

### HIGHLIGHTS

- Integrated global investment framework
- Dynamic and rigorous investment process
- Systematic evaluation of a broad array of fundamental criteria across stock-, industry- and country- specific dimensions
- Proprietary risk management and portfolio construction

### INVESTMENT PHILOSOPHY

The core of CC&L's investment philosophy is that equity prices are set by the growth, valuation and quality fundamentals of companies over the long term. However, the market process by which prices accurately reflect these fundamentals is not perfect, with a number of behavioural, informational and structural hurdles and frictions which can prevent stock prices from efficiently reflecting these fundamentals. This results in mispricings that offer opportunities to add value.

CC&L's investment approach combines the understanding of fundamental market drivers with the strengths of a systematic process: scalability and objectivity. By leveraging information technology for all of its analysis, CC&L can maintain coverage of a sizeable universe of global securities. This systematic process also offers the advantage of discipline and removes emotional interference, which is a known driver of stock mispricings.

### INVESTMENT TEAM

CC&L employs a team approach to the management of all portfolios. The quantitative equity team is a deep team of experienced investment professionals and is organized around two major functions: portfolio management and research. The senior members involved in portfolio management and research are further supported by dedicated professionals providing research analysis, systems development, model and portfolio management and trading. Most senior members of the team have been involved with CC&L's quantitative strategies for over a decade, with several members having contributed since the launch of the first dedicated quantitative strategy in 2001.

### INVESTMENT PROCESS

The investment process is designed around three key elements: 1) a single globally integrated framework; 2) a large global investment universe; and 3) a dynamic process in which all aspects of the model are proprietary and updated daily with the most up-to-date information available.

As the global economy has become more interconnected, CC&L recognizes that companies are no longer competing with just their domestic peers. Investors are assessing companies and establishing equity prices based on comparisons to global competitors. As a result, the assessment of a company's return potential becomes much more accurate when information from global peers is taken into consideration.

Within CC&L's approach, investment opportunities are evaluated by assessing the risk and return characteristics of each stock in relation to CC&L's entire global universe comprised of approximately 18,000 securities, 160 industry groups and 50 developed and emerging countries.

Gathering accurate and timely data is critical to the success of the investment process. All aspects of CC&L's model, including return, risk and transaction cost forecasts are proprietary and updated on a daily basis. As well, portfolios are rebalanced daily to ensure that any changes to insights are reflected in portfolio holdings.

### RETURN FORECASTS

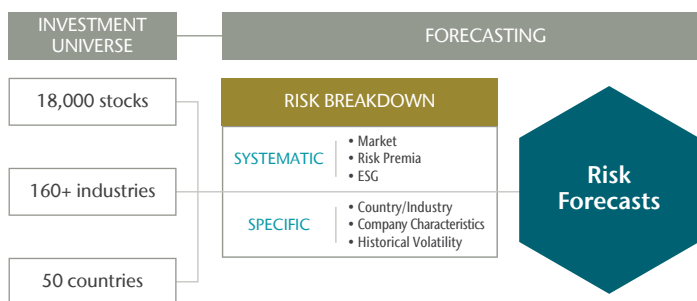
CC&L's model analyzes key market drivers believed by the team to drive stock, industry and country returns. Divided into two categories, fundamentals and opportunities, the emphasis of each market driver will vary over time, reflecting both changing market conditions as well as the market driver's effectiveness in predicting returns.

### RISK FORECASTS

CC&L believes in a disciplined risk management process that not only contributes to the monitoring of portfolio holdings but is also integrated into the portfolio construction phase. This ensures that portfolio risk is calibrated to operate within mandate constraints regardless of the capital market environment. CC&L's risk model produces an explicit risk forecast for each stock on a daily basis by analyzing a number of variables to determine how each stock's return is affected by

common themes as well as stock-specific factors. The model is constructed to be responsive to changing market conditions in order to minimize the likelihood of adverse surprises.

**Figure 1: Risk Analysis Framework**

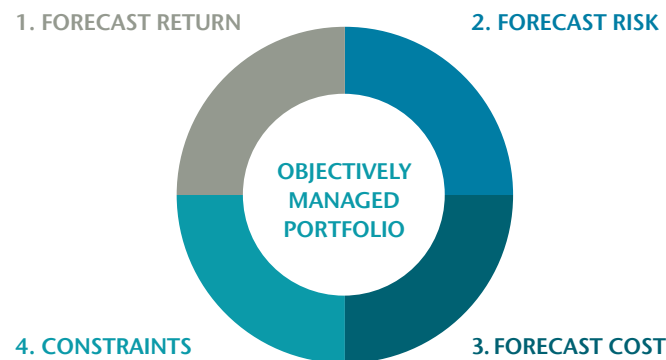


CC&L recognizes that risk models have limitations and therefore applies stringent limits on active portfolio stock, industry, country and currency weights. Stock-specific risk is also controlled through diversification across a large number of holdings. Liquidity and capitalization characteristics for each stock are additional factors that are integrated into the process in setting single security position limits.

## PORTFOLIO CONSTRUCTION

Stock positions are determined using a proprietary portfolio construction process that evaluates opportunities across all stocks within the investment universe on a daily basis. This approach provides the flexibility to tailor investment solutions to meet client-specific objectives and risk constraints. Each portfolio is optimized relative to its specific benchmark to maximize expected return while satisfying the client's risk constraints. The portfolio construction process explicitly incorporates transaction costs into the assessment of potential trades by estimating commissions and market impact.

**Figure 2: Portfolio construction process**



Markets are constantly evolving so ongoing research plays a key role in continuously monitoring and validating the efficacy of the investment process. As markets change, the team strives to provide clients with attractive risk-adjusted returns through enhancements to its process.

## COMPETITIVE ADVANTAGES

- **Fully Integrated Global Investment Model:** Recognizing that companies are competing in a single global economy and that stock prices are set by investors with a global perspective, CC&L has developed a fully integrated global investment model. Through this, each company within the investment universe is compared to all its peers, regardless of country or region of listing. This enables the team to take advantage of a much broader dataset, leading to more robust measures of characteristics that are shared across countries or sectors as well as fundamental characteristics that are unique to individual companies.
- **Proprietary Alpha Measures:** As markets become more efficient over time, the return opportunity associated with many traditional measures of fundamental growth, value and quality becomes limited. CC&L's research places an emphasis on developing new proprietary measures to capture the fundamental characteristics of stocks, sectors and countries that will lead to future growth.
- **Proprietary Risk Model:** CC&L has developed a proprietary risk model tailored specifically to the return forecast model. This allows for a more optimal assessment of true portfolio risk relative to other off-the-shelf risk models.
- **Dedicated Systems Development:** CC&L has a team of systems and software engineers dedicated to the development and support of the quantitative investment model. This ensures that technology resources are focused on areas that add value to the portfolios and enables the team to nimbly incorporate new data sources and implement enhancements to the investment framework.
- **Long track record:** With its first strategy launched in 2001, the Q team has a long track record of investing in both efficient and inefficient markets.

## MANDATES

CC&L applies its quantitative disciplines across several equity universes. A full range of equity portfolios are available including Canadian, US, international and global, using a core or growth style. We also offer equity extension and market neutral strategies.

For more information about CC&L Quantitative Equities, please contact our Client Solutions Team at [more\\_info@cclgroup.com](mailto:more_info@cclgroup.com).

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