japan on average account for close to 75 percent of the global portfolios, the average returns for the global portfolios largely just confirm the results of Chan et al. (1991), Fama and French (1992, 1996), and Lakonishok et al. (1994). Table III shows, however, that higher returns on value portfolios are also the norm for other countries. When portfolios are formed on B/M, E/P, or C/P, twelve of the thirteen value-growth premiums are positive, and most are more than four percent per year. Value premiums for individual countries are a bit less consistent when portfolios are formed on dividend yield, but even here ten of thirteen are positive.

Table III says the value premium is pervasive. Thus, rather than being unusual, the higher average returns on value stocks in the United States are a local manifestation of a global phenomenon. Table III also shows that the U.S. value premium is not unusually large. For example, the U.S. book-to-market value premium is smaller than six of the other twelve B/M premiums. The results for other countries are out-of-sample relative to the earlier tests for the United States and Japan, so clearly the value premium is not the result of data mining.

Leaning on Foster, Smith, and Whaley (1997), a skeptic might argue that the correlation of returns across markets can cause similar chance patterns in average returns to show up in many markets. We shall see, however, that the correlations of the value premiums across countries are typically low. (The average for the B/M premiums is 0.09.) The simulations of Foster et al. (1997) then actually suggest that our results are rather good out-of-sample evidence for a value premium.

The value premiums for individual countries in Table III are large in economic terms, but they are not typically large relative to their standard errors. This is testimony to the high volatility of the country returns. The market returns of many countries have standard deviations of approximately 30 percent per year, about twice that of the global market portfolio in Table II. The most precise evidence that there is a value premium in international returns comes from the diversified global portfolios (Table II). The smallest average spread between global value and growth returns, 5.56 percent per year for the D/P portfolios, is 2.38 standard errors from zero. The value premiums for portfolios formed on B/M, E/P, and C/P (7.68 percent, 6.82 percent, and 7.61 percent per year) are more than three standard errors from zero. We next examine whether the international value premium can be viewed as compensation for risk.

III. A Risk Story for the Global Value Premiums

Researchers have identified several patterns in the cross section of international stock returns. Heston et al. (1995) find that equal-weight portfolios of stocks tend to have higher average returns than value-weight portfolios in twelve European markets. They conclude that there is an international size effect. Dumas and Solnik (1995) find that exchange rate risks are priced in stock returns around the world. Cho, Eun, and Senbet (1986) and Korajczyk and Viallet (1989) find that APT factors (identified by factor analysis) are important in international stock returns. Finally, Ferson and Harvey (1993) present evidence that the loadings of country portfolios on international risk factors vary through time.

In light of these results, a full description of expected stock returns around the world would likely require a pricing model with several dimensions of risk and time-varying risk loadings. We take a more stripped-down approach. We assume a world in which capital markets are integrated and investors are unconcerned with deviations from purchasing power parity. We test whether average returns are consistent with either an international CAPM or a two-factor ICAPM (or APT) in which relative distress carries an expected premium not captured by a stock's sensitivity to the global market return. Thus, we ignore other risk factors that might affect expected returns, and we do not allow for time-varying risk loadings. Fortunately, the tests suggest that, at least for the portfolios we examine, our simple approach provides a reasonably adequate story for average returns.

We begin with asset pricing tests that attempt to explain the returns on the global value and growth portfolios. We then use the same models to explain the returns on the market, value, and growth portfolios of individual countries.

A. The CAPM

Suppose the relevant model is an international CAPM. Thus, the global market portfolio is mean-variance-efficient, and the dollar expected return on any security or portfolio is fully explained by its loading (univariate regression slope) on the dollar global market return, M. In the regression of any portfolio's excess return (its dollar return, R, minus the return on a U.S. Treasury bill, F) on the excess market return,

$$R - F = a + b[M - F] + e, \tag{1}$$

the intercept should be statistically indistinguishable from zero.

The estimates of equation (1) in Table IV say that an international CAPM cannot explain the average returns on global value and growth portfolios. The intercepts for the four value portfolios (HB/M, HE/P, HC/P, and HD/P) are at least 29 basis points per month above zero, and the intercepts for the four growth portfolios are at least 21 basis points per month below zero. All

Table IV

CAPM and Two-Factor Regressions to Explain Monthly Excess Returns on Global Value and Growth Portfolios: 1975–1995

All returns are monthly, in dollars. M is the global market return, F is the one-month U.S. Treasury bill rate, and R is the global portfolio return to be explained. The global value and growth portfolios are formed on book-to-market equity (B/M), earnings/price (E/P), cashflow/price (C/P), or dividend/price (D/P), as described in Table II. We denote value (high) and growth (low) portfolios by a leading H or L; the difference between them is H − L. Panel A describes regressions that use the excess market return (M − F) and the book-to-market value-growth return (H − LB/M) to explain excess returns on value and growth portfolios. t( ) is a regression coefficient (or, for the market slope b, the coefficient minus one) divided by its standard error. The regression R^2 and residual standard errors s(e) are adjusted for degrees of freedom. Panel B summarizes sets of regressions that use the excess market return and a value-growth return (H − LB/M, H − LE/P, H − LC/P, or H − LD/P) as explanatory variables. The dependent variables in a given set of regressions are the excess returns on the global value and growth portfolios that are not used as explanatory variables in that set. F(a) is the F-statistic of Gibbons, Ross, and Shanken (1989) testing the hypothesis that the true intercepts in a set of regressions are all zero; p(F) is the probability of a value of F(a) larger than the observed value if the true intercepts are all zero. Ave a, Ave|a|, and Ave a^2 are the mean, mean absolute, and mean squared values of the intercepts from a set of regressions. Ave R^2 and Ave s(e) are the average values of the regression R^2 and residual standard errors. The method of estimation is ordinary least squares.

