

How does QI work?

QI takes the macro factors that might drive any given security and runs a principal component analysis on them. QI then runs a multivariate regression using the principal components vs the market security. This shows whether the market security is driven by macro and if so to which macro factors it is most sensitive.

What do the macro factor sensitivities indicate?

The sensitivities show the effect on the instrument of a one sigma shift in a macro factor with all other factors held constant. In other words, it shows the impact of a shift in each factor. In the real world of course, macro factors do not move in isolation. If there is a big drop in growth expectations, for example, there is often a drop in inflation expectations that accompanies that. Using the individual factor sensitivities one can create a plausible scenario and look at the overall impact. The sensitivity bar plot strips these independent associations out and shows each one in isolation. In practice, it is advisable to think about the interdependence and formulate scenarios as described above.

What is the source of the data you use?

We use Bloomberg and other data vendors to source data on security pricing and market factors. We use proxies where direct data is not available. We are continually looking to reduce the use of proxies to make our analysis as accurate as possible.

How does GDP work, isn't it typically quarterly?

We use daily GDP tracking services from different sources for the GDP macro factor for each country. Where we cannot find a daily tracking service we use a proxy – this is typically the case in a number of EM countries – we use CESI EM. We are working on increasing the number of countries with a NowCast particularly in the larger EM countries such as India, Russia, Indonesia, Poland, Korea and Turkey.

What does it mean when RSq is < 65% & Qi says there is no macro regime? Is the model then redundant?

RSq < 65% denotes something other than macro factors are driving price action. Examples of non-macro factors include geopolitical risk, positioning, sentiment etc. Often a sharp fall in RSq denotes the period between macro regimes where positioning (often deleveraging) dominates. Such episodes often see a sharp uptick in volatility so RSq can be used as a red flag for a future vol event.

In addition, in equities, bottom up investors focusing on company specific risks, would welcome a low RSq as it suggests micro, idiosyncratic risks trump macro factors. Similarly, in FI, relative value players would welcome an environment where macro is less important.

How does Qi define a factor set? Are there differences across asset classes, across geographies?

Each factor set is tailored for that specific financial instrument. That differentiation is true across asset classes (Qi has interest rate differentials driving currency pairs, but does not include FX as a driver in interest rate swap models for example); across geographies (1yr forward earnings are tailored to the relevant stock/sector/index; EUR rates use Eurozone HICP ZC inflation swaps etc).

Note though Qi is highly customisable. End users can add or subtract factors that they deem important / irrelevant as they see fit in the "Custom Model" feature. As long as there is a daily time series available, Qi can create a bespoke factor set allowing the user to stress test specific scenarios & hypothesis.

What are the main driver groups?

Fundamental Macro:

Global Growth
Inflation Expectations
Commodities - hard, soft, energy

Financial Conditions:

Corporate credit
QT - Quantitative Tightening expectations

Systemic Liquidity
Real Rates (equities only)
Currency (equities only)

Risk Appetite

Risk Aversion measures
Sovereign CDS & ASWs