Barra CNE6模型介绍

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新模型亮点

- 具有规模和流动性筛选的更具代表性的模型估计范围ESTU
- 3个模型版本
  - 长期模型 (使用较慢的风格因子) : Responsive, Stable
  - 交易版本 (同时有较慢和较快的风格因子) : Trading
- 长期模型和交易模型都有32个行业因子
  - 化工行业进行拆分，分为商品化工和非商品化工
  - 将工业综合与贸易和分销两个
- 16个慢速风格和4个快速风格
  - 9个新增SES因子:
    - 慢速: Long-term reversal, Profitability, Earnings Quality, Dividend Yield, Investment Quality
    - 快速: Analyst Sentiment, Industry Momentum, Seasonality, Short-term Reversal
  - 增加Earnings Variability作为风险因子
- PIT基本面数据
  - 防止前视偏差；
  - 基本面数据的每日更新；

CNE6的因子结构

Volatility	Yield	Quality	Momentum	Value	Size	Growth	Liquidity	Sentiment
Beta	Dividend Yield	Leverage	Momentum	Book-to-Price	Size	Growth	Liquidity	Analysts Sentiment
Residual Volatility		Profitability	Short-Term Reversal	Earnings Yield	Mid-Cap			
		Earnings Variability	Industry Momentum	Long-Term Reversal				
		Earnings Quality	Seasonality					
		Investment Quality						

红色标记的因子是长期模型中新增的因子

蓝色标记的因子是交易模型中新增的因子

MSCI

Analyst Sentiment

- 逻辑：反映分析师预测变动对股价的影响
- 方向：正的暴露度表明近期分析师预测是偏正面的
- 风格构成：
  - Ratings Revision Ratio
  - Change in Analyst Predicted Earnings-To-Price
  - Change in Analyst Predicted Earnings per Share

Ratings Revision Ratio
This descriptor is first computed as the ratio of the number of earnings up-revisions minus the number of earnings down-revisions to the total number of earnings forecasts used to compute the earnings consensus. This is then computed as the weighted moving in the last three months.
Change in Analyst-Predicted Earnings-to-Price
This is descriptor is first computed as the monthly relative changes of forecast Earnings-to-Price ratio. It is then computed as the weighted moving average in the last four months.
Change in Analyst-Predicted Earnings per Share
This is descriptor is first computed as the monthly relative changes of forecast Earnings per Share. It is then computed as the weighted moving average in the last four months.

Dividend yield

- 逻辑：预测和历史股息收益率导致的个股涨跌差异
- 方向：正的暴露度表明有较高的股息收益率
- 风格构成：

Dividend-to-Price
Computed by dividing the trailing 12-month dividend per share by the price at the last month end.
Analyst-Predicted Dividend-to-Price
Computed by dividing the 12-month forward-looking dividend per share (DPS) by the current price.

Earning quality

- 逻辑：个股净利润中应计部分的影响。
- 方向：正的暴露度表明较低的应计部分。
- 风格构成：

Accruals - Balance Sheet Version

The balance-sheet-based accruals, $ACCR\_BS$, is first computed from (i) consecutive changes in balance sheet items and (ii) depreciation. The descriptor is then computed as the negative $ACCR\_BS$ normalized by total assets:

$$ABS = -ACCR\_BS/TA$$

Thus, it goes long companies with low accruals.

Accruals - Cashflow Statement Version

The cash-flow-statement-based operating accruals, $ACCR\_CF$, is first computed from (i) items from the most recent cash flow statement and (ii) depreciation. The descriptor is then computed as the negative $ACCR\_CF$ normalized by total assets:

$$ACF = -ACCR\_CF/TA$$

Thus, it goes long companies with low accruals.

Earning variability

- 逻辑：利润、收入、现金流和分析师预测EP的波动性
- 方向：正的暴露度表明较高的不确定性
- 风格构成：

Variability in Sales
Computed by dividing the standard deviation of the annual sales of the last five fiscal years by the average annual sales.
Variability in Earnings
Computed by dividing the standard deviation of the annual earnings of the last five fiscal years by the average annual earnings.
Variability in Cash-flows
Computed by dividing the standard deviation of the annual cash flows of the last five fiscal years by the average annual cash flow.
Standard deviation of Analyst Forecast Earnings-to-Price
Computed by dividing the standard deviation of the 12-month forward-looking earnings per share estimates by the current price.