Panel A

	R − F = a + b[M − F] + e(t)						R − F = a + b[M − F] + c[H − LB/M] + e(t)							
R − F	a	b	t(a)	t(b = 1)	R^2	s(e)	a	b	c	t(a)	t(b = 1)	t(c)	R^2	s(e)
HB/M	0.41	0.94	4.29	−2.50	0.88	1.48								
HE/P	0.32	0.95	3.96	−2.58	0.91	1.25	0.04	0.99	0.45	0.72	−0.62	20.09	0.97	0.77
HC/P	0.31	0.93	3.59	−3.43	0.89	1.37	−0.00	0.98	0.51	−0.02	−1.97	21.95	0.96	0.80
HD/P	0.29	0.87	3.77	−6.80	0.90	1.22	0.10	0.90	0.32	1.46	−6.23	10.80	0.93	1.01
LB/M	−0.21	1.03	−4.02	2.85	0.97	0.81								
LE/P	−0.23	1.04	−4.27	3.57	0.96	0.83	−0.07	1.02	−0.26	−1.63	2.26	−14.67	0.98	0.61
LC/P	−0.28	1.01	−3.84	0.44	0.93	1.13	−0.16	0.99	−0.19	−2.27	−0.62	−6.28	0.94	1.05
LD/P	−0.22	1.07	−3.49	4.41	0.95	1.00	−0.03	1.04	−0.31	−0.64	3.37	−14.45	0.97	0.74

Panel B

Explanatory Variables		F(a)	p(F)	*Ave a* All	*Ave a* Value	*Ave a* Growth	Ave |a|	Ave a^2	Ave R^2	Ave s(e)
M-F		3.718	0.000	0.050	0.333	−0.233	0.283	0.0839	0.924	1.135
M-F	H-LB/M	1.457	0.194	−0.020	0.045	−0.085	0.065	0.0069	0.959	0.830
M-F	H-LE/P	1.578	0.154	−0.002	0.068	−0.071	0.070	0.0068	0.955	0.867
M-F	H-LC/P	0.987	0.435	0.028	0.102	−0.046	0.074	0.0066	0.959	0.818
M-F	H-LD/P	2.292	0.036	0.026	0.156	−0.104	0.130	0.0192	0.949	0.929

the CAPM intercepts for the global value and growth portfolios are more than 3.4 standard errors from zero. The GRS F-test (Gibbons, Ross, and Shanken (1989)) of the hypothesis that the true intercepts are all zero rejects with a high level of confidence (p-value = 0.000). In both statistical and practical terms, the international CAPM is a poor model for global value and growth returns.

Why does the CAPM fail? If the CAPM is to explain the high returns on global value portfolios, they must have large slopes on the global market portfolio. Similarly, if the CAPM is to explain the lower returns on global growth portfolios, their market slopes must be less than one. In fact, the reverse is true. Table IV shows that the value portfolios' market slopes are slightly less than one, and the growth portfolios' slopes are slightly greater than one.

B. Two-Factor Regressions

Are the premiums on global value portfolios and the discounts on global growth portfolios compensation for risk? In an international two-factor (one-state-variable) ICAPM, expected returns are explained by the loadings of securities and portfolios on the global market return and the return on any other global two-factor MMV (multifactor-minimum-variance) portfolio (Fama (1996)). (Two-factor MMV portfolios have the smallest possible return variances, given their expected returns and loadings on the state variable whose pricing is not captured by the CAPM.) Alternatively, the market return and the difference between the returns on two MMV portfolios can be used to explain expected returns.

We assume that the global high and low book-to-market portfolios, HB/M and LB/M, are two-factor MMV, so the difference between their returns, H − LB/M, can be the second explanatory return in a one-state-variable ICAPM. The model then predicts that the intercept in the time-series regression,

$$R - F = a + b[M - F] + c[H - LB/M] + e, \tag{2}$$

is zero for all the portfolios whose returns, R, we seek to explain. We use H − LB/M, rather than HB/M − F or LB/M − F, because the correlation of H − LB/M with M − F is only −0.17. The low correlation makes the slopes in equation (2) easy to interpret. Moreover, H − LB/M is an international version of HML, the distress factor in the three-factor model for U.S. stock returns in Fama and French (1993).

Table IV says that the two-factor model (2) provides better descriptions of the returns on global value and growth portfolios formed on E/P, C/P, and D/P than does the CAPM. The average intercept for the global value portfolios drops from 33.3 basis points per month in the CAPM regression (equation (1)) to 4.5 basis points per month in the two-factor regression (equation (2)). Similarly, the average intercept for the global growth portfolios rises from −23.3 basis points per month in equation (1) to −8.5 basis points in equation (2). The GRS test of the hypothesis that the intercepts are zero also favors equation (2). The *F*-statistic testing whether all (value and growth) intercepts are zero drops from 3.72 (p-value = 0.000) in the CAPM regressions to 1.46 (p-value = 0.194) in the two-factor regressions.

Why do the two-factor regressions produce better descriptions of global value and growth returns? The two-factor regressions and the CAPM regressions produce similar market slopes. Thus the improvements must come from the H − LB/M slopes. Table IV confirms that these slopes are at least ten standard errors above zero for the global value portfolios formed on E/P, C/P, and D/P, and they are at least six standard errors below zero for the growth portfolios. Since the average H − LB/M return is positive, the positive H − LB/M slopes for the global value portfolios are consistent with their high average returns, and the negative slopes for the growth portfolios are in line with their low average returns. Moreover, the success of the two-factor regressions in describing the returns on the global value and growth portfolios says that different approaches to measuring value and growth—specifically, portfolios formed on B/M, E/P, C/P, and D/P—produce premiums and discounts that can all be described as compensation for a single common risk. In other words, global value-growth premiums, however measured, are consistent with a one-state variable ICAPM (or a two-factor APT).

