

Investing in the Unknown and the Unknowable—Behavioral Finance in Frontier Markets

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While human nature may be a constant, investors have broadened their horizons, investing in emerging markets and, most recently, the frontier markets (those markets not in the popular emerging market indexes). As they have done so, investors have run head on into cultural differences, behavioral differences, and biases that present challenges from many perspectives. Behavioral finance has explored many aspects of investors' behavior, and we can apply this groundwork to understanding frontier markets from the perspective of foreign, professional and local investors. Across countries, there are significant differences in behavior based on the familiarity bias, trust, loss aversion, and risk preference. Considering these behavioral elements can lead to some insights that investors should keep in mind when investing in frontier markets.

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THE FOREIGN INVESTOR

Foreign investors bring many biases to investing abroad. One of them is familiarity bias, and it describes our tendency to seek things with which we are comfortable. One study, for example, found that people felt safer investing in stock of the company they work for rather than in a diversified portfolio of stocks in the S&P 500. This same phenomenon explains why investors keep most of their money in their home country financial markets rather than diversifying globally. When it comes to picking stocks themselves, familiarity with the name of a company makes it easier to invest in, for example, Ford than in Tata, or Philip Morris rather than Blagoevgrad-BT. Some companies know this and respond accordingly, as when the company, Woqod goes by the alternate and more familiar name of Qatar Fuel.

Other foreign investor biases are what we would call the “peril of the particular” and the “tyranny of the media.” In the first case, we may generalize from an example, such as Zimbabwe President Robert Mugabe, to a prejudice that paints a negative picture of the governments in all of Africa. The

media reinforce the negative by focusing articles and postings of war images and suffering that are so disturbing that they loom large in our memories. Most news reporting serves a vital function by pointing out trouble spots and highlighting where reforms are needed, but when the media highlight the negatives in poorer countries, the media can scare away visitors and investors who could otherwise help make improvements. If one only knew about San Diego, Calif., from reading the *San Diego Union Tribune* and watching the local news on Channel 5, one would be afraid to visit because of rampant wildfires, drought, deadly car chases, and shark attacks. In fact, San Diego is a peaceful place; it will surprise some to learn that most of Africa is peaceful as well, with 99% of the people working hard to be productive and to make better lives for their children.

A more objective measure of world trouble spots is provided by the Human Security Centre in Canada, which summarizes data on armed conflicts. The Centre shows a sharp drop in wars of all kinds during the past 15 years. There are charts of battle deaths, the number of UN peacekeeping operations, and the number of international tribunals prosecuting human rights abuses. All of these statistics point to a better world today, despite the prevalent reports of violence in the media. Another useful measure of progress is the Economic Freedom Ranks by the Heritage Foundation. These rankings dispel the notion that oppression is the norm

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TABLE 1
Economic Freedom Ranks—Heritage Foundation 2008.

Hong Kong	90.3	Germany	71.2	Israel	66.1	Kyrgyz Rep	66.1	Zambia	56.4
Singapore	87.4	Lithuania	70.8	Malta	66.0	Macedonia	61.1	Brazil	55.9
Ireland	82.4	Sweden	70.4	France	65.4	Namibia	61.0	Nigeria	55.5
Australia	82.0	Armenia	70.3	Costa Rica	64.8	Lebanon	60.9	Ecuador	55.4
United States	80.6	Trin. & Tobago	70.2	Panama	64.7	Turkey	60.8	Argentina	55.1
New Zealand	80.2	Austria	70.0	Malaysia	64.5	Slovenia	60.6	Cote d'Ivoire	54.9
Canada	80.2	Spain	69.7	Uganda	64.4	Kazakhstan	60.5	Nepal	54.7
Chile	79.8	Georgia	69.2	Portugal	64.3	Paraguay	60.5	Croatia	54.6
Switzerland	79.7	El Salvador	69.2	Thailand	63.5	Greece	60.1	India	54.2
United Kingdom	79.5	Norway	69.0	Peru	63.5	Kenya	59.6	Indonesia	53.9
Denmark	79.2	Slovak Rep	68.7	South Africa	63.2	Poland	59.5	Bolivia	53.2
Estonia	77.8	Botswana	68.6	Jordan	63.0	Tunisia	59.3	China	52.8
Netherlands	76.8	Czech Republic	68.5	Bulgaria	62.9	Egypt	59.2	Uzbekistan	52.3
Iceland	76.5	Latvia	68.3	Saudi Arabia	62.8	Swaziland	58.9	Ukraine	51.1
Luxembourg	75.2	Kuwait	68.3	Mongolia	62.8	Moldova	58.4	Russia	49.9
Finland	74.8	Uruguay	68.1	UAE	62.8	Sri Lanka	58.3	Vietnam	49.8
Japan	72.5	Korea, Rep.	67.9	Italy	62.5	Philippines	56.9	Guyana	49.4
Mauritius	72.3	Oman	67.4	Qatar	62.2	Pakistan	56.8	Venezuela, RB	45.0
Bahrain	72.2	Hungary	67.2	Colombia	61.9	Ghana	56.7	Bangladesh	44.9
Belgium	71.5	Mexico	66.4	Romania	61.5	Tanzania	56.4	Iran	44.0
Cyprus	71.3	Jamaica	66.2	Fiji	61.5	Morocco	56.4	Zimbabwe	29.8

