

Fundamental Analytics

Amber flags – a scalable approach to identify warning signs in financial statements

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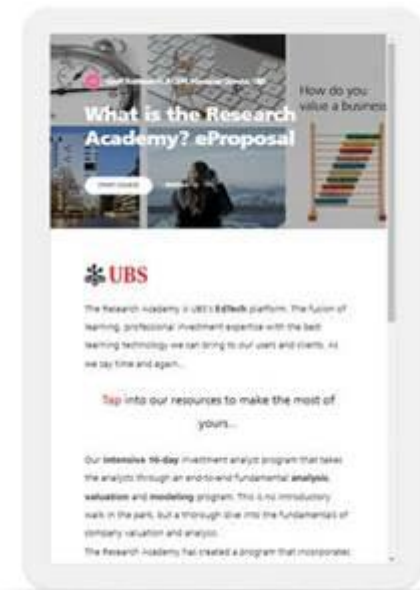
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Our amber flags report



Global Research

26 February 2021

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Amber flags – a scalable approach to identifying warning signs in financial statements



Financial statement analysis – a crucial step in valuation

As outsiders, investors and analysts do not get to observe directly what is going on inside a company. They rely on financial statements to get an understanding of a firm's economic reality. A key job of analysts is to identify warning signs in financial statements that might indicate that the financial health of the company is deteriorating. However, in reality, we rarely find a tell-tale sign that something is wrong. Instead we have amber flags which suggest that there are areas of concern and the analyst's job is to connect the dots between these amber flags to paint an overall picture of the company's financial health and how future returns might behave. In this note, we provide 13 amber flags metrics for investors to analyse the financial health of a company.

Look at earnings quality and balance sheet when analysing returns

Returns analysis is a key element of fundamental analysis, as a company only generates value for investors if it can generate returns above its cost of capital. When analysing returns, we should focus not just on the returns number itself, but also look on the firm's earnings quality, as well as its balance sheet strength. The 13 metrics we have identified for financial statement analysis specifically cover these two areas, and assist in forecasting a company's future returns.

Quantitative approach to analysing financial statements

But simply having the metrics alone is not sufficient: a metric value by itself does not convey much information. For example, we cannot know if an EBIT margin of 20% is high or low unless there is a reference class against which to compare it. We therefore look at two methods of comparison – industry peers and historical values. We can then identify outliers using the reference class, and perform a deep-dive analysis on the outliers identified.

Applying the framework to beverage companies

We have collaborated with the UBS European Beverage team and applied our amber flags framework to nine beverage companies. We split them into two groups – spirits companies and brewers/soft drink companies – and calculated their metrics from four years ago. We then observed their ROE trends over the next three years to determine the effects of these metrics on returns.

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Financial red flags are rare

Red flags in financial statements are rare...

...what we usually find are warning signs, or what we term **amber flags**

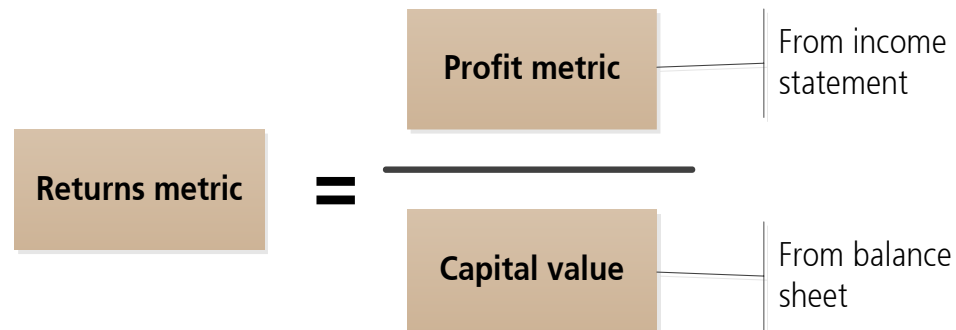


Our job as analysts is to **connect the dots** between these amber flags...