Table IV also shows that alternative measures of the value-growth premium are largely interchangeable as the second explanatory return in equation (2). Substituting H − LE/P or H − LC/P for H − LB/M produces similar average absolute intercepts, average squared intercepts, and GRS *F*-tests for the global value and growth portfolios that are not used as explanatory returns. In results not shown, we also obtain excellent explanations of average returns when we use the excess return on a single global value or growth portfolio (e.g., HB/M − F or LB/M − F) as the second explanatory return. All this is consistent with one-state-variable ICAPM pricing of global value and growth portfolios, and with the hypothesis that, like the global market portfolio, different global value and growth portfolios are close to two-factor MMV.

One can argue that the global regressions do not provide a convincing test of a risk story for the international value premium. The four sorting variables (B/M, E/P, C/P, and D/P) are all versions of the inverted stock price, 1/P, so different global value (or growth) portfolios have many stocks in common. But the portfolios are far from identical. The squared correlations between the four global value-growth returns (proportions of variance explained) range from only 0.37 to 0.67. Thus, although a reasonable suspicion remains, there is no guarantee that the average returns on different value and growth portfolios will be described by their sensitivities to a single common risk. Moreover, the properties of the global value premium examined next and the extension of the asset pricing tests to country portfolios in Section IV lend additional support to a risk story.

C. Is the Global Value Premium Too Large?

MacKinlay (1995) argues that the value premium in U.S. returns is too large to be explained by rational asset pricing. Lakonishok et al. (1994) and Haugen (1995) go a step further and argue that the U.S. value premium is close to an arbitrage opportunity. Fama and French (1996, especially Table XI) disagree.

Is the international value premium too large? The global market premium is a good benchmark for judging the global value premiums. The mean and standard deviation of the market premium ($M - F$) in Table II are 9.60 percent and 15.67 percent per year. The average value-growth premiums are smaller, ranging from 5.56 percent per year when we sort on D/P to 7.68 percent per year for B/M, but their standard deviations are also smaller, between 8.85 percent and 11.11 percent per year. The four t-statistics for the value-growth premiums, 2.38 to 3.45, bracket the t-statistic for the market premium, 2.74. We conclude that the value-growth premiums are no more suspicious than the market premium. At a minimum, the large standard deviations of the value-growth premiums say that they are not arbitrage opportunities.

IV. Regression Tests for Country Returns

Since the global portfolios are highly diversified, they provide sharp perspective on the CAPM's inability to explain the international value premium, and on the improvements provided by a two-factor model. In contrast, portfolios restricted to individual countries are less diversified and their returns have large idiosyncratic components (e.g., Harvey (1991)). As a result, asset pricing tests on country portfolios are noisier than tests on global portfolios. But the country portfolios have an advantage. Because most of the country portfolios are small fractions of the global portfolios (Table I), and because all have large idiosyncratic components, there is no reason to think we induce a linear relation between average return and risk loadings by the way we construct the explanatory portfolios. Thus, the country portfolios leave plenty of room for asset pricing models to fail.

A. The CAPM versus a Two-Factor Model

In an international CAPM, all expected returns are explained by slopes on the global market return. Table V shows estimates of the CAPM time-series regression (equation (1)) that attempt to explain the returns on three separate sets of country portfolios that include, respectively, the market, high book-to-market (HB/M), and low book-to-market (LB/M) portfolios of our thirteen countries. We group country portfolios by type (rather than doing joint tests on all portfolios and countries) to have some hope of power in formal asset pricing tests.

Like Solnik (1974), Harvey (1991), and others, we find little evidence against the international CAPM as a model for the returns on the market portfolios of countries. The GRS test of the hypothesis that all the intercepts in the

CAPM regressions for the country market portfolios are zero produces an F-statistic, 1.08 (p-value = 0.37), near the median of its distribution under the null. The low book-to-market portfolios of the countries are also consistent with an international CAPM. The GRS p-value for the LB/M portfolios (the probability of a more extreme set of intercepts when the CAPM holds) is 0.92. Results not shown confirm that an international CAPM is also consistent with the average returns on the country growth portfolios formed on E/P, C/P, and D/P.

Confirming the global portfolio results in Table IV, however, Table V says that the international CAPM cannot explain the high average returns on the country value portfolios. For the high book-to-market (HB/M) portfolios, the average of the intercepts from the CAPM regressions is 0.51 percent per month. The GRS test produces an F-statistic of 2.23, which cleanly rejects (p-value = 0.01) the hypothesis that all the intercepts are zero. The results (not shown) for value portfolios formed on E/P, C/P, and D/P are similar.

Table V shows that a two-factor model that describes country returns with the global market return and the spread between the global high and low book-to-market returns, H − LB/M, does a better job on the country value portfolios. The average intercepts drop from 0.51 in the CAPM regressions to explain the HB/M returns of countries to 0.14 in the two-factor regressions. The p-value for the test of whether all the intercepts are zero rises from 0.01 in the CAPM regressions to 0.55 in the two-factor regressions. Results not shown confirm that, unlike the CAPM, the two-factor regressions also capture the average returns on country value portfolios formed on E/P, C/P, and D/P.

