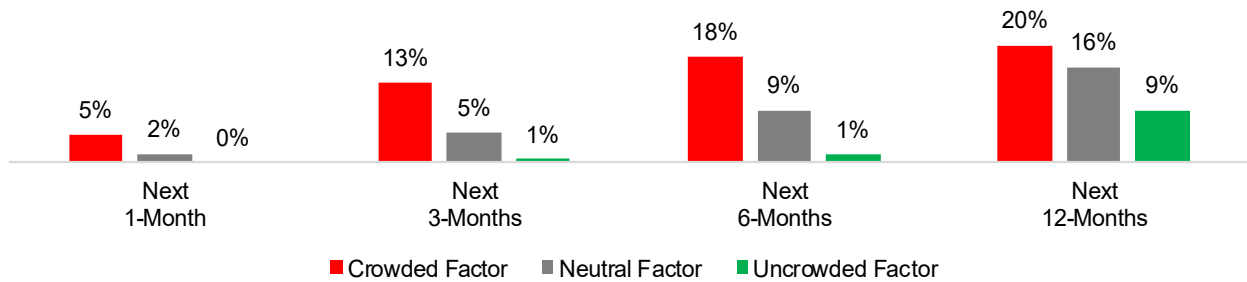


Factor Crowding Model

Factor Crowding Risks

- Factor crowding is a frequent investor concern based on significant inflows in smart beta ETFs and risk premia strategies
- Popular factors exhibit higher drawdown risks given fewer natural buyers if the market sentiment changes against the factor
- Affects systematic and discretionary investors

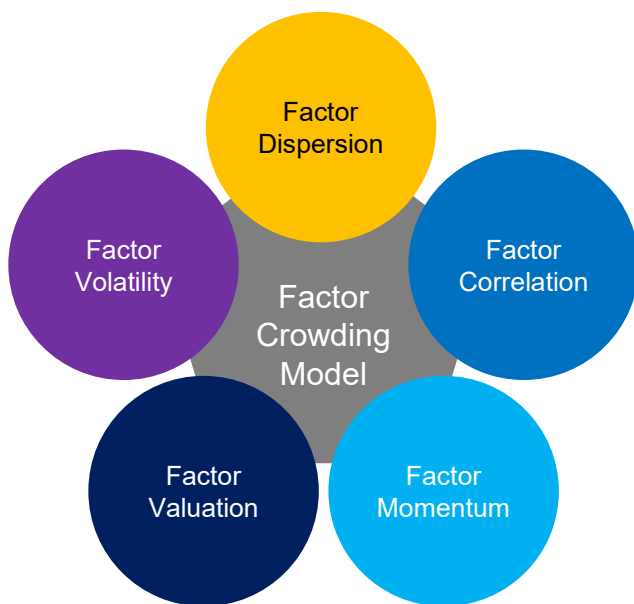
Probability of a 15% or Larger Drawdown



Factor Crowding Model

- FactorResearch's Factor Crowding Model measures the factor crowding risk based on five market-derived metrics
- Factor & market coverage: Value, Size, Momentum, Low Volatility, Quality, Growth and Dividend Yield factors in all developed markets
- Empowers investors to anticipate and potentially mitigate factor risks
- Available via daily risk reports, ideally coupled with a factor exposure analysis
- Model can also be applied to client stock portfolios on a customized basis

Factor Crowding Model



Factor Crowding Assessment

Factor	Value	Size	Momentum
Valuation	Neutral	Uncrowded	Neutral
Correlation	Neutral	Neutral	Neutral
Dispersion	Neutral	Neutral	Neutral
Volatility	Neutral	Neutral	Neutral
Momentum	Neutral	Neutral	Neutral
Multi-Metric	Neutral	Neutral	Neutral

Factor	Low Volatility	Quality	Dividend Yield
Valuation	Neutral	Neutral	Uncrowded
Correlation	Neutral	Uncrowded	Crowded
Dispersion	Neutral	Neutral	Neutral
Volatility	Neutral	Neutral	Neutral
Momentum	Uncrowded	Neutral	Uncrowded
Multi-Metric	Neutral	Neutral	Neutral

Factor	Growth
Valuation	Neutral
Correlation	Neutral
Dispersion	Neutral
Volatility	Crowded
Momentum	Neutral
Multi-Metric	Neutral

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