Source: The Heritage Foundation, 2008

in frontier countries. In fact, many of them rank higher than Italy on this system that includes measures of business freedom, trade freedom, monetary policy, property rights, and corruption (see Table 1).

THE PROFESSIONAL INVESTOR

Although professional investors share the same biases as foreign investors in general, professional investors have additional baggage to handle. John Maynard Keynes wrote:

“Professional investment may be likened to those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs. . . so that each competitor has to pick, not the faces which he himself finds prettiest, but those which he thinks likeliest to catch the fancy of the other competitors.”

— The General Theory, 1936

When looking at emerging and frontier markets, it is hard to realize that the greatest opportunities may lie in those places that are nowhere near beautiful today but have the potential for change. A large public fund fell into this trap when it voted to exclude countries from its investible universe if they failed to meet its standards that included measures of political stability, transparency, labor practices, liquidity, volatility, regulation, investor protection, openness, settlement proficiency, and transaction costs. By excluding countries with low ranks, such as Russia, Indonesia, Sri Lanka, and Thailand, the state penalized the return of its investments in emerging markets by several hundred basis points because it was precisely these

poorly ranked countries that were able to make the greatest improvements.

Another challenge for professional investors is the lack of data and market efficiency in frontier markets. While the CFA examination has lifted the quality of financial analysis worldwide, it has led to an appetite for data that is rarely satisfied on the frontier. Table 2 highlights some common data items that are almost universally available for stocks in developed markets. The table shows the percent coverage for a sample of 316 of the largest stocks in frontier markets. While the Bloomberg database has a SEDOL identifier and last price for most stocks, data on earnings,

TABLE 2
Data Availability for a Sample of Frontier Stocks.

	# Stocks	% Coverage
Total# of Stocks	316	100%
ID.SEDOL1	281	89%
LAST_PRICE	273	86%
CUR_MKT_CAP	248	78%
EQY_DPS	175	55%
BEST_EPS	138	44%
IBES.EEPS_CUR_YR	138	44%
DIVIDEND_YIELD	133	42%
IBES.EEPS_NXT_YR	129	41%
TOT_ANALYST_REC	125	40%
PE	123	39%
TOT_BUY_REC	97	31%
BEST_TARGET_PRICE	83	26%
TOT_SELL_REC	32	10%
ID.CUSIP	10	3%

Source: Bloomberg, Frontier Market Asset Management, Oct. 2008.

TABLE 3
Trading Volume in Frontier Markets.

		Volume Traded / Day				Volume Traded/Day	
		Mktcap \$ Mil	(\$Mil)			Mktcap \$ Mil	(\$Mil)
Africa	Botswana	\$3,376	\$0.244	E Europe	Croatia	\$17,335	\$4.731
Africa	Ghana	\$1,626	\$0.234	E Europe	Estonia	\$2,356	\$1.650
Africa	Ivory Coast	\$1,358	\$0.003	E Europe	Georgia	\$381	\$1.365
Africa	Kenya	\$10,527	\$3.079	E Europe	Latvia	\$1,114	\$0.050
Africa	Mauritius	\$4,040	\$1.075	E Europe	Lithuania	\$6,087	\$1.390
Africa	Namibia	\$553	\$0.139	E Europe	Romania	\$19,338	\$3.836
Africa	Nigeria	\$11,593	\$8.712	E Europe	Slovakia	\$7,742	\$0.049
Africa	Senegal	\$4,023	N/A	E Europe	Slovenia	\$16,381	\$2.170
Africa	Tunisia	\$3,500	\$1.308	E Europe	Ukraine	\$16,474	\$3.487
Africa	Zambia	\$1,084	\$0.002	Latin America	Costa Rica	\$989	\$0.028
Asia	Bangladesh	\$0	\$10.151	Latin America	Jamaica	\$1,804	\$0.227
Asia	Cambodia	\$478	\$0.886	Latin America	Panama	\$1,682	\$9.634
Asia	Kazakhstan	\$17,443	\$23.230	Latin America	Trinidad	\$4,023	\$0.353
Asia	Sri Lanka	\$1,878	\$0.159	MidEast	Kuwait	\$9,009	\$106.659
Asia	Vietnam	\$6,077	\$9.097	MidEast	Lebanon	\$16,532	\$8.003
	Bahrain	\$7,790	\$0.826	MidEast	Oman	\$13,253	\$11.266
				MidEast	Qatar	\$84,935	\$116.006
				MidEast	UAE	\$65,342	\$148.918

