Analisi con lo schema DuPont

Problema

La tabella seguente contiene i dati per applicare lo schema DuPont a Mothercare (MCR) e Nordstrom (JWN). Calcolate i ROE di queste due imprese e poi determinate di quanto dovrebbe aumentare la redditività delle vendite di Mothercare per raggiungere il ROE di Nordstrom.

Profit Margin = Net Income ÷ Revenue

Total Asset Turnover = Revenue ÷ Total Assets

Equity Multiplier = Total Assets ÷ Shareholder Equity)

	redditività delle vendite	rotazione delle attività	moltiplicatore del capitale proprio
Mothercare	2,4%	1,93	1,77
Nordstrom	7,7%	1,7	2,4

Analysis with the DuPont scheme
Problem
The following table contains data for applying the DuPont scheme to Mothercare (MCR) and Nordstrom (JWN). Calculate the ROEs of these two companies and then determine how much Mothercare's sales profitability would have to increase to reach Nordstrom's ROE.

■ The DuPont identity (3/4)

Soluzione

Possiamo calcolare il ROE di ciascuna impresa utilizzando lo schema DuPont nel modo seguente:

$$\text{ROE di MCR} = 2,4\% \times 1,93 \times 1,77 = 8,2\%$$

$$\text{ROE di JWN} = 7,7\% \times 1,7 \times 2,4 = 31,4\%$$

Utilizzando il ROE di Nordstrom, ma la rotazione delle attività e il moltiplicatore del capitale proprio di MCR, possiamo risolvere per ottenere la redditività delle vendite che Mothercare deve ottenere per raggiungere il ROE di Nordstrom:

$$31,4\% = \text{redditività vendite} \times 1,93 \times 1,77$$

$$\text{redditività vendite} = 31,4\% / 3,42 = 9,2\%$$

Quindi Mothercare dovrebbe aumentare la redditività netta delle vendite dal 2,4% al 9,2% per ottenere il ROE di Nordstrom.

Solution

We can calculate the ROE of each company using the DuPont scheme as follows:

$$\text{ROE of MCR} = 2.4\% \times 1.93 \times 1.77 = 8.2\%$$

$$\text{ROE of JWN} = 7.7\% \times 1.7 \times 2.4 = 31.4\%$$

Using Nordstrom's ROE, but MCR's asset turnover and equity multiplier, we can solve for the sales profitability (Profit Margin) Mothercare needs to achieve in order to reach the ROE of Nordstrom:

$$31.4\% = \text{Profit Margin} \times 1.93 \times 1.77$$

$$\text{Profit margin} = 31.4\% / 3.42 = 9.2\%.$$

So Mothercare would have to increase Profit Margin from 2.4% to 9.2% to achieve Nordstrom's ROE.

■ The DuPont identity (4/4)

- **To do at home and then comment on the results obtained during the next lesson:**
    - ❖ Go to the Amazon website – Investor Relations section: https://ir.aboutamazon.com/annual-reports-proxies-and-shareholder-letters/default.aspx
    - ❖ Download three pdfs: '2022 Annual Report'; '2021 Annual Report'; '2020 Annual Report'.
    - ❖ Calculate ROE with the DuPont identity model for the years: 2020, 2021, 2022.
    - ❖ As an aseptic investor, analyze and comment on the trend (period: 2020-2022) of ROE and its individual components.
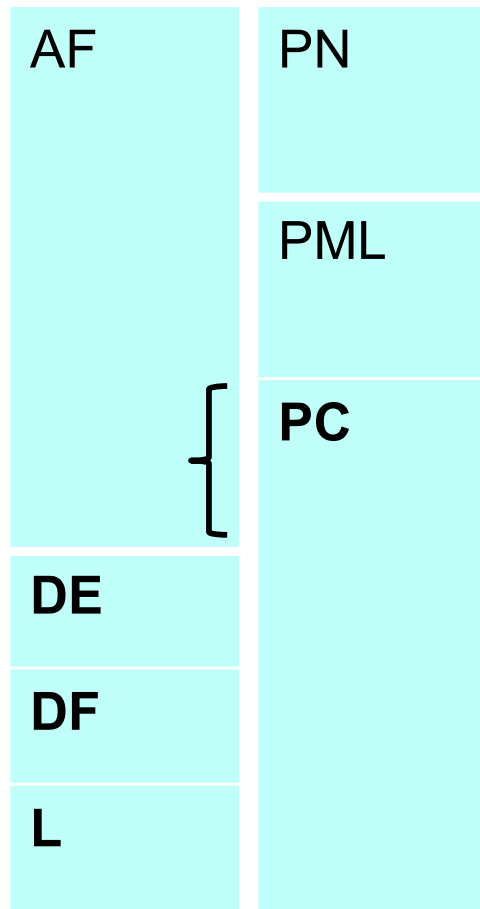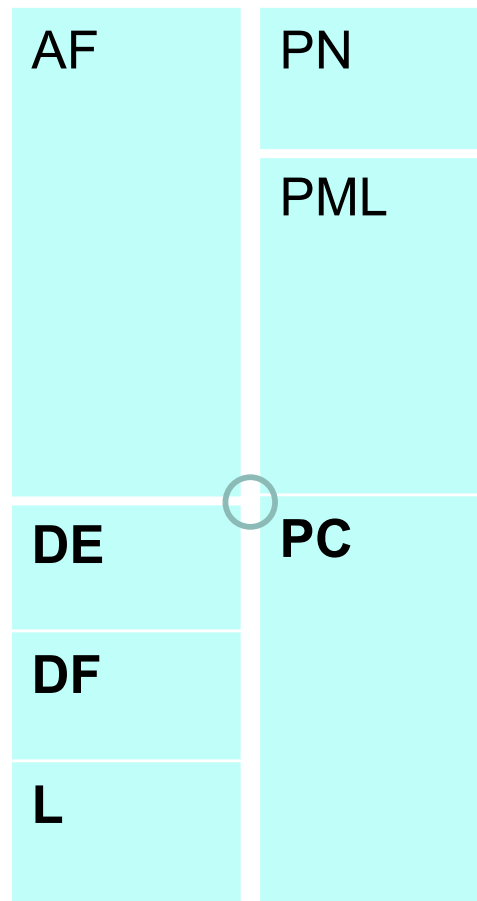
To do at home

