The Role of Cross-Sectional Volatility in Appraising Active Management

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Investment Issues for Asset Owners

- Asset owners are confronted by many issues including:
  - Should we hire active or passive managers?
  - Which regions/sectors/styles are the most fruitful for active returns ("alpha")?
  - Effective evaluation of reported active manager return results;
  - Meaningful evaluation of risk-reporting measures such as tracking error;
  - Market timing.

- Cross-Sectional Volatility is a measure that can inform asset owners in each of these areas.
What is Volatility?

- "Volatility" has many investment meanings which, whilst related, are different and have different uses:
  - Single-stock time-series return volatility – one stock, many return time-periods.
  - Index time-series return volatility.
  - Single-stock implied volatility (e.g. option implied volatility).
  - Index implied volatility – an average of implied volatilities for all stocks in an index. The VIX is a well-known example.
  - Cross-sectional volatility. This is the dispersion, or variety of return, of many stocks during one time-period - whether these stocks are moving together or diverging away.
Insights into Investment Issues

Cross-Sectional Volatility specifically addresses:

- The active versus passive management decision.
  - CrossVol™ can assist in the asset-allocation decision-making process – when to go active and when to remain passive. When cross-sectional volatility is high, there is greater alpha opportunities through active management.

- Which regions/sectors/styles are the most fruitful for active returns (“alpha”)?
  - Cross-sectional volatility can be a useful indicator in identifying potential alpha opportunities across different countries and market segments. Russell CrossVol™ calculations are available for a range of regions, sector, style and size universes.
Insights into Investment Issues (cont.)

Cross-Sectional Volatility specifically addresses:

- Effective evaluation of reported active manager return results.
  - Academic research has proven the validity of cross-sectional volatility as a useful calibrator of active manager returns. When cross-sectional volatility is high, the investment opportunity set expands and could impact the size of active managers relative returns.

- Meaningful evaluation of risk-reporting measures such as tracking error.
  - There is a strong relationship between portfolio tracking error and cross-sectional dispersion and changes in one could explain changes in the other.

- Market timing.
  - CrossVol™ can be a useful tool for market timing and sector rotations. Typically a high cross-sectional volatility reading can be a sign of frothy market with downside risk e.g. technology bubble, however be warned this didn’t prove to be the case during the GFC.
Some data
Conclusion

- Cross-sectional volatility can provide a useful insight into understanding and interpreting market and active manager performance
- Caution – Cross-sectional volatility is one lens, but market cycle, concentration and manager style also need to be considered
- Start the debate in your organisation about how this metric can help in your investment, risk management and manager appraisal process!
Appendix - How does Russell measure Cross-Sectional Volatility?

- The Russell-Parametric Cross-Sectional Volatility Indexes (CrossVol™) are based on the stock returns comprising the Russell Global Indexes, utilizing Parametric Portfolio Associates calculation methodology.

- Methodology:
  - CrossVol™ values calculated on a daily basis.

\[
\sigma_x = \sqrt{\sum_i w_i (r_i - R)^2}
\]

where

- \( w_i \) = the beginning of period, float-adjusted capitalization weight of stock \( i \),
- \( r_i \) = the total return of stock \( i \) for the period and
- \( R \) = the published return of the relevant Russell index for the period.