Source: Bloomberg, Frontier Market Asset Management, Oct. 2008.

dividends, and analysts' estimates are generally lacking. The Appendix shows the same profile by country and illustrates that some markets are challenging for investors with high data appetites.

Another challenge for professional investors is liquidity, as shown in Table 3. This makes it most appropriate for investors to have a long-term philosophy and a patient trading approach, especially when one considers the large bid-asked spreads, as shown in Table 4. We estimate that one-way transaction costs run from a low of 1% to a high of 5%, with most trades falling in the 2-3% range. On a purchase of a stock broker's shares in Mongolia, we were surprised to see that the commission charge alone was 4.6%, but knowing that we were buying into the broker itself made us feel somewhat better about our investment.

THE LOCAL INVESTOR

Behavioral finance moves into especially interesting territory when we consider the local investors in frontier markets. Based on information from local brokers, we estimate that local retail investors account for as much as 95% of the total trading in Bangladesh, 90% of trading in Kenya, and 60% in Malawi. Some frontier markets, such as Vietnam, are more heavily driven by foreigners, but the locals still play a significant role. It is fortunate because where foreigners dominate trading, as in Eastern Europe, there have been substantial spillover effects from the global financial crisis of 2008. Through October 31, 2008, for example, our sample of 28 frontier markets showed the nine markets in Eastern

Europe had registered a decline for the year of more than 61% compared with 16% for four markets in Africa (see Table 5).

Local investors often behave in curious ways. One broker in Bangladesh we spoke with reports the following:

- "Our retail investors are just trying to follow the others, keen to know what the so-called 'gamblers' are going to buy. They say, 'I heard this share's price will jump, because some gambler is going to buy it.'"

TABLE 4
Bid-Ask Spreads.

Bid-Ask Spreads	Average	Median
U.S. (sample)	0.06%	0.06%
PANAMA	0.11%	0.11%
QATAR	0.36%	0.33%
JORDAN	0.84%	0.64%
TUNISIA	1.13%	0.73%
GEORGIA	0.78%	0.78%
VIETNAM	1.24%	0.88%
ROMANIA	1.80%	1.14%
LITHUANIA	2.53%	1.35%
LATVIA	1.76%	1.54%
SLOVENIA	3.02%	2.25%
ESTONIA	2.52%	2.26%
SRI LANKA	3.77%	2.33%
BAHRAIN	2.89%	2.89%
CROATIA	5.33%	3.26%
UKRAINE	8.12%	4.29%
KAZAKHSTAN	7.66%	5.21%
JAMAICA	5.93%	5.35%

Source: Bloomberg, Oct. 2008, 155 frontier stocks with data.

TABLE 5
Market Returns.

From 12/31/07	S&P 500	EAFE	Emerging Mkts	Frontier Markets	Frontier Asia (3)	Frontier Africa (4)	Frontier Europe (9)	Frontier Mid-East (12)
To 10/31/2008	-34.0%	-44.7%	-54.9%	-46.1%	-53.5%	-16.0%	-61.1%	-9.7%

