

USE4L Data Sheet

Barra U.S. Equity Model—Long-Term Version

Model Summary	USE4 Advances Include
Asset Coverage: 20,400+ ¹	<ul style="list-style-type: none"> Improved risk forecasts for optimized portfolios using the new Optimization Bias Adjustment methodology More responsive forecasts through the use of our new Volatility Regime Adjustment methodology A US Country factor to separate market and industry effects for increased accuracy Improved specific risk model, including Volatility Regime Adjustment Multiple industry scheme based on Global Industry Classification Standard (GICS®) Enhanced style factors reflecting the latest research and client feedback Full daily updates of the model including daily exposures
Style Factors: 12	
Industry Factors: 60	
Market Factor: 1	
Covariance matrix built on daily data	

USE4L	Details
Application Usage	Models Direct Barra Portfolio Manager (BPM) Aegis
Model Start Dates	Models Direct (Daily): 30 June 1995 Barra Portfolio Manager (Daily): 30 June 1995 Aegis (Daily): 30 June 1995
Estimation Universe	MSCI USA IMI US component of MSCI All Country World Investable Market Index (ACWI IMI)
Regression Weighting Scheme	Square root of market capitalization
Factor Covariance Matrix	Half-life for Volatility: 252 days Newey-West Volatility Lags: 5 days Half-life for Correlations: 504 days Newey-West Correlation Lags: 2 days Half-life for Volatility Regime Adjustment: 168 days
Specific Risk	Half-life for Specific Volatility: 252 days Newey-West Auto-Correlation Lags: 5 days Newey-West Auto-Correlation Half-Life: 252 days Bayesian Shrinkage Parameter: 0.1 Half-life for Volatility Regime Adjustment: 168 days Linked Specific Risk available
Industry Allocation Scheme	Multiple-industry allocation (up to five industries)
Source of Industry Scheme	Based on Global Industry Classification Standard (GICS®)

¹ As of 28 Mar 2012

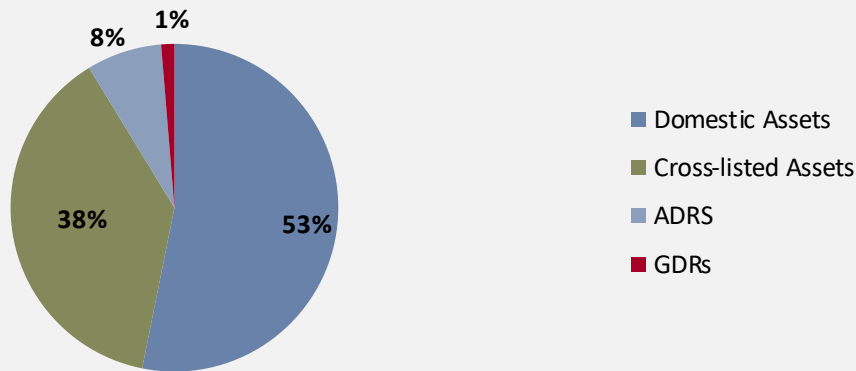
USE4 Risk Factors	Purpose	Descriptor Components
Beta	Captures the market risk that cannot be explained by the US Country factor	Historical Beta (1.000)
Momentum	Explains the return differences of stocks based on their relative performance over the trailing 6-12 months	Relative strength (1.000)
Size	Captures the return differences between large-cap and small-cap stocks	Logarithm of market capitalization (1.000)
Earnings Yield	Describes the return differences based on a company's earnings relative to its price	<ul style="list-style-type: none"> Cash earnings-to-price ratio (0.150) Trailing annual earnings-to-price ratio (0.100) Analyst-predicted earnings-to-price ratio (0.750)
Residual Volatility	Explains returns associated with high-volatility stocks that are not captured by the Beta factor	<ul style="list-style-type: none"> Historical sigma (0.100) Daily standard deviation calculation (0.750) Cumulative range (0.150)
Growth	Describes the return differences of stocks based on their prospects for sales or earnings growth	<ul style="list-style-type: none"> Earnings growth rate over last five years (0.200) Sales growth (0.100) Analyst-predicted earnings growth (0.700)
Dividend Yield	Explains the return component attributable to a stock's dividend payouts	Dividend-to-price ratio (1.000)
Book-to-Price	Explains the return component attributable to a stock's book-to-price ratio and can be an indicator of value	Book-to-price ratio (1.000)
Leverage	Captures the return differences between high-leverage and low-leverage stocks	<ul style="list-style-type: none"> Debt-to-assets ratio(0.150) Book leverage (0.100) Market leverage (0.750)
Liquidity	Describes the return differences of stocks based on their relative trading activity	<ul style="list-style-type: none"> Annual share turnover (0.300) Quarterly share turnover (0.350) Monthly share turnover (0.350)
Non-Linear Size	Describes the non-linearities in payoff to the Size factor across the market-cap spectrum	Size non-linear (1.000)
Non-Linear Beta	Captures the non-linearities in payoff to the Beta factor	Non-Linear Historical Beta (1.000)