There is an interesting pattern in the way the country portfolios load on the international distress factor in Table V. Not surprisingly, every country's HB/M value portfolio has a positive slope on the global value-growth return, H − LB/M. Every country's HB/M portfolio also has a larger slope on the global H − LB/M than its LB/M portfolio. What is surprising is that, except for the United States, Japan, and Sweden, every country's LB/M portfolio has a positive slope on the global H − LB/M return. In other words, the *growth* portfolios of ten of the eleven smaller markets load positively on the international distress factor. Similarly, in the two-factor regressions to explain the market returns of the countries, only the United States and Japan have negative slopes on the global value-growth return. The H − LB/M slopes for the market portfolios of the eleven smaller markets are all at least 0.96 standard errors above zero, and seven are more than 2.0 standard errors above zero. In short, measured by sensitivity to the global H − LB/M return, the eleven smaller markets tilt toward return behavior typical of value stocks.

Finally, a caveat is in order. Country returns have lots of variation not explained by global returns. The average R^2 in the two-factor regressions for the countries is only about 0.35. As a result, the two-factor regression intercepts are estimated imprecisely, so our failure to reject international two-factor pricing for the country portfolios may not be impressive. But we do not, in any case, mean to push a two-factor model too hard. Additional risk

Table V

CAPM and Two-Factor Regressions that Use Monthly Excess Returns on the Global Market Portfolio (M – F) and the Global Book-to-Market Value-Growth Return (H – LB/M) to Explain Monthly Excess Returns on Country Portfolios: 1975–1995

All returns are monthly, in dollars. The explanatory variables are the return on the global market portfolio in excess of the one-month U.S. Treasury bill return (M − F), and the difference between the global high and low book-to-market returns (H − LB/M). The dependent variables (R − F) are the excess returns on market (M-F), high book-to-market (HB/M − F), and low book-to-market (LB/M − F) portfolios for individual countries, described in Table II. t( ) is a regression coefficient (or, for the market slope b, the coefficient minus one) divided by its standard error. The regressions R^2 are adjusted for degrees of freedom. The method of estimation is ordinary least squares.

	R − F = a + b[M − F] + e(t)					R − F = a + b[M − F] + c[H − LB/M] + e(t)						
R − F	a	b	t(a)	t(b = 1)	R^2	a	b	c	t(a)	t(b = 1)	t(c)	R^2
M − F												
U.S.	0.14	0.83	0.81	−4.14	0.63	0.18	0.83	−0.07	1.01	−4.22	−0.85	0.63
Japan	0.01	1.17	0.04	2.42	0.53	0.12	1.15	−0.17	0.38	2.17	−1.27	0.53
U.K.	0.29	1.23	0.86	2.83	0.48	−0.03	1.27	0.53	−0.10	3.45	3.49	0.51
France	0.03	1.05	0.08	0.60	0.40	−0.08	1.07	0.18	−0.23	0.79	1.13	0.39
Germany	0.11	0.78	0.37	−3.06	0.31	−0.11	0.81	0.36	−0.35	−2.60	2.60	0.33
Italy	−0.19	0.86	−0.42	−1.29	0.21	−0.35	0.89	0.26	−0.74	−1.06	1.25	0.21
Netherlands	0.36	0.91	1.60	−1.74	0.54	0.18	0.93	0.29	0.78	−1.24	2.90	0.55
Belgium	0.30	0.86	1.08	−2.15	0.39	0.14	0.88	0.26	0.49	−1.78	2.04	0.40
Switzerland	0.15	0.88	0.58	−1.93	0.48	0.01	0.90	0.22	0.04	−1.58	1.91	0.47
Sweden	0.31	0.87	0.89	−1.59	0.31	0.21	0.88	0.15	0.59	−1.40	0.96	0.31
Australia	0.08	0.90	0.20	−1.06	0.27	−0.22	0.94	0.49	−0.54	−0.59	2.71	0.28
Hong Kong	0.85	1.05	1.60	0.38	0.23	0.31	1.13	0.87	0.58	1.03	3.70	0.25
Singapore	0.30	1.06	0.71	0.64	0.33	−0.17	1.13	0.76	−0.41	1.37	4.13	0.36

HB/M − F												
U.S.	0.52	0.77	2.67	−4.90	0.53	0.15	0.83	0.60	0.84	−4.04	7.38	0.61
Japan	0.45	1.06	1.48	0.82	0.46	0.10	1.11	0.57	0.34	1.57	4.22	0.50
U.K.	0.46	1.25	1.24	2.86	0.45	−0.10	1.33	0.91	−0.28	3.98	5.72	0.51
France	0.43	1.06	1.05	0.60	0.32	0.11	1.10	0.51	0.27	1.09	2.80	0.34
Germany	0.34	0.78	1.09	−3.03	0.30	0.04	0.82	0.48	0.14	−2.45	3.46	0.33
Italy	−0.22	0.83	−0.44	−1.41	0.16	−0.38	0.86	0.26	−0.74	−1.19	1.15	0.16
Netherlands	0.36	0.99	1.07	−0.16	0.38	−0.05	1.05	0.66	−0.14	0.61	4.47	0.42
Belgium	0.47	0.88	1.30	−1.41	0.30	0.21	0.92	0.42	0.57	−0.96	2.58	0.31
Switzerland	0.35	0.87	1.21	−1.84	0.39	0.04	0.92	0.50	0.14	−1.19	3.88	0.43
Sweden	0.80	0.89	1.67	−0.98	0.20	0.46	0.94	0.56	0.93	−0.53	2.58	0.21
Australia	0.67	0.84	1.68	−1.66	0.24	0.31	0.90	0.59	0.76	−1.10	3.28	0.27
Hong Kong	1.09	1.07	1.73	0.45	0.17	0.48	1.16	0.99	0.76	1.06	3.51	0.20
Singapore	0.85	1.09	1.54	0.73	0.22	0.33	1.17	0.83	0.60	1.32	3.39	0.25
LB/M − F												
U.S.	−0.02	0.88	−0.09	−2.60	0.58	0.23	0.84	−0.40	1.13	−3.43	−4.51	0.61
Japan	−0.37	1.21	−1.12	2.68	0.49	0.03	1.15	−0.64	0.08	1.97	−4.42	0.52
U.K.	0.16	1.21	0.45	2.50	0.44	−0.04	1.24	0.33	−0.11	2.83	2.01	0.45
France	−0.07	1.01	−0.19	0.18	0.37	−0.13	1.02	0.10	−0.35	0.28	0.61	0.37
Germany	0.11	0.79	0.34	−2.72	0.28	−0.04	0.81	0.24	−0.11	−2.41	1.59	0.29
Italy	−0.05	0.85	−0.10	−1.37	0.20	−0.20	0.88	0.24	−0.42	−1.15	1.19	0.20
Netherlands	0.39	0.89	1.51	−1.87	0.46	0.35	0.89	0.07	1.29	−1.74	0.59	0.46
Belgium	0.13	0.88	0.44	−1.78	0.40	−0.02	0.90	0.24	−0.07	−1.45	1.83	0.40
Switzerland	0.08	0.88	0.29	−1.87	0.43	0.01	0.89	0.11	0.04	−1.69	0.88	0.43
Sweden	0.28	0.88	0.85	−1.53	0.34	0.32	0.87	−0.07	0.94	−1.59	−0.45	0.34
Australia	−0.18	0.97	−0.40	−0.31	0.24	−0.43	1.00	0.41	−0.92	0.03	1.97	0.25
Hong Kong	0.64	0.98	1.24	−0.14	0.20	0.06	1.07	0.93	0.12	0.56	4.08	0.25
Singapore	0.24	0.98	0.59	−0.17	0.30	−0.08	1.03	0.52	−0.19	0.32	2.84	0.32