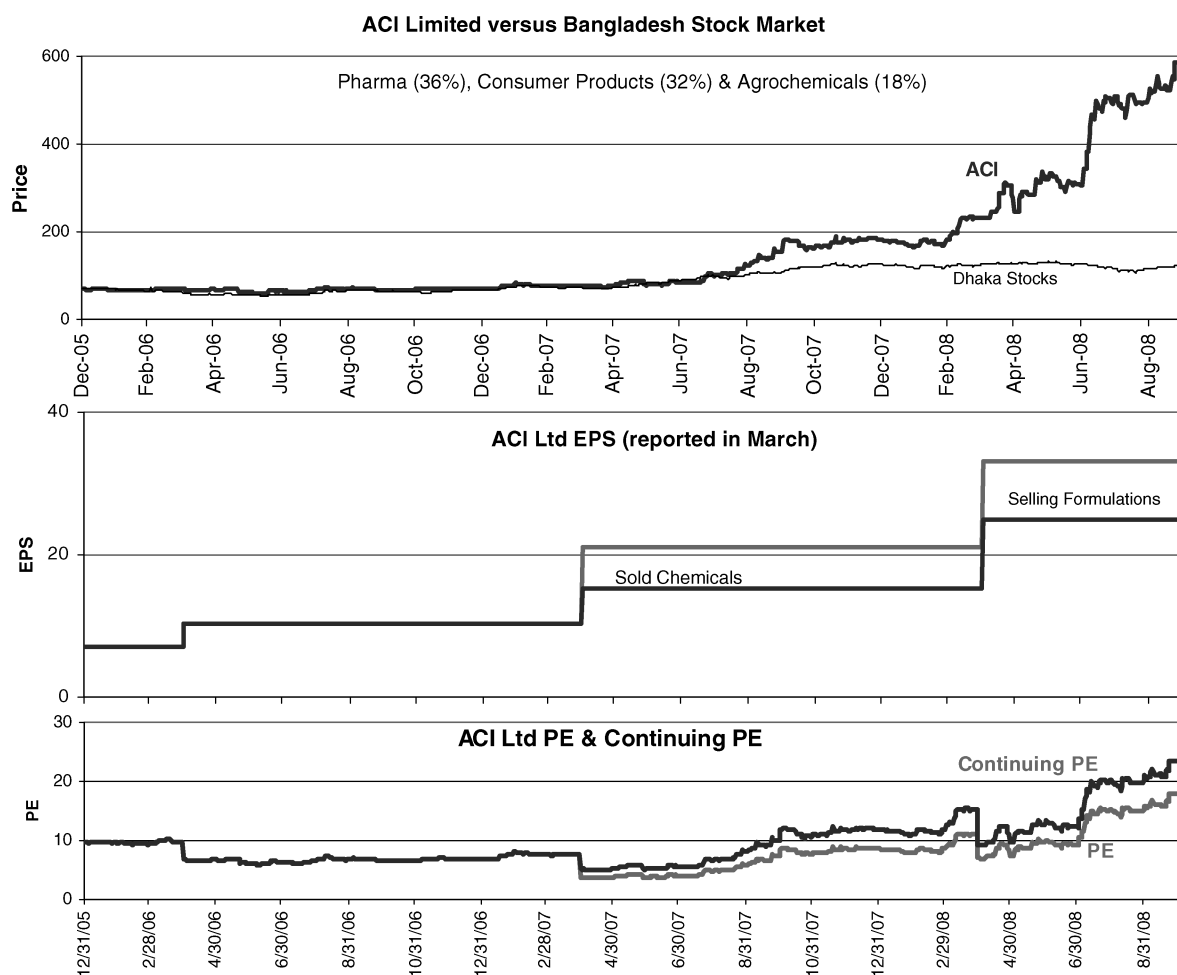
Source: Bloomberg, Oct. 31, 2008.

- We have some stocks like Allied Foods, Allied Chemicals, Allied Footwear, Allied Spinning, etc. These companies are doing different kinds of business, and the owners are different. Still, if there is good news for one of them all companies that have names beginning with Allied will start rising.
- Also, when the subsidiary of one multinational company starts rising, all multinationals will rise together.”

Another repeated comment in many countries is that local investors like to buy low-priced stocks because they view the quantity of shares they can get for their money as an

indication of value. They rarely calculate the price/earnings ratio, but they do look at price relative to par value even though this has little significance for common stocks. Finally, locals love “bonus shares” and stock dividends, viewing the additional shares they provide as worth more money overall, rather than simply representing smaller pieces of the same pie (see Figure 1).