USE4 Model	Details	
Industry Factors	1. Oil and Gas Drilling	31. Distributors Multiline Retail
	2. Oil and Gas Equipment and Services	32. Internet and Catalog Retail
	3. Oil and Gas Exploration and Production	33. Apparel and Textiles
	4. Oil Gas and Consumable Fuels	34. Specialty Stores
	5. Chemicals	35. Specialty Retail
	6. Specialty Chemicals	36. Household and Personal Products
	7. Construction Materials	37. Food and Staples Retailing
	8. Containers and Packaging	38. Food Products
	9. Paper and Forest Products	39. Beverages Tobacco
	10. Aluminum Steel	40. Health Care Equipment and Technology
	11. Precious Metals Gold Mining	41. Managed Health Care
	12. Aerospace and Defense	42. Health Care Providers (non-HMO)
	13. Construction and Farm Machinery	43. Biotechnology Life Sciences
	14. Industrial Machinery	44. Pharmaceuticals
	15. Building Products	45. Banks
	16. Trading Companies and Distributors	46. Diversified Financials
	17. Construction and Engineering	47. Life Health and Multi-line Insurance
	18. Electrical Equipment	48. Insurance Brokers and Reinsurance
	19. Industrial Conglomerates	49. Real Estate
	20. Commercial and Professional Services	50. Semiconductor Equipment
	21. Airlines	51. Semiconductors
	22. Transportation Air Freight and Marine	52. Internet Software and IT Services
	23. Road and Rail	53. Software
	24. Automobiles and Components	54. Communications Equipment
	25. Household Durables (non-Homebuilding)	55. Computers Electronics
	26. Homebuilding	56. Diversified Telecommunication Services
	27. Leisure Products Textiles Apparel and Luxury	57. Wireless Telecommunication Services
	28. Hotels Leisure and Consumer Services	58. Electric Utilities
	29. Restaurants	59. Gas Utilities
	30. Media	60. Multi-Utilities Water Utilities Power
Market Factor	US Country	

USE4 Model Coverage

Details

- Total 20,400+² assets
 - 10,900+ U.S. Domestic Stocks including 5,000 Pink Sheets
 - From NYSE, NASDAQ, and American Stock Exchange. Also, includes Pink Sheets and OTC assets



- 70% more coverage than USE3 with 10,800+ new assets. Additions include:
 - 6,200+ U.S. Stocks, 75% more than USE3
 - 450+ ADRs, 45% more than USE3
 - 3,900+ Foreign Listings of U.S. companies
- 370 ETFs³

² As of 28-Mar-2012

³ Based on Models Direct SM files as of July 2012. Coverage may vary in other products.

Client Service Information is Available 24 Hours a Day

clientservice@msci.com

Americas

Americas	1.888.588.4567 (toll free)
Atlanta	+ 1.404.551.3212
Boston	+ 1.617.532.0920
Chicago	+ 1.312.675.0545
Montreal	+ 1.514.847.7506
Monterrey	+ 52.81.1253.4020
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Stamford	+1.203.325.5630
Toronto	+ 1.416.628.1007

Europe, Middle East & Africa

Cape Town	+ 27.21.673.0100
Frankfurt	+ 49.69.133.859.00
Geneva	+ 41.22.817.9777
London	+ 44.20.7618.2222
Milan	+ 39.02.5849.0415
Paris	0800.91.59.17 (toll free)

Asia Pacific

China North	10800.852.1032 (toll free)
China South	10800.152.1032 (toll free)
Hong Kong	+ 852.2844.9333
Seoul	798.8521.3392 (toll free)
Singapore	800.852.3749 (toll free)
Sydney	+ 61.2.9033.9333
Tokyo	+ 81.3.5226.8222

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