factors are likely to be necessary to describe average returns when, for example, the tests are extended to small stocks. Like the more precise tests on the global portfolios in Table IV, however, the tests on the country portfolios in Table V do allow us to conclude that the addition of an international distress factor provides a substantially better explanation of value portfolio returns than an international CAPM.

B. Global Risks in Country Returns

The hypothesis that an international CAPM or ICAPM explains expected returns around the world does not require security returns to be correlated across countries. International asset pricing just says that the expected returns on assets are determined by their covariances with the global market return (CAPM and ICAPM) and the returns on global MMV portfolios needed to capture the effects of priced state variables (ICAPM). But covariances with these global returns (and the variances of the global returns themselves) may just result from the variances and covariances of asset returns within markets; that is, covariances between the asset returns of different countries may be zero.[1] Still, it is interesting to ask whether the global market and distress risks that seem to explain country returns arise in part from covariances of returns across countries.

For direct evidence on the local and international components of global portfolio returns, we decompose the variances of the global M − F and H − LB/M returns into country return variances and the covariances of returns across countries,

$$\mathrm{Var}(R_{\mathrm{global}}) = \sum_i w_i^2 \,\mathrm{Var}(R_i) + \sum_i \sum_{j \neq i} w_i w_j \,\mathrm{Cov}(R_i, R_j), \tag{3}$$

where $\mathrm{w_i}$ is the weight of country i in the global portfolio and $\mathrm{R_i}$ is the return for the portfolio of country i. If there were no common component in returns across countries, the covariances in equation (3) would contribute nothing to the global variance. At the other extreme, with perfect correlation of returns across countries, the contribution of the covariances depends on country weights and variances. Using the average country weights for 1975 through 1995, country covariances would then account for about 75 percent of the variances of the global M − F and H − LB/M returns. In fact, international components (the covariances in equation (3)), are 52 percent of the variance of the global M − F return, and 19 percent of the variance of the global H − LB/M return. Thus, although country-specific variances account for 81 per-

[1] A similar argument implies that excluding left-hand-side country returns from right-hand-side global returns in regressions (1) and (2) (an approach often advocated to avoid inducing a spurious relation between average return and risk) would corrupt the estimates of risk loadings in tests for international asset pricing.

cent of the variance of the global H − LB/M return, both the global market return and the global value-growth return contain important international components.

The correlations between country returns in Table VI provide perspective on these calculations. Not surprisingly, the correlations of the excess market returns of the thirteen countries are all positive (the average is 0.46), and much like those of earlier studies. Given the estimates of equation (3), it is also not surprising that the correlations of the value-growth (H − LB/M) returns of the countries are smaller. The average is only 0.09, but more than three-quarters of the correlations (61 of 78) are positive. The correlations of the country H − LB/M returns with the global H − LB/M return tend to be larger. This is due in part to the diversification of the global H − LB/M return, but it also reflects the fact that the global return is constructed from the country returns.

From an asset pricing perspective, the important point is that the lower correlation of the H − LB/M returns of the countries does not result in low volatility for the global H − LB/M return; the global value-growth premium is not an arbitrage opportunity. The standard deviation of the global H − LB/M return, 9.94 percent per year, is about two-thirds that of the global market return, 15.67 percent. The lower volatility of H − LB/M is also associated with a smaller average premium, 7.68 percent, versus 9.60 percent for M − F. And the Sharpe ratio for H − LB/M (mean/standard deviation) is 0.77, well within striking distance of the Sharpe ratio for M − F, 0.61.

C. Country Weights, Average Returns, and Biased Coefficients

The intercepts in the CAPM regressions of the market portfolios of countries on the global market return in Table V are surprising. If the country weights in the global market portfolio were constant, the weighted average of the intercepts would be zero and the weighted average of the market slopes would be one. Using the average weights of countries for 1975 through 1995, the average slope (0.964) is close to one. But the average intercept is 0.128 percent per month, and the CAPM intercept for every market but Italy is positive. Positive intercepts also seem to be the norm in other studies that use country market portfolios and a value-weight global market to test an international CAPM (e.g., Harvey (1991), Ferson and Harvey (1993)).