Earnings Yield

- 逻辑：PE等估值差异导致的收益率差异，价值因子
- 方向：正的暴露度表明估值较低。
- 风格构成：

Cash-Earnings-to-Price
Computed by dividing the trailing 12-month cash earnings by the current market capitalization.
Earnings-to-Price
Computed by dividing the trailing 12-month earnings by the current market capitalization.
Enterprise Multiple (EBIT to EV)
Computed by dividing the earnings before interest and taxes (EBIT) from the last fiscal year by the current enterprise value (EV).
Analyst-Predicted Earnings-to-Price
Computed by dividing the 12-month forward-looking earnings by the current market capitalization.

Industry Momentum

- 逻辑：行业收益差异导致的个股表现差异
- 方向：正的暴露度表明较高的行业动量
- 风格构成：

Industry Momentum
The 126-day Relative Strength for each stock is first computed with a 20-day half-life. The non-lagged descriptor for each stock is then computed as the square-root-capitalization-weighted average of the 126-day Relative Strength of all its peer stocks in the same GICS® sub-industry. The final descriptor is then computed as the moving average with a three-day window lagged by three days.

Investment Quality

- 逻辑：管理层的规模扩张速度带来的个股收益差异
- 方向：正的暴露度表明较低的扩张速度
- 风格构成：

Total Assets Growth Rate
Computed by first dividing the slope coefficient from the regression of the total assets from the last five fiscal years against time by the average total assets, and then multiplying by -1 to reverse the sign.
Issuance Growth
Computed by first dividing the slope coefficient from the regression of the number of shares outstanding from the last five fiscal years against time by the average number of shares outstanding, and then multiplying by -1 to reverse the sign.
Capital Expenditure Growth
Computed by first dividing the slope coefficient from the regression of the capital expenditures from the last five fiscal years against time by the average capital expenditures, and then multiplying by -1 to reverse the sign.

Liquidity

- 逻辑：不同成交活跃程度对个股收益率的影响
- 方向：正的暴露度表明较高的换手率
- 风格构成：

Monthly Share Turnover
Computed as the log of the percentage of shares traded in the most recent month.
Quarterly Share Turnover
Computed as the log of the average percentage of shares traded monthly over the last three months.
Annual Share Turnover
Computed as the log of the average percentage of shares traded monthly over the last 12 months.
Annualized Traded Value Ratio
Computed as the exponentially-weighted sum of the percentage of shares traded daily over a trailing 252-day window with a 63-day half-life.

Long-Term Reversal

- 逻辑：长期股价表现带来的收益差异
- 方向：正的暴露度表明较差的长期收益
- 风格构成：

Long-term Relative Strength
The non-lagged Long-term Relative Strength is first computed as the exponentially-weighted sum of the log excess returns of the stock relative to the market over a trailing 1040-day window, with a 260-day half-life. The final LTRSTR descriptor is then computed by first taking the equal-weighted average of the non-lagged values over an 11-day window lagged by 273 days, and then multiplying it by -1 to reverse the sign.
Long-term Historical Alpha
The non-lagged Long-term Historical Alpha is first computed as the intercept term from a CAPM regression similar to the one used to compute the HBETA descriptor, except with a 1040-day window and a 260-day half-life. The final LTHALPHA descriptor is then computed by first taking the equal-weighted average of the non-lagged values over an 11-day window lagged by 273 days, and then multiplying it by -1 to reverse the sign.

Momentum

- 逻辑：强势股和弱势股的差异
- 方向：正的暴露度表明近期收益率较高
- 风格构成：

Relative Strength 12-month
The non-lagged Relative Strength is first computed as the exponentially-weighted sum of the log excess returns of the stock relative to the market over a trailing 252-day window, with a 126-day half-life. The final RSTR descriptor is then computed as the equal-weighted average of the RS over an 11-day window lagged by 11 days.
Historical Alpha
The non-lagged Historical Alpha is first computed as the intercept term from the same time-series regression that is used to compute HBETA. The final HALPHA descriptor is then computed as the equal-weighted average of the non-lagged values over an 11-day window lagged by 11 days.

Profitability

- 逻辑：公司的经营效率、盈利能力等带来的个股收益率差异
- 方向：正的暴露度表明较高的盈利能力和经营效率；
- 风格构成：

Asset Turnover

Computed as, $ATO = \frac{Sales}{TA}$

where Sales is the trailing 12-month sales, and TA is the most recently reported total assets.

Gross Profitability

Computed as, $GP = \frac{Sales-COGS}{TA}$

where Sales, COGS, and TA are the sales, cost of goods sold, and total assets, respectively, from the last fiscal year.

Gross Profit Margin

Computed as, $GPM = \frac{Sales-COGS}{Sales}$

where Sales and COGS are the sales and cost of goods sold, respectively, from the last fiscal year.

