

# USE4S Data Sheet

## Barra U.S. Equity Model—Short-Term Version

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

USE4S	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: 84 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: 42 days
Specific Risk	Half-life for Specific Volatility: 84 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: 42 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®)

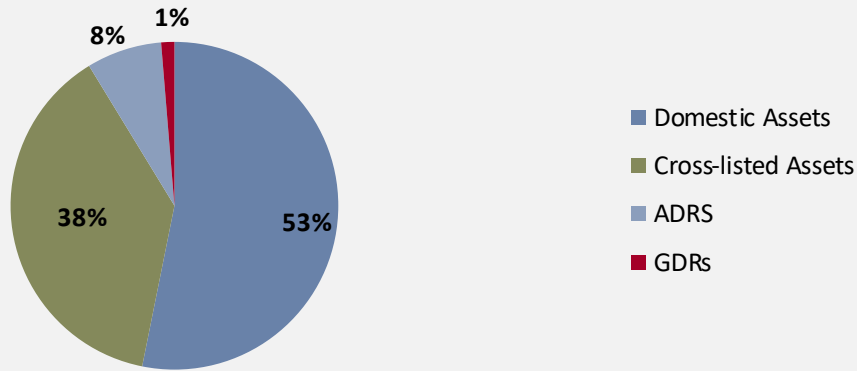
<sup>1</sup> As of 28 Mar 2012

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"> <li>Cash earnings-to-price ratio (0.150)</li> <li>Trailing annual earnings-to-price ratio (0.100)</li> <li>Analyst-predicted earnings-to-price ratio (0.750)</li> </ul>
Residual Volatility	Explains returns associated with high-volatility stocks that are not captured by the Beta factor	<ul style="list-style-type: none"> <li>Historical sigma (0.100)</li> <li>Daily standard deviation calculation (0.750)</li> <li>Cumulative range (0.150)</li> </ul>
Growth	Describes the return differences of stocks based on their prospects for sales or earnings growth	<ul style="list-style-type: none"> <li>Earnings growth rate over last five years (0.200)</li> <li>Sales growth (0.100)</li> <li>Analyst-predicted earnings growth (0.700)</li> </ul>
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"> <li>Debt-to-assets ratio (0.150)</li> <li>Book leverage (0.100)</li> <li>Market leverage (0.750)</li> </ul>
Liquidity	Describes the return differences of stocks based on their relative trading activity	<ul style="list-style-type: none"> <li>Annual share turnover (0.300)</li> <li>Quarterly share turnover (0.350)</li> <li>Monthly share turnover (0.350)</li> </ul>
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	Details	
Industry Factors	<ol style="list-style-type: none"> <li>1. Oil and Gas Drilling</li> <li>2. Oil and Gas Equipment and Services</li> <li>3. Oil and Gas Exploration and Production</li> <li>4. Oil Gas and Consumable Fuels</li> <li>5. Chemicals</li> <li>6. Specialty Chemicals</li> <li>7. Construction Materials</li> <li>8. Containers and Packaging</li> <li>9. Paper and Forest Products</li> <li>10. Aluminum Steel</li> <li>11. Precious Metals Gold Mining</li> <li>12. Aerospace and Defense</li> <li>13. Construction and Farm Machinery</li> <li>14. Industrial Machinery</li> <li>15. Building Products</li> <li>16. Trading Companies and Distributors</li> <li>17. Construction and Engineering</li> <li>18. Electrical Equipment</li> <li>19. Industrial Conglomerates</li> <li>20. Commercial and Professional Services</li> <li>21. Airlines</li> <li>22. Transportation Air Freight and Marine</li> <li>23. Road and Rail</li> <li>24. Automobiles and Components</li> <li>25. Household Durables (non-Homebuilding)</li> <li>26. Homebuilding</li> <li>27. Leisure Products Textiles Apparel and Luxury</li> <li>28. Hotels Leisure and Consumer Services</li> <li>29. Restaurants</li> <li>30. Media</li> </ol>	<ol style="list-style-type: none"> <li>31. Distributors Multiline Retail</li> <li>32. Internet and Catalog Retail</li> <li>33. Apparel and Textiles</li> <li>34. Specialty Stores</li> <li>35. Specialty Retail</li> <li>36. Household and Personal Products</li> <li>37. Food and Staples Retailing</li> <li>38. Food Products</li> <li>39. Beverages Tobacco</li> <li>40. Health Care Equipment and Technology</li> <li>41. Managed Health Care</li> <li>42. Health Care Providers (non-HMO)</li> <li>43. Biotechnology Life Sciences</li> <li>44. Pharmaceuticals</li> <li>45. Banks</li> <li>46. Diversified Financials</li> <li>47. Life Health and Multi-line Insurance</li> <li>48. Insurance Brokers and Reinsurance</li> <li>49. Real Estate</li> <li>50. Semiconductor Equipment</li> <li>51. Semiconductors</li> <li>52. Internet Software and IT Services</li> <li>53. Software</li> <li>54. Communications Equipment</li> <li>55. Computers Electronics</li> <li>56. Diversified Telecommunication Services</li> <li>57. Wireless Telecommunication Services</li> <li>58. Electric Utilities</li> <li>59. Gas Utilities</li> <li>60. Multi-Utilities Water Utilities Power</li> </ol>
Market Factor	US Country	

USE4 Model Coverage

- Total 20,400+<sup>2</sup> 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 ETFs<sup>3</sup>

<sup>2</sup> As of 28-Mar-2012

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

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[clientservice@msci.com](mailto:clientservice@msci.com)

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