

# **FINANCIAL ACCOUNTING AND FINANCIAL STATEMENT ANALYSIS**

## **MAJOR FINANCIAL FLOWS AND ACCOUNTING ADJUSTMENTS**

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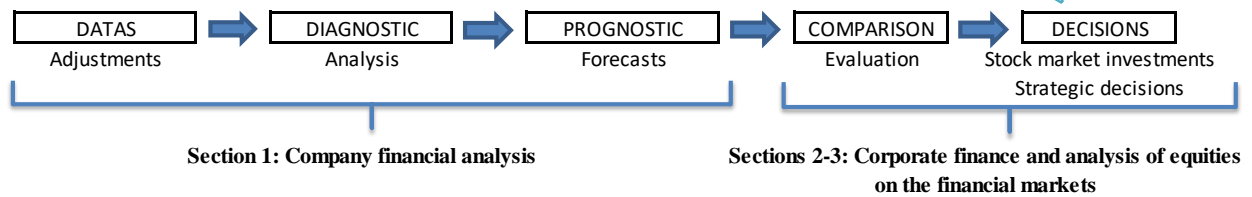
\* final level

## Abbreviations

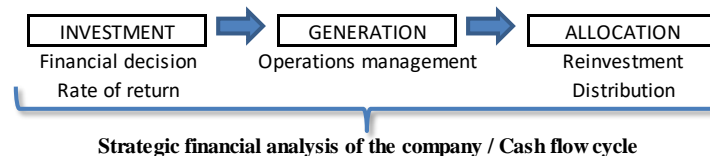
Accruals	Non cash items
B/S	Balance sheet
BU	Business Unit
Capex	Capital Expenditures
CDS	Credit Default Swap
CEO	Chief Executive Officer
CFROI	Cash Flow Return on Investment
COGS	Cost of Goods Sold
CPI	Consumer Price Index
DM	Developed Markets
EBIT	Earnings Before Interest and Taxes
EBIDA	Earnings Before Interest, Depreciation and Amortization
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EBT	Earnings Before Taxes
EM	Emerging Markets
FCF	Free Cash Flow
FCFE	Free Cash Flow to the Equity
FCFF (or FCF)	Free Cash Flow to the Firm
IRR	Internal Rate of Return
MM	Modigliani Miller
NIBCLs	Non-Interest-Bearing Current Liabilities
NOPAT	Net Operating Profit After Taxes
NWC	Net Working Capital
P&L	Profit and loss
R&D	Research & Development
ROCE	Return on Capital Employed
OCF	Operating Cash Flow
OeCF	Operating Economic Cash Flow

## 1. Introduction to financial analysis

Financial analysis is an important step in the investment process:



1. **Classic** financial analysis seeks to understand a company's strategy through its growth and profitability. It aims to give an idea of the company's operating and financial risks at the consolidated level and at the level of the different business units. It is therefore essential to be aware of:
  - a. the main flows for analysis (profit, cash flows, etc.);
  - b. the accounting adjustment necessary when there is a difference between the published figures and the economic reality;
  - c. the analysis of the main ratios;
  - d. the forecast of future flows.
2. It is complemented by **strategic** financial analysis which is used to determine if a company is capable of creating value in the long term for its shareholders. This second stage focuses on:
  - a. the company's ability to find new investments at rates of return greater than the cost of capital;
  - b. the growth in available cash produced by these investments and its allocation in the form of reinvestment or distribution to shareholders and other providers of capital.