Return on Assets

Computed as, $ROA = \frac{Earnings}{TA}$

where Earnings is the trailing 12-month earnings, and TA is the most recently reported total assets.

Seasonality

- 逻辑：日历效应
- 方向：正的暴露度表明下个月有较高的预期收益
- 风格构成：

Annual Seasonality
Computed as the average daily return over the month following the same calendar day in the last five years, divided by the standard deviation of this sample of daily returns.

Short-Term Reversal

- 逻辑：短期反映过度或不足
- 方向：正的暴露度表明偏正向的预期反转（短期表现差）
- 风格构成：

Short-term Reversal

This descriptor is first computed as the exponentially-weighted sum of the log excess returns of the stock relative to the market over a trailing 63-day window, with a 10-day half-life, then is multiplied with -1 to reverse sign. Finally, it is computed as the equal-weighted moving average over a three-day window lagged by one day.

BETA

- 逻辑：不能用国家因子解释的、与市场风险相关的部分
- 方向：正的暴露度表明较高的Beta
- 风格构成：

Historical Beta

Computed as the slope coefficient from a time-series regression of stock excess returns against the cap-weighted excess returns of the estimation universe over a trailing window of 504 trading days, with a 252-day half-life.

The returns are aggregated over four-day windows to reduce the effect of non-synchronicity and auto-correlation.

Book-to-price

- 逻辑：价值因子，Fama-French的3因子模型
- 方向：正的暴露度表明PB估值较低
- 风格构成：

Book-to-Price
Computed by dividing the last reported book value of common equity by the current market capitalization.

Growth

- 逻辑：公司成长前景不同带来的收益差异
- 方向：正的暴露度表明较高的历史或预测成长
- 风格构成：

Analyst Predicted Earnings Long-term Growth
Long-term (3-5 years) earnings growth forecasted by analysts.
Earnings per Share Growth Rate
Computed by dividing the slope coefficient from the regression of the annual earnings per share for the last five fiscal years against time, by the average annual earnings per share.
Sales per Share Growth Rate
Computed by dividing the slope coefficient from the regression of the annual sales per share from the last five fiscal years against time, by the average annual sales per share.

Leverage

- 逻辑：不同负债比例对个股收益的影响
- 方向：正的暴露度表明较高的负债率
- 风格构成：

Market Leverage

Computed as, $MLEV = \frac{ME+PE+LD}{ME}$

where ME is the market value of common equity on the last trading day, and PE and LD are the preferred equity and long-term debt, respectively, from the last fiscal year.

Book Leverage

Computed as, $BLEV = \frac{BE+PE+LD}{BE}$

where BE, PE, and LD are the book value of common equity, preferred equity, and long-term debt, respectively, from the last fiscal year.

Debt-to-Assets

Computed as, $DTOA = \frac{TL}{TA}$

where TL and TA are the total liabilities and total assets, respectively, from the last fiscal year.

Mid Capitalization

- 逻辑：中盘股与非中盘股的不同差异
- 方向：正的暴露度表明中盘股
- 风格构成：

Cube of Size Exposure
The Size factor exposure is first cubed, and then orthogonalized to Size on a regression-weighted basis, and finally winsorized and standardized.

Residual Volatility

- 逻辑：收益中无法用国家和beta解释的波动
- 方向：正的暴露度表明较高的波动
- 风格构成：

Historical Sigma
Computed as the volatility of the residual returns from the same time-series regression that is used to compute HBETA.
Daily Standard Deviation
Computed as the volatility of daily excess returns over the past 252 trading days with a 42-day half-life.
Cumulative Range
Computed as the gap between the highest and lowest points of the cumulative log excess return in the past 12 months.

size

- 逻辑：规模对收益率的影响
- 方向：正的暴露度表明规模较大
- 风格构成：

Log of Market Capitalization
Computed as the natural logarithm of the market capitalization of the firm.

风格因子的比较

- CNLT有10个风格因子与CNE5的风格相同:

风格	变动
Earnings Yield	CNLT增加了一个EBIT/EV因子
Liquidity	CNLT增加了一个指数加权的日频换手率，半衰期3个月；
Momentum	CNLT增加了一个描述因子——根据CAPM的常数项计算的alpha，即扣除市场收益的收益率；
Growth	CNLT减少了短期预测因子，预测因子只有长期的，CNE5有短期和长期两个预测因子；
Beta	CNLT滚动窗口504，半衰期252；CNE5滚动窗口252，半衰期63
Book-to-Price	定义相同
Leverage	定义相同
Non-linear Size	定义相同
Residual Volatility	定义相同
Size	定义相同

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