Our preliminary work on this problem suggests that the positive intercepts in the CAPM regressions are in large part due to the evolution of the country weights in the global market portfolio. The issues are complicated, however, and a full explanation awaits future research.

V. Value and Growth in Emerging Markets

Emerging markets allow another out-of-sample test of the value premium. The International Finance Corporation (IFC) provides return, book-to-market equity, and earnings/price data for firms in more than thirty emerg-

Table VI

Correlations of Excess Returns on Country Market Portfolios, M – F, and of Country Book-to-Market Value-Growth Returns, H – LB/M: 1975–1995

All returns are monthly, in dollars. M is a country's market return, F is the one-month U.S. Treasury bill return, and H − LB/M is the difference between the returns on a country's high and low book-to-market portfolios, as described in Table II. Global is the global M − F or H − LB/M return.

	Global	US	JP	UK	FR	GM	IT	NL	BE	SZ	SD	AU	HK
Panel A: Correlations of Excess Market Returns, M − F													
U.S.	0.80												
Japan	0.73	0.24											
U.K.	0.70	0.51	0.37										
France	0.63	0.44	0.42	0.54									
Germany	0.56	0.35	0.38	0.46	0.58								
Italy	0.46	0.23	0.40	0.39	0.44	0.39							
Neth.	0.73	0.58	0.42	0.65	0.58	0.71	0.36						
Belgium	0.63	0.42	0.44	0.54	0.65	0.67	0.39	0.69					
Switz.	0.68	0.49	0.44	0.59	0.59	0.72	0.36	0.74	0.66				
Sweden	0.56	0.39	0.41	0.42	0.34	0.41	0.34	0.47	0.41	0.48			
Australia	0.52	0.44	0.27	0.48	0.36	0.28	0.24	0.41	0.31	0.41	0.41		
H.K.	0.47	0.37	0.24	0.47	0.32	0.36	0.30	0.51	0.34	0.43	0.38	0.42	
Singapore	0.56	0.49	0.31	0.56	0.32	0.33	0.26	0.49	0.38	0.43	0.39	0.44	0.57
Panel B: Correlations of Book-to-Market Value-Growth Returns, H − LB/M													
U.S.	0.77												
Japan	0.62	0.06											
U.K.	0.36	0.24	0.09										
France	0.21	0.13	0.03	0.27									
Germany	0.17	0.18	−0.08	−0.00	0.04								
Italy	0.01	−0.05	0.02	0.03	0.01	0.01							
Neth.	0.24	0.10	0.14	0.21	0.20	0.16	−0.02						
Belgium	0.09	0.04	0.04	0.07	0.09	−0.06	0.08	0.16					
Switz.	0.24	0.14	0.10	0.08	0.15	0.22	0.05	0.11	0.10				
Sweden	0.23	0.18	0.08	0.16	0.22	0.13	0.04	0.23	0.06	0.15			
Australia	0.10	0.14	−0.08	0.11	0.00	0.12	−0.03	0.07	0.06	0.06	0.09		
Hong Kong	0.01	−0.01	−0.04	−0.00	0.05	0.09	0.13	0.00	0.00	0.06	0.08	−0.00	
Singapore	0.11	0.02	0.09	0.00	−0.03	0.08	−0.07	0.14	−0.17	−0.02	0.03	−0.11	−0.05

ing markets. Although stock returns for some countries are available earlier, B/M and E/P data are not available until 1986. Thus, our sample period for emerging markets is for 1987 through 1995.

Like the MSCI data, the IFC data are attractive because we can construct a sample uncontaminated by backfilled returns. The IFC included up to seven years of historical returns when it released its first set of emerging market indices in 1982. They continue to backfill when developing data for new countries. But IFC does not backfill when they expand their coverage of countries already in the indices. Thus, we avoid backfilled returns simply by starting the tests for countries on the date they are added to the IFC emerging market indices.

Table VII summarizes market, value, and growth portfolio returns for the sixteen countries where IFC has data on at least ten firms in at least seven years. Firms are weighted by their market capitalization in the country portfolios. The value-weight indices covering all emerging markets weight countries by IFC's estimate of their market capitalization at the beginning of each year; the equal-weight indices weight countries equally.

As Harvey (1995) and others observe, emerging market returns have unusual features. At least during our sample period, average returns in emerging markets are higher than in developed markets. The average excess dollar return for the equal-weight index of emerging markets is 24.47 percent per year for 1987 through 1995, and the value-weight excess return is 25.93 percent. Measured in dollars, Argentina's average excess return is 64.71 percent per year. Only two of sixteen emerging markets (India and Jordan) have average returns below 9.47 percent, the value-weight average of developed market returns in Table II. Of course, as Goetzmann and Jorion (1996) emphasize, recent returns may not give a representative picture of the expected performance of emerging markets.

It is also well known that emerging market returns are volatile. The market portfolios of ten of the sixteen countries have annual return standard deviations above 50 percent; the standard deviations for Argentina and Venezuela are 137 percent and 221 percent per year. In contrast, the standard deviation of the annual U.S. market return is 14.64 percent. Only four of the other twelve developed markets in Table III have standard deviations above 30 percent, and the largest (Italy) is 43.8 percent.

The links among emerging market returns are weak. The average correlation between the excess market returns of individual countries is only 0.07, and 37 of 120 (not shown) are negative. In contrast, the average of the correlations of the excess market returns of the developed countries in Table VI is 0.44, and none are negative. Because emerging market returns are not very correlated, much of their higher volatility disappears when they are combined in portfolios. The annual standard deviation is 41.05 percent for the value-weight portfolio of emerging markets and 26.23 percent for the equal-weight portfolio. Even the more-diversified equal-weight emerging market return, however, has almost twice the standard deviation of the return on the value-weight portfolio of developed market returns, 15.67 percent.