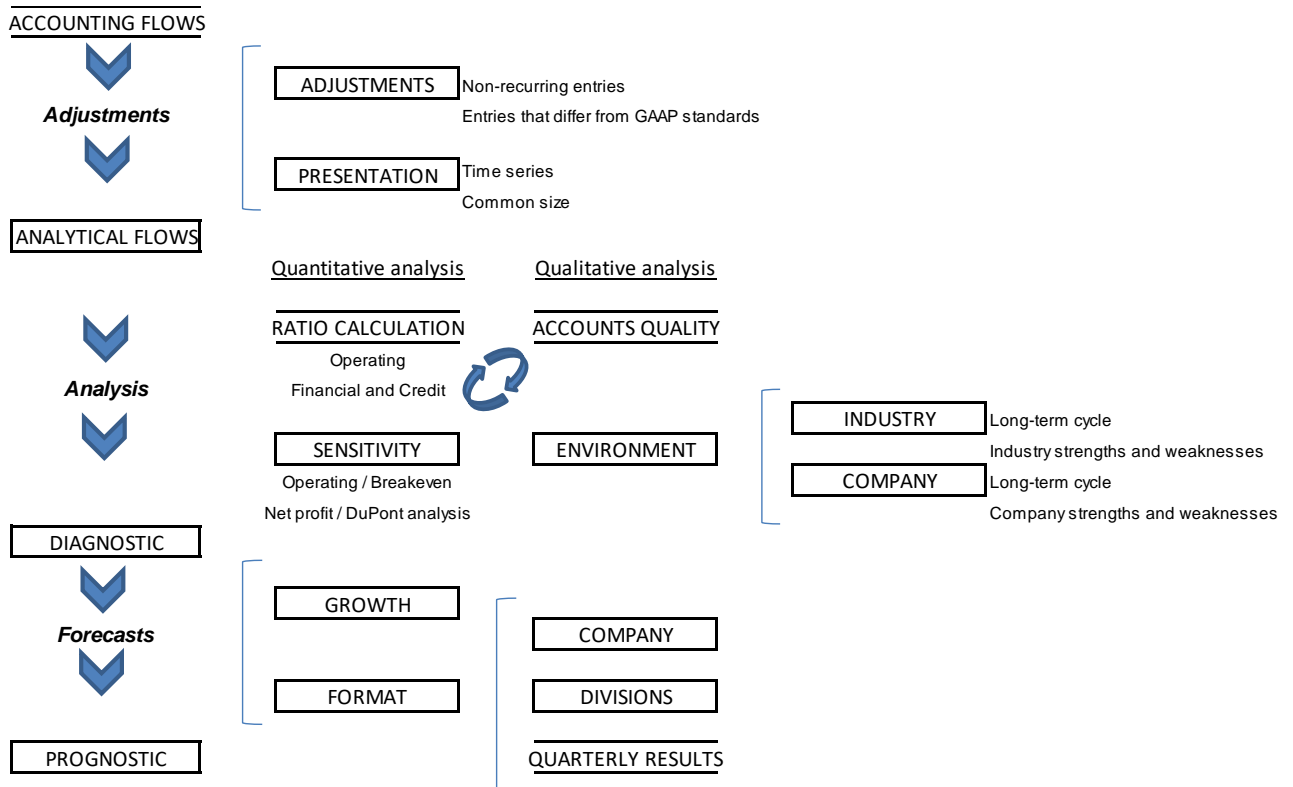
This strategic analysis of the company is of particular interest to:

- the board of directors, which must produce a strategy for using the capital invested and draw up management directives for the general management;
- the shareholders who must form an objective opinion on the soundness of this strategy.

Financial analysis has two quite distinct time horizons:

1. The announcement of the quarterly results provides a thorough review of a company's prospects. It is a short-term horizon where the investor is particularly attentive to any changes in the consensus view. Most financial analysts review their estimates after the telephone conferences that follow the publication of these results.
2. Strategic analysis looks at a more long-term horizon. Reorganisations aimed at creating greater shareholder value take time to become embedded in the company. A company with tens of thousands of employees cannot be completely transformed in a few months. Company timescales are often much longer than the impatience of short-term investors allows.

Financial communication and accounting transparency have progressed significantly over the past twenty years. However, it is still necessary to form one's own opinion of the appropriateness of the strategy and uncover the real situation of the company through or beyond its published figures.



## 2. Major financial flows and accounting adjustments

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This section explains the major accounting flows associated with the company's two main approaches:

- The approach of the shareholder, who considers the equity to be a financial instrument that entitles the shareholder to participate in the company's profits. The main flows to be considered are profit, free cash flow to the equity (FCFE) and dividends.
- The approach represented by Modigliani Miller which views the company as a global capital invested which must produce returns in the form of free cash flow to the firm (FCFF).

None of these financial flows is more accurate than another but we shall see that the principal valuation methods (discounted cash flow – DCF, price/earnings – PE – ratio) use these two approaches.

### 2.1 Shareholder vision: net income and earnings per share (EPS)

For an equity investor, return on investment is of major importance. He may not be very concerned about the type of industry or products involved, as long as his investments earn returns commensurate with his risk appetite. Because of this lack of concern investors always look at measurements that are common to many organisations, among which EPS, or earnings per share, has gained prominence. It is a ratio that captures the earnings per share outstanding and is independent of the size of the firm, the type of industry, the nature of the products, the market characteristics, and so on. Because of its universal applicability it has become the most popular measure used by investors.

IAS 33 deals with the calculation of EPS. Under this standard enterprises whose shares are publicly traded have to disclose two EPS measures:

- basic earnings per share,
- diluted earnings per share.