In a recent paper, Meir Statman¹ reported on a survey of views about the ethics of a trade in a takeover candidate by a person who overheard a conversation at his law firm. Only 5% of respondents in the Netherlands and the United States felt that the trade would be either “completely fair”



Source: Bloomberg, Frontier Market Asset Management, Oct. 2008

FIGURE 1

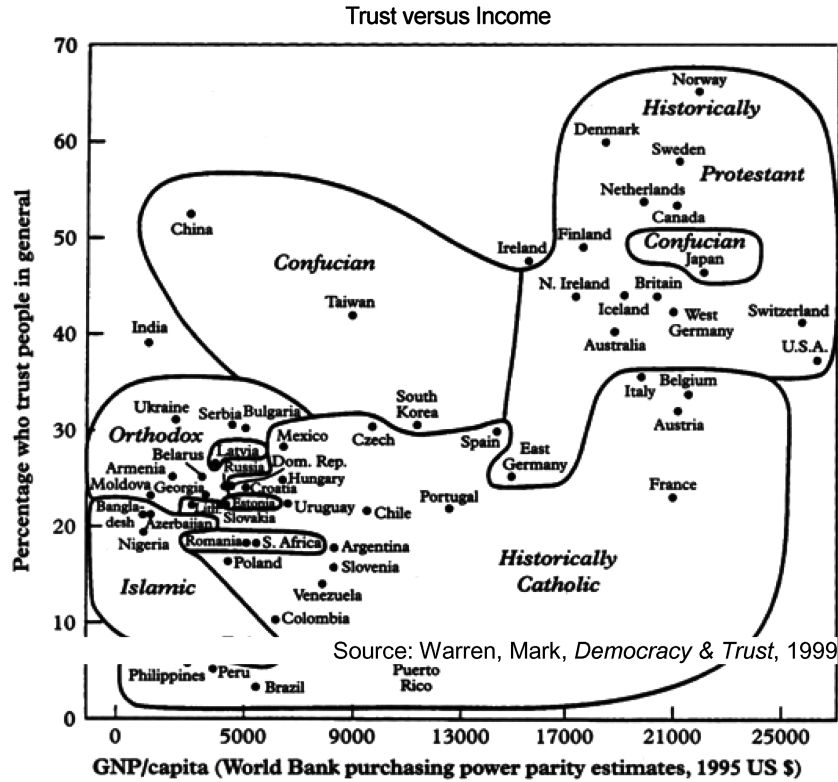


FIGURE 2

or “acceptable” compared with 43% of respondents in Italy, 49% in India, and 56% in Turkey. When faced with those odds of what we would consider unethical behavior, we need to be careful about the counterparties we deal with in many markets.

Trust is based on ethics and many other factors. It differs widely across cultures, as shown in Figure 2 from the World Values Survey.² These differences in trust are generalizations that can vary widely within countries based on the local environment. Paul Zak, Director of the Center for Neuroeconomics Studies at Claremont Graduate University, has found that trust is improved by education, press freedom, civil liberties, and reduced income inequality.³ He also found that telephones and better roads improve trust. In this regard, the cell phone has certainly improved the level of trust in frontier countries by reducing the elements of chance and suspicion that were the hallmarks of business transactions. Today, for example, rural farmers can simply make a phone call to learn the market price for their goats rather than risk being cheated by unscrupulous wholesalers. Similarly, fishermen can call ahead while returning with their catch to learn which port offers the best prices. A final area that influences trust in Zak's findings is biological, where he found that pollution reduces trust while a good diet, including wine and tea, improves trust.

In addition to ethics and trust, another aspect of culture that influenced investment decisions is optimism. The Pew

Research Center found that optimism, unlike satisfaction, is inversely correlated to income.⁴ In fact, in Bangladesh, with only \$454 per capita GDP, 79% of people say they are optimistic compared with only 41% in Japan where income is \$40,000 per capita GDP. When asked if the next generation will be better off, 84% of Bangladeshis said “yes” compared to only 10% of Japanese (see Figure 3).