Table VII

Annual Dollar Returns in Excess of U.S. T-Bill Rates for Emerging Markets

The emerging market data are from the IFC. Value and growth portfolios using book-to-market equity (B/M) and earnings/price (E/P) as in Table II. The Small and Big portfolios are formed on market capitalization, in an analogous manner. We denote value (high) and growth (low) portfolios by a leading H or L; the difference between them is H − L. S − B is the difference between the Small and Big portfolios. Countries are included in the table (and indices) if the IFC database includes at least ten firms with positive book equity in at least seven years. Countries are not included in a year's B/M (or E/P) portfolios if the IFC has fewer than ten firms with positive book equity (or earnings) at the end of the previous year. Thus, the B/M and E/P portfolio returns for Chile do not include 1988, and the E/P portfolio returns for Jordan do not include 1987 and 1988. The VW indices weight countries by the IFC's estimate of their total market capitalization. The EW indices weight countries equally. The first row for each country or index is the average annual return. The second is the standard deviation of the annual returns (in parentheses) or the *t*-statistic testing whether H − L or S − B is different from zero [in brackets].

	Market	HB/M	LB/M	H − LB/M	HE/P	LE/P	H − LE/P	Small	Big	S − B
VW indices	25.93	39.77	22.86	16.91	29.52	25.49	4.04	39.78	24.89	14.89
1987–1995	(41.05)	(49.88)	(35.40)	[3.06]	(47.36)	(38.03)	[0.58]	(52.42)	(39.87)	[1.69]
EW indices	24.47	33.21	19.07	14.13	29.60	19.18	10.43	32.01	23.32	8.70
1987–1995	(26.23)	(31.43)	(21.48)	[3.01]	(14.09)	(34.32)	[1.86]	(26.41)	(26.32)	[1.98]
Argentina	64.71	38.27	74.74	−36.47	101.33	62.72	38.61	66.60	62.54	4.06
1987–1995	(137.06)	(136.13)	(150.08)	[−1.39]	(256.37)	(152.04)	[1.03]	(175.97)	(130.50)	[0.11]
Brazil	34.99	87.67	13.95	73.72	39.41	33.82	5.59	45.02	33.08	11.94
1987–1995	(79.15)	(128.57)	(53.95)	[2.33]	(96.26)	(77.45)	[0.20]	(99.84)	(77.36)	[0.57]
Chile	35.58	48.07	32.86	15.21	39.17	29.57	9.60	45.02	36.33	8.69
1987–1995	(30.03)	(49.93)	(41.68)	[1.12]	(36.56)	(48.21)	[1.23]	(39.67)	(30.50)	[0.98]
Colombia	33.16	4.90	22.37	−17.47	21.68	31.97	−10.29	11.08	31.61	−20.54
1988–1995	(65.85)	(51.10)	(50.07)	[−2.18]	(85.79)	(53.69)	[−0.56]	(45.97)	(62.71)	[−1.98]
Greece	19.92	22.36	19.73	2.63	17.44	15.08	2.36	9.49	21.06	−11.57
1989–1995	(47.49)	(53.33)	(45.08)	[0.39]	(51.51)	(53.01)	[0.19]	(39.61)	(48.27)	[−1.04]

India	4.51	7.95	6.43	1.53	1.74	4.51	−2.77	3.72	3.93	−0.21
1987–1995	(22.15)	(29.89)	(23.78)	[0.24]	(28.88)	(26.60)	[−0.32]	(29.29)	(22.06)	[−0.03]
Jordan	1.09	1.46	−2.90	4.36	3.80	6.96	−3.16	2.37	1.13	1.25
1987–1995	(15.94)	(22.67)	(31.30)	[0.53]	(16.95)	(27.92)	[−0.47]	(35.99)	(16.29)	[0.10]
Korea	13.55	24.12	5.66	18.45	22.88	8.64	14.24	19.58	13.39	6.18
1987–1995	(44.69)	(64.00)	(32.57)	[1.48]	(62.01)	(36.30)	[1.37]	(55.52)	(44.02)	[0.53]
Malaysia	19.28	28.50	15.75	12.74	17.69	18.98	−1.29	45.82	17.97	27.85
1988–1995	(38.83)	(52.93)	(34.42)	[1.47]	(28.59)	(54.60)	[−0.13]	(103.33)	(36.17)	[1.10]
Mexico	29.63	30.83	30.97	−0.15	31.39	22.39	9.00	32.55	29.87	2.67
1987–1995	(50.56)	(57.11)	(53.49)	[−0.01]	(59.44)	(42.89)	[0.65]	(55.82)	(53.21)	[0.20]
Nigeria	27.64	63.41	17.47	45.94	35.86	15.18	20.68	94.95	24.00	70.95
1988–1995	(74.32)	(135.13)	(75.86)	[1.62]	(75.33)	(80.72)	[1.99]	(222.39)	(69.40)	[1.27]
Pakistan	20.02	13.69	18.35	−4.65	21.66	9.25	12.41	11.00	22.07	−11.07
1988–1995	(64.86)	(71.99)	(60.01)	[−0.68]	(74.12)	(46.77)	[1.02]	(36.07)	(73.73)	[−0.60]
Philippines	24.56	13.83	2.88	10.95	14.26	18.41	−4.15	22.12	28.00	−5.88
1988–1995	(62.39)	(62.21)	(49.95)	[0.58]	(57.16)	(56.00)	[−0.33]	(86.58)	(61.07)	[−0.29]
Taiwan	17.56	24.60	20.21	4.39	16.65	18.45	−1.79	29.10	16.24	12.87
1988–1995	(59.21)	(66.23)	(65.89)	[0.34]	(54.48)	(66.67)	[−0.21]	(86.74)	(59.03)	[0.61]
Venezuela	55.25	97.37	40.03	57.34	107.38	18.76	88.62	77.73	53.54	24.19
1988–1995	(221.44)	(294.34)	(193.17)	[1.55]	(321.66)	(147.73)	[1.44]	(283.77)	(222.44)	[1.08]
Zimbabwe	36.32	52.57	20.50	32.07	49.32	21.60	27.72	87.82	25.87	61.95
1987–1995	(71.96)	(82.32)	(72.27)	[1.53]	(83.01)	(72.86)	[1.79]	(136.34)	(68.66)	[2.12]