...to get an overall view of the **financial health** of the company

Returns is key to fundamental valuation

- Three interconnected components
 - Cash generation
 - Risk profile
 - Value-added growth



13 standardised metrics

- Reliability and sustainability of earnings

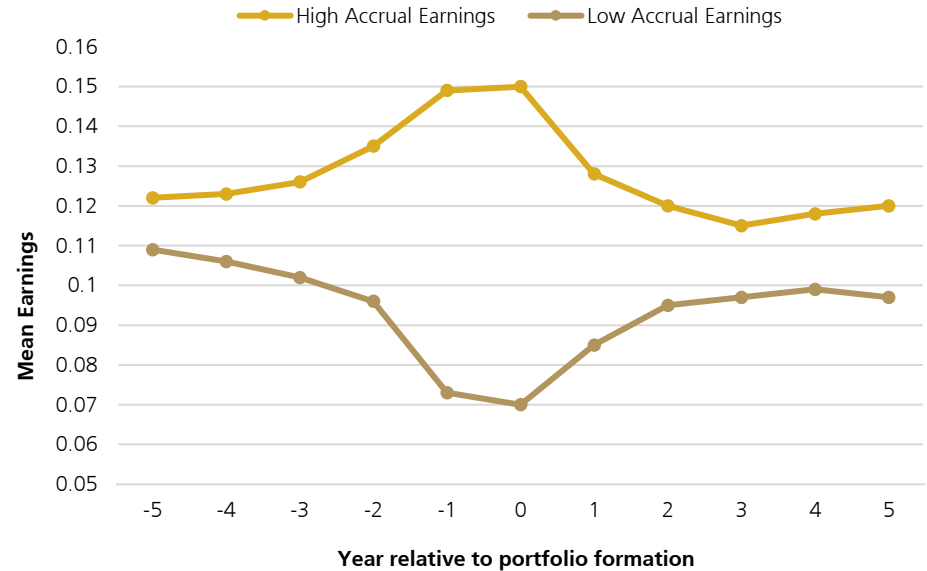
- Accrual ratio

$$\frac{\text{Net income} - \text{cash flow from operations}}{\text{Avg. total assets}}$$

- Balance sheet strength and capital structure

- Gearing ratio

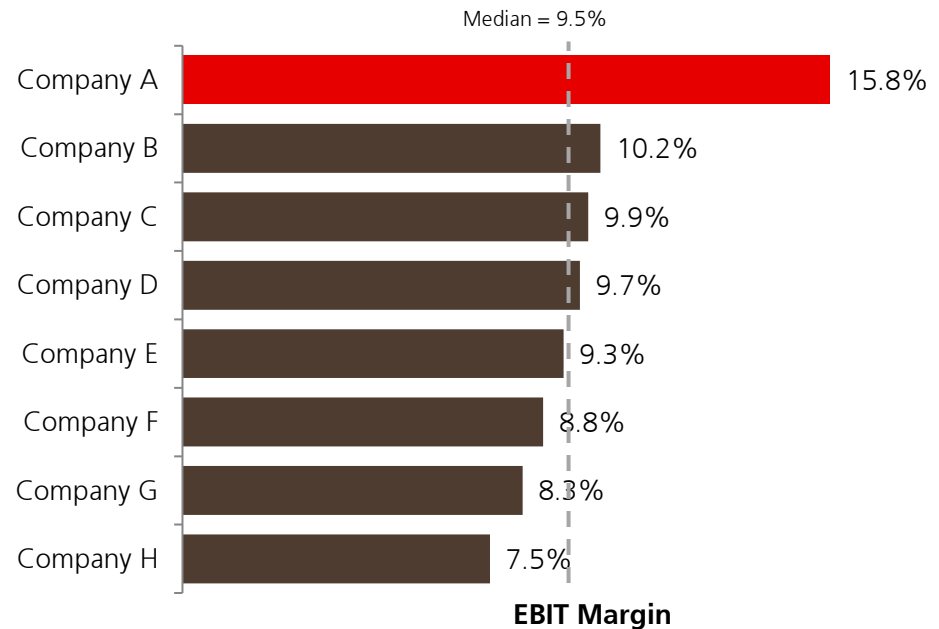
$$\frac{\text{Total debt}}{\text{Total equity}}$$



Source: Sloan (1996). Year 0 is the year in which all stocks in the sample are ranked according to the proportion of accruals in their earnings. Based on this ranking, the stocks are divided into decile portfolios. This graph tracks the average scaled earnings of the top and bottom decile portfolios in the years before and after year 0.