The cultural aspects of ethics, trust, satisfaction, and optimism combine in financial markets in the degree of risk-seeking behavior. Statman found that countries such as China, Vietnam, India, and Turkey have a higher propensity

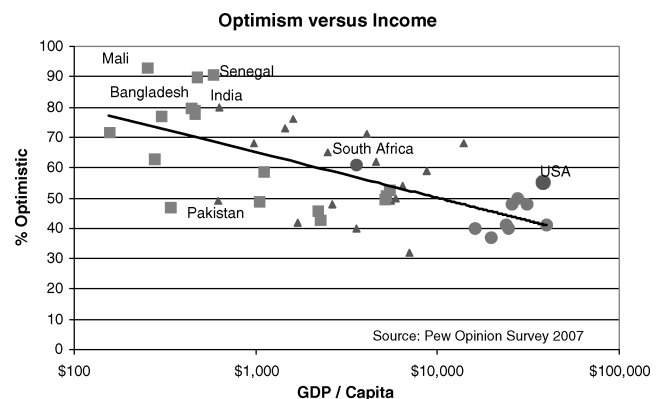


FIGURE 3

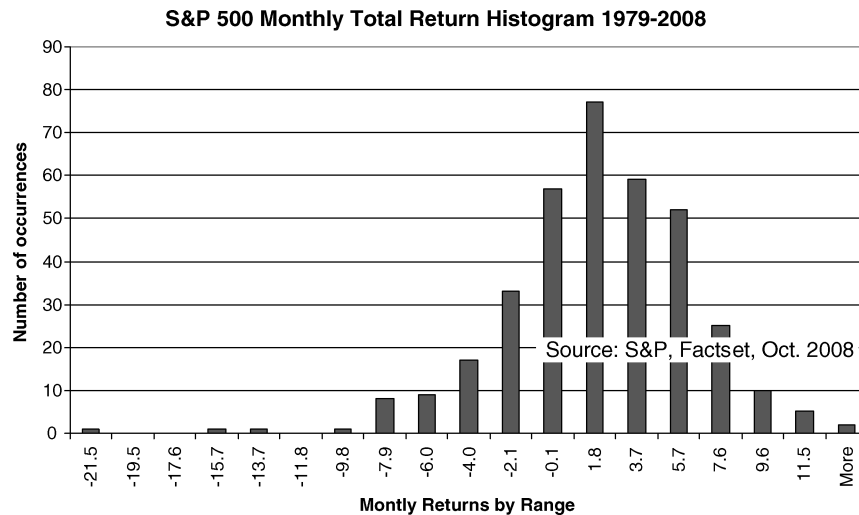


FIGURE 4

for risk than the United States, United Kingdom, Switzerland, and Germany. Based on this observation, we could say there are more “gamblers” in the stock markets of frontier countries.

UNKNOWN AND UNKNOWABLE

British writer G.K. Chesterton wrote, “Life is not an illogicality, yet it is a trap for logicians. It looks just a little more mathematical and regular than it is; . . . its inexactitude is hidden; its wildness lies in wait.”⁵

While we like to believe that we live in a world that can be analyzed and controlled, we are faced with randomness and uncertainty more often than we would like. While the distribution of heads or tails can be measured by a normal distribution, even there we often get results that would seem to defy prediction (in 20 flips of a fair coin, there is a 20% chance of six heads or tails in a row). When we look at financial markets we expect to find a log-normal distribution of returns, but in practice the distribution is characterized by leptokurtosis, or fat tails. Figure 4 shows a histogram of the monthly returns on the S&P 500 from January 1979 to October 2008. Unfortunately, investors have been badly damaged by the monthly return of -16.1% in October 2008, which is similar to the return of -21.5% in October 1987; neither was predicted by risk models.

If we say that the “risk” defines problems where the range of results is normally distributed so the probabilities are known, then the real world of the S&P 500 and the financial markets is actually a world of “uncertainty” where the range of results is known but the probabilities are not. Thus, while many of the world’s problems are risk problems, a great many more are problems of uncertainty. Unfortunately, that barely scratches the surface because there is the dimension of the unknown.

Richard Zeckhauser, professor of Political Economy at the Kennedy School of Government, has observed that “unknown and unknowable situations are widespread.”⁶ They include the crash of October 1987, the Tech Bubble, the 9/11 terrorist attacks, and the current financial crisis. These are situations where the complexities result in an infinite set of possible outcomes. Frontier markets present similar decision making challenges, albeit on a smaller scale. Information may exist on a company’s financial and competitive situation, but may be unavailable on a timely or cost-effective basis. Instead, investors must nurture the ability to make decisions under uncertainty. One advantage for investors seeking unknown and unknowable opportunities is that most investors avoid these situations so that competition is limited. In developed markets, the strategy of seeking underowned, unloved, and unfollowed stocks has been discussed for years as a tool for contrary investors. Frontier markets consist almost entirely of these kinds of stock. These situations allow one to take advantage of asymmetric information. If retail investors are focusing on trading data while professional investors focus on fundamental data, there may be an opportunity for professionals to make a profit if they are patient. Even though some locals may possess inside information, active relatively uninformed retail investors and noise traders may be setting prices. A foreign investor may not possess as much local knowledge, but he can apply a mosaic of information from other frontier markets as well as global information and career experience to make rewarding judgments about local stocks.