#### 2.1.1 Basic earnings per share

Basic earnings per share is calculated by dividing profit or loss attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period.

$$\text{Basic EPS} = \frac{\text{profit or loss attributable to ordinary shareholders}}{\text{weighted average number of ordinary shares outstanding during the period}}$$

The numerator corresponds to net income less preferred dividends.

For the calculation of the weighted average number of ordinary shares, two adjustments must be made:

- treasury stocks are excluded,
- ordinary shares that are issued without a corresponding change in resources (stock dividends, share splits...) are treated as if they had been issued at the beginning of the earliest period reported (i.e. as if these shares had always existed).

**Example 1:**

A company had 10'000 ordinary shares outstanding at the beginning of year N (of which 500 are treasury stocks). Its profit or loss for year N is CU 100'000. There are no preferred shares.

The following changes occurred during the period:

- April 1, N: issue of 5'000 ordinary shares
- October 1, N: repurchase of 500 ordinary shares by the enterprise
- November 1, N: distribution of 7'000 ordinary shares by incorporation of retained earnings into share capital (stock dividend).

The average number of ordinary shares outstanding during the period is:

$$\begin{array}{r}
 (10'000 - 500) \cdot 12/12 = 9'500 \\
 + 5'000 \cdot 9/12 = 3'750 \\
 - 500 \cdot 3/12 = - 125 \\
 + 7'000 \cdot 12/12 = \underline{7'000} \\
 \hline
 20'125
 \end{array}$$

$$\text{Basic EPS} = \frac{100'000}{20'125} = \text{CU } 4.97$$

In case of discontinued operations, the entity must also disclose another basic EPS based on profit or loss from continuing operations.

### 2.1.2 Diluted earnings per share

Diluted earnings per share are obtained by taking into account the effects of all dilutive potential ordinary shares.

A potential ordinary share is a financial instrument that may entitle its holder to ordinary shares. Examples of potential ordinary shares are convertible bonds, warrants, and stock options. A potential ordinary share is dilutive if its conversion to ordinary shares would decrease net profit per share.

For the calculation of diluted earnings per share, the profit or loss attributable to ordinary shareholders is increased by the after-tax amount of dividends and interest recognised in the period in respect of dilutive potential ordinary shares.

Similarly, the weighted average number of ordinary shares outstanding is increased by the number of additional ordinary shares, which would have been outstanding assuming the conversion of all dilutive potential ordinary shares. Additional ordinary shares are counted as if they had been issued at fair value.

Diluted earnings per share are thus calculated as follows:

$$\text{Diluted EPS} = \frac{\text{profit or loss attributable to ordinary shareholders} + \text{after tax interest on dilutive potential ordinary shares}}{\text{weighted average number of ordinary shares outstanding} + \text{number of ordinary shares resulting from the conversion of all dilutive potential ordinary shares}}$$



**Example 1 (continued):**

Other securities outstanding are:

- 5'000 bonds convertible into 2 ordinary shares
- 3'000 warrants. Each warrant entitles its holder to acquire one ordinary share for CU 150.

Average market price of the ordinary share in N: CU 200.

Interest on convertible bonds: CU 20'000 per year.

The income tax rate is 30 %.

Adjusted profit or loss attributable to ordinary shareholders:

$$100'000 + (20'000 \cdot 70 \%) = \text{CU } 114'000^*$$

Adjusted number of outstanding ordinary shares:

weighted average number of ordinary shares	20'125
+number of ordinary shares resulting from the conversion of bonds: $5'000 \cdot 2 =$	10'000
+number of ordinary shares resulting from the exercise of warrants:	3'000
-number of shares issued had these shares been issued at fair value: ( $3'000 \cdot 150$ ) / 200 =	<u>- 2'250**</u>
= adjusted number of ordinary shares	30'875

Diluted earnings per share is thus:

$$\text{Diluted EPS} = \frac{114'000}{30'875} = \text{CU } 3.69$$

Explanations:

\* After-tax interest on convertible bonds is added to the current profit or loss to obtain the profit or loss after conversion of these bonds.

\*\* Only dilutive potential ordinary shares must be taken into account. If shares were issued at fair value, there would be no dilution. To obtain the number of dilutive potential shares it is thus necessary to deduct the number of shares that could be issued with the collected amount if the exercise price was equal to fair value.