The novel results in Table VII are the returns for portfolios formed on book-to-market equity, earnings/price, and size (market capitalization). Like the results for major markets in Tables II and III, there is a value premium in emerging market returns. The average difference between annual dollar returns on the high and low book-to-market portfolios (H − LB/M) is 16.91 percent when countries are value-weighted, and 14.13 percent when they are weighted equally. Positive value-growth returns are also typical of individual emerging markets. Twelve of sixteen B/M value-growth returns for countries are positive, and ten of sixteen E/P spreads are positive.

Emerging market returns are quite leptokurtic and right skewed so statistical inference is a bit hazardous. With this caveat in mind, we note that the 16.91 percent and 14.13 percent value-weight and equal-weight H − LB/M average returns are more than three standard errors from zero. The value premium is less reliable when we sort on E/P. Because emerging market returns are so volatile and our sample period is so short, average E/P value premiums of 4.04 percent (obtained when countries are value-weighted) and 10.43 percent (equal weights) are only 0.58 and 1.86 standard errors from zero.

The out-of-sample test provided by emerging markets confirms our results from developed markets. The value premium is pervasive. We guess, however, that the *expected* H − LB/M value-growth return in emerging markets is smaller than the *realized* equal- and value-weight average premiums, 14.13 percent or 16.91 percent. Moreover, without this good draw, the short nine-year sample period and the high volatility of emerging market returns would have prevented us from concluding that the value premium in these markets is reliably positive.

Unlike the MSCI data, the IFC data cover small stocks, so we can do some rough tests for a size effect in emerging market returns. Table VII compares the returns on portfolios of small and big stocks. Each country's small and big portfolios for a year contain the stocks that rank in the country's bottom 30 percent and top 30 percent by market capitalization at the end of the previous year. Like the value and growth portfolios, the stocks in a country's big and small portfolios are value-weighted.

Again, the emerging market results confirm the evidence from developed markets. Small stocks tend to have higher average returns than big stocks. The average difference between the returns on the value-weight small and big stock portfolios is 14.89 percent per year ($t = 1.69$). The average difference for the equal-weight portfolios is 8.70 percent ($t = 1.98$). Small stocks have higher average returns than big stocks in eleven of sixteen emerging markets. Thus, like stock returns in the United States (Banz (1981)) and other developed countries (Heston et al. (1995)), there seems to be a size effect in emerging market returns.

The results in Table VII seem inconsistent with Claessens, Dasgupta, and Glen (1996). Their cross-section regressions use seven variables, market beta, firm size, price-to-book-value (PBV, the inverse of book-to-market equity), earnings/price, dividend yield, turnover, and sensitivity to exchange rate changes, to explain average returns on individual stocks in nineteen emerging markets. Although they find that size, PBV, and E/P have explanatory power in many countries, the signs of the coefficients are often the reverse of ours. For example, they find a positive coefficient on PBV in ten of nineteen emerging markets. Slightly different sample periods may explain some of the differences between our results and theirs. We suspect, however, that different estimation techniques are the main factor. Cross-section regressions like theirs are sensitive to outliers, and extreme outliers are common in the returns on individual stocks in emerging markets. Our portfolio returns are probably less subject to such influential observations. In any case, our value-weight returns give an accurate picture of investor experience in these markets.

Finally, given the short sample period and the high volatility of emerging market returns, asset pricing tests for emerging markets are quite imprecise, so we do not report any.

VI. Conclusions

Value stocks tend to have higher returns than growth stocks in markets around the world. Sorting on book-to-market equity, value stocks outperform growth stocks in twelve of thirteen major markets during the 1975–1995 period. The difference between average returns on global portfolios of high and low B/M stocks is 7.68 percent per year (t = 3.45). There are similar value premiums when we sort on earnings/price, cash flow/price, and dividend/price. There is also a value premium in emerging markets. Since these results are out-of-sample relative to earlier tests on U.S. data, they suggest that the return premium for value stocks is real.

An international CAPM cannot explain the value premium in international returns. But a one-state-variable international ICAPM (or a two-factor APT) that explains returns with the global market return and a risk factor for relative distress captures the value premium in country and global returns.

We do not, however, mean to push a strong asset pricing story for our results, here or in Fama and French (1993, 1996). For example, a reasonable conclusion, agnostic with respect to equilibrium asset pricing, is that a global market portfolio and a global portfolio formed to mimic relative distress are close to two-factor MMV in the limited set of portfolio opportunities covered by (i) global value and growth portfolios formed in various ways; and (ii) market, value, and growth portfolios of individual countries. In this view, the international two-factor model simply provides a parsimonious way to summarize the general patterns in international returns. Similarly, the apparent success of the three-factor model in Fama and French (1993, 1996) simply says that the three U.S. portfolios they use to describe returns are close to three-factor MMV in the set of investment opportunities covered by the U.S. portfolio returns they attempt to explain. Thus, the three U.S. explanatory returns provide a parsimonious way to summarize most of the general patterns in U.S. stock returns.

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