CONCLUSION

Behavioral biases and opportunities are abundant in frontier markets. Foreign investors are prone to view them through

the prism of personal prejudice and media hysteria, making it difficult for them to even travel to frontier countries, let alone invest in their markets. Those professionals who do venture out on the frontier find it difficult to travel light, without the comfort of data that have made more developed markets so efficient. Meanwhile, local investors lack the analytical tools and are prey to rumors, leaving the brokers to make fat commissions while their customers chase rumors.

Investors who can avoid the crowd, evaluate the asymmetry of knowledge, and deal with decision making under uncertainty have opportunities in frontier markets. The “road less traveled” is filled with potholes that are unknown and unknowable, but the road may lead to gold.

NOTES

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APPENDIX—PROFILE BY COUNTRY

	LAST PRICE	CUR. MktCAP	EQY. DPS	BEST. EPS	DIVIDEND. YIELD	PE	TOT. ANALYST-REC	TOT. BUY-REC	TOT. SELL-REC	BEST-TARGET- PRICE	IBES-EEPS. CUR-YR	IBES-EEOS. NXT-YR	ID- SEDOL1	ID- CUSIP
Africa														
Africa	6	6	4	—	4	—	—	—	—	—	—	—	6	—
Africa	9	9	7	1	7	1	—	—	—	—	1	—	11	—
Africa	5	5	4	1	4	1	—	—	—	—	1	1	5	—
Africa	20	20	16	3	16	3	10	4	3	6	3	3	20	—
Africa	8	8	6	—	6	—	—	—	—	—	—	—	8	—
Africa	4	4	2	—	2	—	—	—	—	—	—	—	4	—
Africa	3	3	3	7	3	2	8	4	1	8	7	7	3	—
Africa	1	1	—	—	—	—	—	—	—	—	—	—	1	—
Africa	11	11	11	12	11	11	1	—	—	—	12	12	12	—
Africa	2	2	2	1	1	1	1	1	—	1	1	1	2	—
Asia	23	—	—	—	—	—	—	—	—	—	—	—	24	—
Asia	1	1	—	—	—	—	1	1	—	1	1	1	1	—
Asia	3	3	—	3	—	3	3	3	1	3	3	3	3	2
Asia	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Asia	7	7	4	2	4	2	—	—	—	—	2	2	7	—
Asia	22	22	21	5	20	5	—	—	—	—	5	—	23	—
E Europe	—	—	—	7	—	—	5	—	2	—	7	4	—	—
E Europe	13	13	6	7	1	7	7	6	1	1	7	7	12	—
E Europe	4	4	—	5	—	4	5	5	2	4	5	5	4	—
E Europe	1	1	1	1	1	1	1	1	—	1	1	1	1	1
E Europe	6	6	1	—	—	—	1	1	—	—	—	—	6	—
E Europe	15	15	—	9	—	9	8	6	3	4	9	9	16	—
E Europe	13	13	11	12	10	12	10	10	2	7	12	12	13	—
E Europe	4	4	2	—	—	—	—	—	—	—	—	—	5	—
E Europe	11	11	11	8	1	8	8	6	5	5	8	8	11	—
E Europe	12	12	3	12	3	12	12	12	4	11	12	12	12	—
E Europe	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Latin America	7	7	7	—	6	—	—	—	—	—	—	—	7	—
Latin America	1	1	1	1	1	1	1	1	1	1	1	1	1	—
Latin America	4	4	4	—	2	—	—	—	—	—	—	—	5	—
MidEast	2	2	2	2	2	2	2	1	—	1	2	2	2	—
MidEast	19	19	15	11	8	11	11	11	2	8	11	11	19	—
MidEast	5	5	5	1	5	1	1	—	—	—	1	—	5	2
MidEast	6	6	6	7	3	6	7	5	1	3	7	7	6	—
MidEast	11	11	10	8	8	8	9	9	2	7	8	9	11	—
MidEast	10	10	8	10	3	10	10	9	2	10	10	10	10	—
MidEast	271	247	174	137	132	122	124	96	30	82	137	128	276	5

Source: Bloomberg, Frontier Market Asset Management, October 2008.

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