## 2.2 Management vision: investments and free cash flow (FCF)

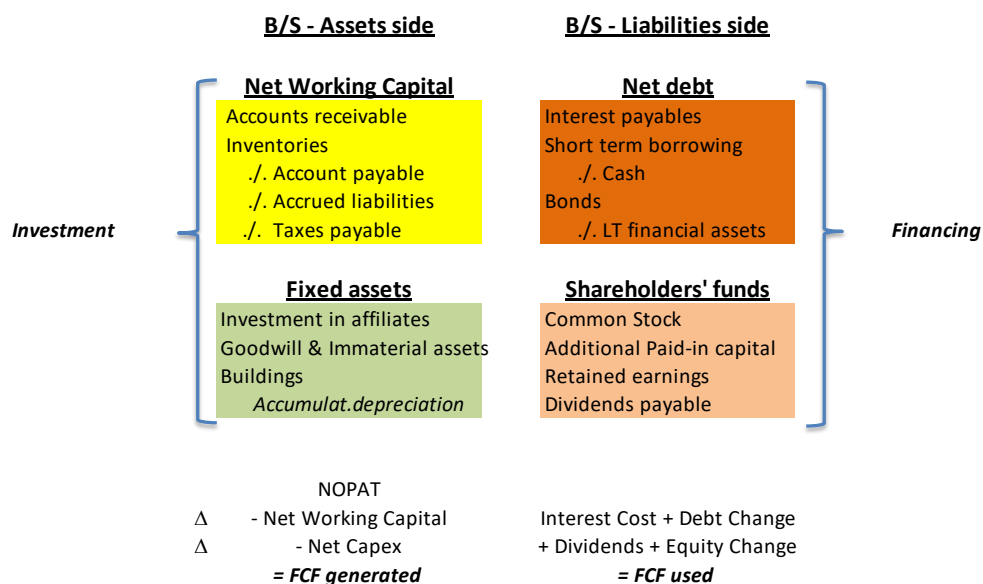
### 2.2.1 Modigliani Miller

Modigliani and Miller are known for having focussed on the cost of capital. This issue, which is dealt with in more detail in the corporate finance chapter, has shed light on the fact that a company's financial accounting is made of two basic blocs:

- Capital invested represented by the assets on the balance sheet, adjusted by a series of operations that we will now explain in detail. Management excellence is judged on its ability to generate net operating profit after taxes (NOPAT) or significant free cash flow (FCF) from this capital invested.
- This capital invested represented by the liabilities on the balance sheet is also adjusted. The free cash flows in this case are used to remunerate the providers of capital.

Accounting logic requires absolute equality between the creation of cash flow by the company on the assets side and the distribution of the same cash flow to the providers of capital.

Under this approach, the two main accounting aggregates used are operating profit and its variants (net operating profit after taxes - NOPAT, earnings before interest and taxes - EBIT, earnings before interests, taxes, depreciation and amortisation - EBITDA), investment net of amortisation/depreciation and free cash flow to the firm (FCFF)<sup>1</sup>.



The balance sheet is therefore classified into **separate blocks**<sup>2</sup>:

- net assets are distributed between operating management (maturities of under one year for net working capital - NWC) and investments (maturities of over one year for fixed assets);
- liabilities are distributed between providers of capital with a contractually fixed rate (basically debt holders) and others with a variable remuneration depending on the company's results (basically the shareholders but also minority interests).

### 2.2.2 Basic example

We will start with an example in an “accounting view”. In an analytical approach the accounts are reorganised.

First of all, the accounts must be analysed using net amounts between assets and liabilities. The logic behind this is to ‘unravel’ the balance sheet as presented in the annual reports. What matters for the purpose of the analysis is to measure the size of NWC for example compared to fixed assets. The size of a balance sheet is of little importance if it consists of items that can be offset against each other. A billion in long-term debts does not endanger the company if it is counterbalanced by 500 million in cash and a portfolio of debt instruments of the same size.

<sup>1</sup> All these accounting flows fall under Regulation G of the United States Securities and Exchange Commission (SEC) and are calculated differently by different companies.

<sup>2</sup> Intermittent or transitory non-operating assets can be brought together in a fifth category (non-operating) but it is generally small compared with the size of the balance sheet.

Once this operation has been completed, the focus is on determining the cash flow the company generates. The free cash flow to the firm (FCFF) account is the result of a profit and loss account and annual variations in the balance sheet. All items that belong in one of the categories described will receive identical treatment: the entry on the profit and loss account added to the annual variation on the balance sheet gives the amount shown in the economic cash flow account. Charges not related to a cash outflow must be taken into account. We will examine this point in more detail.















































































