|  |  |  |
| --- | --- | --- |
| **Drop features** |  |  |
| ROE |  | Drop it |
| **Add features** | **Name / Calculation** | **Definition** |
| Cost of Goods Sold | (cogsq) | Cost (For EBITDA prediction) |
| Interest Expense - Total (Financial Services) | (tieq) | Cost (For EBITDA prediction) |
| EBITDA Growth | (current period EBITDA– previous period EBITDA) / previous period EBITDA | For EBITDA prediction |
| EBITDA margin | EBITDA / Revenue | Financial ratio indicating profitability (For EBITDA prediction) |
| Inventory Turnover | Cost of Goods Sold (cogsq) / Average Inventories (invtq) (previous + current)/2) | Financial ratio indicating activity (For both revenue and EBITDA) |
| Sales-to-Inventory Ratio | Sales (saleq) / Average Inventories (invtq) (previous + current)/2) | Financial ratio indicating activity (For both revenue and EBITDA) |
| Basic\_PCA | PCA | A variable constructed by basic financial statement variable to reduce correlation (For both revenue and EBITDA) |
| GDP | Maybe need to calculate change (%) or difference | Macro (For revenue and EBITDA) |
| Seasonal adjusted M2 | Maybe need to calculate change (%) or difference | Macro (For revenue and EBITDA) |
| M2-M1 | Consider taking lag(k) if not using LSTM | Macro (For revenue and EBITDA) |
| M2 velocity | Consider taking lag(k) if not using LSTM | Macro (For revenue and EBITDA) |
| Interest rate |  | Macro/ indicate cost (For EBITDA) |
| **Change Features** | **Calculation** | **Definition** |
| Quick Ratio → Current Ratio | ​Current assets ​​/ Current Liabilities | **不用减inventory** |
| ROA | net income / average assets (previous + current)/2) | How profitable a company is relative to its total assets(profitability) |
|  |  |  |
| CFROI (Cash flow return on investment) | Operating Cash Flow (OCF) / Capital Employed  CE = Average Assets – Average Current Liabilities (previous + current)/2) | A proxy for a company's economic return |
| Ps:   * After changing the input variables, please plot the heat map of correlation again to see if we need further adjustment * for many variables, better plot to observe whether they are stationary or seasonal and take measure accordingly | | |