Statistical approach to identify outliers

- X-rank: Comparing across peer group
- T-rank: Comparing to historical data
- Modified z-score to identify outliers



Source: UBS

Applying it to European Beverages

- Nine companies in the European Beverages sector
 - 5 brewers/soft drink companies
 - 4 spirit companies

Brewers / soft drink companies

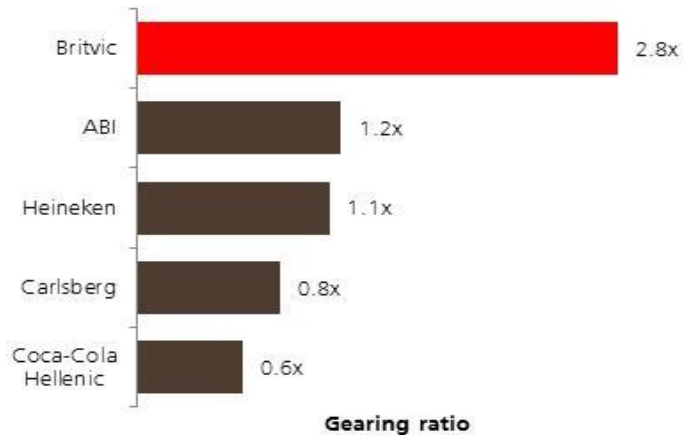
- Short cash conversion cycle (median of -0.4 days)
- Low operating profit margin (median of 13.0%)
- Low current ratio (median of 0.7x)

Spirit companies

- Long cash conversion cycle (median of 325.1 days)
- High operating profit margin (median of 23.0%)
- High current ratio (median of 1.5x)

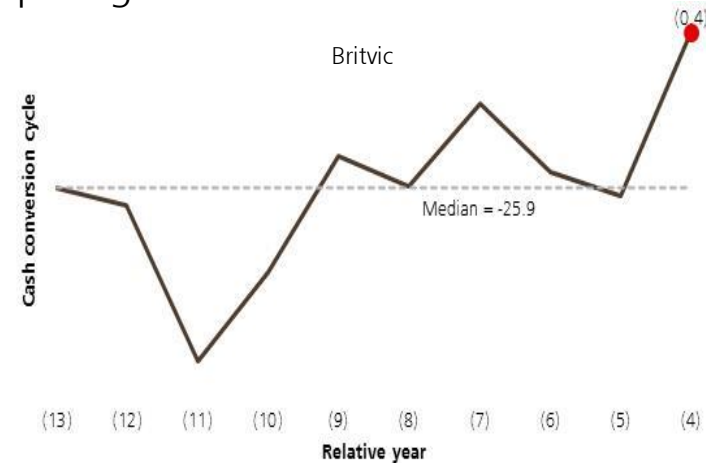
Identifying the outliers

Comparing across peer group



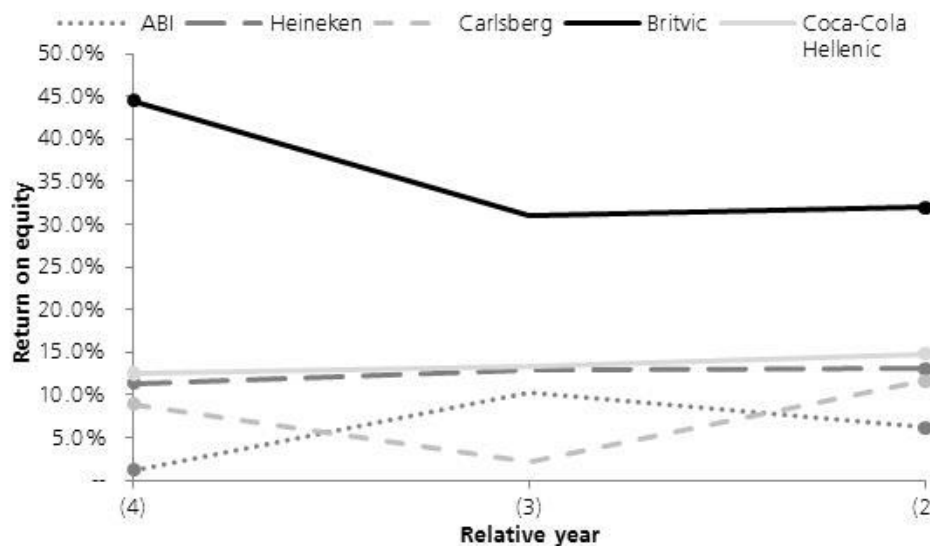
Source: FactSet, UBS

Comparing to historical data



Source: FactSet, UBS

Look at impact on returns



Source: FactSet, UBS

Appendix

Metrics used in amber flags approach (1/2)

