

GEM 2 v s GEM

Model Structure Comparison

GEM2

Model Summary

Asset Coverage:	~45,000
Number of Estimation Universe Assets:	~8,000
Number of Style Factors:	8
Number of Industry Factors:	34
Number of Country Factors:	55
Number of Currency Factors:	44
Number of World Market Factors:	1

GEM

Model Summary

Asset Coverage:	~42,500
Number of Estimation Universe Assets:	~1,800
Number of Style Factors:	4
Number of Industry Factors:	38
Number of Country Factors:	56
Number of Currency Factors:	46

GEM2 Specific Risk

GEM2 introduces a structural specific risk model resulting in improved forecasts of idiosyncratic asset risk

GEM2 Style Factors		GEM Style Factors	
Descriptors	Factor	Factor	Descriptors
<ul style="list-style-type: none"> Relative strength Historical alpha 	Momentum	Success	<ul style="list-style-type: none"> Relative strength
<ul style="list-style-type: none"> Historical sigma Historical beta Cumulative range Daily standard deviation 	Volatility	Variability in Markets	<ul style="list-style-type: none"> Historical sigma
<ul style="list-style-type: none"> Forecast earnings to price Earnings to price Book to price Dividend yield Cash earnings to price 	Value	Value	<ul style="list-style-type: none"> Analyst predicted earnings to price Earnings to price Book to price Dividend yield
<ul style="list-style-type: none"> Logarithm of market capitalization 	Size	Size	<ul style="list-style-type: none"> Logarithm of market capitalization
<ul style="list-style-type: none"> Cube of the logarithm of market capitalization 	Size Non-linearity		
<ul style="list-style-type: none"> 5-year Earnings growth 5-year Sales growth Analyst predicted 5-year Earnings growth 	Growth		
<ul style="list-style-type: none"> Monthly share turnover Quarterly share turnover Annual share turnover 	Liquidity		
<ul style="list-style-type: none"> Book leverage Market leverage Debt to assets 	Financial Leverage		

GEM2 Industry Factors – GICS® Based	GEM Industry Factors
<ol style="list-style-type: none"> 1. Energy Equipment & Services 2. Oil, Gas & Consumable Fuels 3. Oil & Gas Exploration & Production 4. Chemicals 5. Construction, Containers, Paper 6. Aluminum, Diversified Metals 7. Gold, Precious Metals 8. Steel 9. Capital Goods 10. Commercial & Professional Services 11. Transportation Non-Airline 12. Airlines 13. Automobiles & Components 14. Consumer Durables & Apparel 15. Consumer Services 16. Media 17. Retailing 18. Food & Staples Retailing 19. Food, Beverage & Tobacco 20. Household & Personal Products 21. Health Care Equipment & Services 22. Biotechnology 23. Pharmaceuticals, Life Sciences 24. Banks 25. Diversified Financials 26. Insurance 27. Real Estate 28. Internet Software & Services 29. IT Services, Software 30. Communications Equipment 31. Computers, Electronics 32. Semiconductors 33. Telecommunication Services 34. Utilities 	<ol style="list-style-type: none"> 1. Energy Sources 2. Electric and Gas Utilities 3. Building Materials and Components 4. Chemicals 5. Forestry and Paper Products 6. Metals - Nonferrous 7. Metals - Steel 8. Misc. Materials and Commodities 9. Aerospace and Military Technology 10. Construction and Housing 11. Data Processing and Reproduction 12. Electrical and Electronics 13. Electronic Components and Instruments 14. Energy Equipment and Services 15. Industrial Components 16. Machinery and Engineering 17. Appliances and Household Durables 18. Automobiles 19. Beverages and Tobacco 20. Food and Household Products 21. Health and Personal Care 22. Recreation and Other Consumer Goods 23. Textiles and Apparel 24. Broadcasting and Publishing 25. Business and Public Services 26. Leisure and Tourism 27. Merchandising 28. Telecommunications 29. Transportation- Airlines 30. Transportation - Road and Rail 31. Transportation - Shipping 32. Wholesale and International Trade 33. Banking 34. Financial Services 35. Insurance 36. Real Estate 37. Multi-Industry 38. Gold Mines

GEM2 Country Factors	GEM Country Factors
1. Argentina	1. Argentina
2. Australia	2. Australia
3. Austria	3. Austria
4. Bahrain	4. Bahrain
5. Belgium	5. Belgium
6. Brazil	6. Brazil
7. Canada	7. Canada
8. Chile	8. Chile
9. China Domestic	
10. China International	
	9. China
11. Colombia	10. Colombia
12. Czech Republic	11. Czech Republic
13. Denmark	12. Denmark
14. Egypt	13. Egypt
15. Finland	14. Finland
16. France	15. France
17. Germany	16. Germany
18. Greece	17. Greece
19. Hong Kong	18. Hong Kong
20. Hungary	19. Hungary
21. India	20. India
22. Indonesia	21. Indonesia
23. Ireland	22. Ireland
24. Israel	23. Israel
25. Italy	24. Italy
26. Japan	25. Japan
27. Jordan	26. Jordan
28. South Korea	27. Korea
29. Kuwait	
30. Malaysia	28. Malaysia
31. Mexico	29. Mexico
32. Morocco	30. Morocco
33. Netherlands	31. Netherlands
34. New Zealand	32. New Zealand
	33. Nigeria
35. Norway	34. Norway
36. Oman	35. Oman
37. Pakistan	36. Pakistan
38. Peru	37. Peru
39. Philippines	38. Philippines
40. Poland	39. Poland
41. Portugal	40. Portugal
42. Qatar	

GEM2 Country Factors	GEM Country Factors
43. Russia	41. Russia
44. Saudi Arabia	42. Saudi Arabia
45. Singapore	43. Singapore
	44. Slovakia
46. South Africa	45. South Africa
47. Spain	46. Spain
	47. Sri Lanka
48. Sweden	48. Sweden
49. Switzerland	49. Switzerland
50. Taiwan	50. Taiwan
51. Thailand	51. Thailand
52. Turkey	52. Turkey
53. UK	53. UK
54. United Arab Emirates	
55. USA	54. USA
	55. Venezuela
	56. Zimbabwe



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