

Frontier Markets Investing: What Should a Quant Manager Do?

A Frontier Markets
Presentation to

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Quant managers are known for

- Risk control and objectivity
- Process driven with little human intervention: scalability and universality

A successful quantitative process needs

- A well-articulated philosophy and investment process
- “Reliable” data and a relatively stable market environment

Common misperceptions about quantitative research

- Dumb value investing
- Disguising systematic risks as sources of alpha
- Data mining
- Backward looking analysis
- No fundamental ideas, no private information
- Only good at low risk index-enhancing strategies
- Process works only in developed markets

Where quant analysis is most easily applied, it is least valuable

- U.S. large-cap and other mature markets have good data but it is hard to add value
- Small-cap and emerging markets have less data but more inefficiencies: greater cost of data acquisition and research
- Where to focus?
- What is the final frontier?

The final frontier of global investing

- High economic growth with some countries potentially leapfrogging developed markets
- Increasing economic integration
- The benefit of diversification
- The opportunity to make a real difference for a large part of world population by providing much needed capital and finance expertise
- To prove a quantitative process can work, even with limited data

Where do returns come from?

- Risk-free interest rate
- Beta exposure
- Alpha generating
- Reduced trading and other costs

Basic Economic Statistics: December 2005

Country	Traded Companies	Market Cap (\$million)	Market Cap/GDP (%)	Corruption (Transparency International)	Pop. Below Poverty (%)	Unemp (%)	Growth 2004	Agriculture (% of Labor)
Bangladesh	25	1,557	3	1.7	45	40	4.9	63
Botswana	6	2,326	24	5.9	47	24	3.5	
Bulgaria	12	3,518	14	4.0	13	13	5.3	11
Croatia	12	5,374	14	3.4	11	14	3.7	3
Ecuador	5	2,629	8	2.5	45	11	5.8	8
Estonia	7	3,065	24	6.4		10	6.0	11
Ghana	11	1,036	10	3.5	31	20	5.4	60
Ivory Coast	14	2,553	16					
Jamaica	19	5,197	54	3.6	20	15	1.9	20
Kenya	17	5,455	29	2.1	50	40	2.2	75
Latvia	8	1,206	5	4.2		9	7.6	15
Lebanon	5	4,154	26	3.1	28	18	4.0	
Lithuania	14	5,412	24	4.8		8	6.6	20
Mauritius	15	2,253	37	4.2	10	11	4.7	14
Namibia	4	423	9	4.3	50	35	4.8	47
Romania	14	20,557	26	3.0	29	6	8.1	32
Slovakia	6	3,164						
Slovenia	11	5,475	12	6.1		6	3.9	6
Trinidad and Tobago	10	9,320	67	3.8	21	10	5.7	10
Tunisia	20	2,419	8	4.9	8	14	5.1	55
Ukraine	10	14,378	17	2.6	29	4	12.0	24
Vietnam	40	1,000	440	2.6	29	2	7.7	63
Frontier	285	101,472	58	3.8	29	15	5.4	30
Emerging	5965	5,605,769	86	3.9	26	10	5.8	25

Data Source: The World Factbook, Central Intelligence Agency

Largest Companies: December 2005

Name	Country	Sector	Market Cap (US\$ million)	No. of Analysts	Daily Liquidity (US\$ million)
SNP Petrom SA	Romania	Energy	12,145	1	1.01
Banca Romana Pentru Dezvolta	Romania	Financials	4,566	1	0.81
Ukrtelekom	Ukraine	Telecomm	3,848	4	0.01
"Ukrnafta" oil company	Ukraine	Energy	3,084	4	0.22
Mariupol Metallurgical Plant Illid	Ukraine	Materials	2,360	0	0.04
Republic Bank Ltd	Trinidad	Financials	2,231	0	0.58
AB Mazeikiu nafta	Lithuania	Energy	2,113	0	0.25
KRKA D.D.	Slovenia	Health Care	2,063	2	0.63
Solidere A	Lebanon	Financials	2,013	1	1.64
RBTT Financial Group	Trinidad	Financials	1,906	1	1.57
Azovstal Iron and Steel Works	Ukraine	Materials	1,850	4	0.07
Bulgarian Telecommunication C	Bulgaria	Telecomm	1,831	1	1.10
Privredna banka Zagreb, d.d.	Croatia	Financials	1,707	0	0.03
Societe Nationale des Telecom	Cote d'Ivoire	Telecomm	1,663	0	0.07
Slovnaft a.s.	Slovak Repub	Energy	1,546	0	0.01
Solidere B	Lebanon	Financials	1,313	1	1.17
Pliva d.d. Zagreb	Croatia	Health Care	1,285	2	0.44
Eesti Telekom	Estonia	Telecomm	1,281	1	0.66
Banca Transilvania	Romania	Financials	1,212	1	1.47
ANSA McAl Limited	Trinidad	Financials	1,121	0	0.12
Zaporizhstal Iron and Steel Wo	Ukraine	Materials	1,027	4	0.11
Supermercados La Favorita S.A	Ecuador	Consumer Staples	1,001	0	-

Data Source: Bloomberg



Index Return Characteristics: December 1995-December 2005

	Emerging	Frontier
Annualized Return	8.2	10.9
Volatility	23.7	10.9
Autocorrelation	0.1	0.5
Correlations		
MSCI US	0.7	0.2
MSCI EAFE	0.8	0.3
Emerging	1.0	0.3
Frontier	0.3	1.0

Data Source: S&P Emerging Markets Data base



Country Model Historical Efficacy

Applying our emerging markets country forecasting model in a true out-of-sample (Oct. 2000-Dec. 2005: correlation coefficients)

	Equal Weighting	Cap Weighting
One Year	0.036	0.070
Three Year	0.061	0.045
Whole Period	0.054	0.036

Data Source: Acadian Asset Management



A systematic investment process for frontier markets

- Primarily emphasize beta exposure as frontier markets are a good diversifier and a very different asset class
- Liquidity, transaction costs and settlement are major issues
 - There are brokers and custody banks active in a large number of these markets
- Data coverage and forecast model efficacy are problematic or unknown
- Country forecasts more important than stock forecasts
- Risk control is important

How to proceed

- Partner with long-term pioneering investors
- Establish reasonable expectations
- Take a well-diversified, systematic approach instead of a fundamental-based approach
- Be careful with trading and administration

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