Metric	Formula	Rationale
Accrual ratio	$\frac{\text{Accrual}}{\text{Net income} - \text{operating cash flow}^1} = \frac{\text{Avg. total assets}}{\text{Avg. total assets}}$	High accrual ratio is an indicator that a company might be recognising revenue aggressively. Studies have shown that earnings of companies with high accruals tend to decrease in subsequent years.
Days sales outstanding	$DSO = \frac{\text{Account receivables}}{\text{Revenue}} \times 365$	High days sales outstanding suggests that the company might be having difficulty collecting cash from credit sales. In addition, it might also suggest that the company is aggressively recognising revenue as a large percentage of sales is made on credit.
Days inventory outstanding	$DIO = \frac{\text{Average inventory}}{\text{COGS}} \times 365$	High days inventory outstanding suggests that the company might be having difficulty selling its goods, which might lead to write-downs of obsolete inventories in following periods.
Days payable outstanding	$DPO = \frac{\text{Payables}}{\text{COGS}} \times 365$	High days payable outstanding suggests that the company might be having difficulty paying its suppliers. In addition, it could indicate that the company might be using significant amount of factor payables.
Cash conversion cycle	$CCC = DSO + DIO - DPO$	High cash conversion cycle suggests that the company might not be managing its working capital efficiently as it takes a long time for cash on hand to be converted into cash from sales.
Capex to depreciation ratio	$\text{Capex to dep.} = \frac{\text{Capex}}{\text{Depreciation}}$	Low capex to depreciation ratio suggests that the company might not be investing enough to replace its assets, which might affect sustainability of earnings. High capex to depreciation might indicate that the company is not depreciating its assets completely, or that it is aggressively capitalising its cost.
Operating margin	$\text{Operating margin} = \frac{\text{Operating profit}}{\text{Revenue}}$	Low operating margin suggests that the company's product might be losing its competitiveness in the market, which will impact future returns.
Asset turnover ratio	$\text{Asset turnover ratio} = \frac{\text{Revenue}}{\text{Total assets}}$	Low asset turnover ratio suggests that the company might not be employing its assets efficiently to generate revenue.

Source: UBS

¹Operating cash flow calculated post-interest and post-tax

Metrics used in amber flags approach (2/2)

Metric	Formula	Rationale
Operating margin growth to asset turnover growth	$OpM \text{ to } ATO \text{ ratio} = \Delta OpM - \Delta ATO$	When a company aggressively capitalises its expenses, its operating profit and its total assets will increase. This will increase operating margin while reduce asset turnover, which will lead to a large difference between growth in operating margin and growth in the asset turnover ratio.
Asset quality index	$AQI = \frac{Non \text{ Current Assets} - PP\&E}{Total \text{ Assets}}$	Expenses that are capitalised as assets are often classified under non-current assets. Therefore, a high asset quality index suggests that the company might be aggressively capitalising its cost as a large percentage of its non-current assets is not PP&E.
Gearing ratio	$Gearing \text{ ratio} = \frac{Total \text{ debt}}{Total \text{ equity}}$	A high gearing ratio increases the financial risk of the company and might limit future growth since lenders are less likely to provide further lending. A low gearing ratio suggests that the company might not be generating sufficient returns for equity holders through leverage.
Debt/EBITDA ratio	$Debt \text{ to } EBITDA = \frac{Total \text{ debt}}{EBITDA}$	A high debt/EBITDA ratio increases the financial risk of the company and might limit future growth since lenders are less likely to provide further lending. A low debt/EBITDA ratio suggests that the company might not be generating sufficient returns for equity holders through leverage.
Current ratio	$Current \text{ ratio} = \frac{Current \text{ assets}}{Current \text{ liabilities}}$	A low current ratio increases the liquidity risk of the company. A high current ratio suggests that the company might not be generating sufficient returns through short-term borrowing

Source: UBS

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Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

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