Solve the problem at home

Finanza Aziendale. AA 2025/2026 - Prof. Andrea Quintiliani.
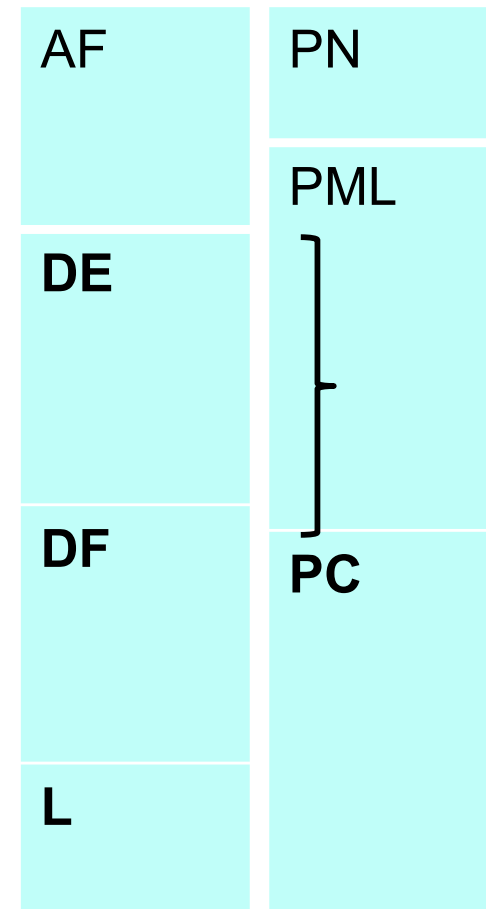
2

Visual interpretation of Net Working Capital (NWC)

NWC < 0

NWC = 0

NWC > 0

AF: Active Fixed (AF); DE: Economic Availability (Stocks - EA); DF: Financial Availability (Short-term credits - FA); L: Liquidity; PN: Net Worth (NW); PML: Medium Long Term Liabilities (MLTL); PC: Current Liabilities (Short term Liabilities - CL)

INTEREST COVERAGE RATIO (ICR)

EBIT ÷ INTEREST EXPENSE

< 1.5

> 3

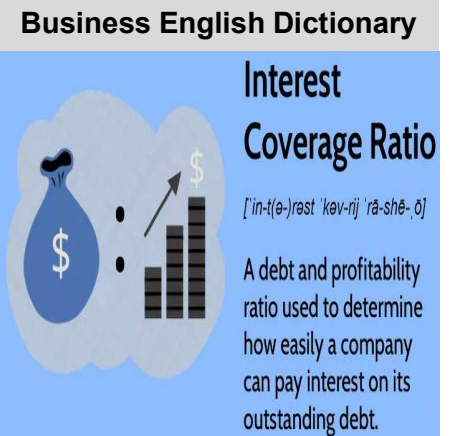- E' un indicatore di copertura reddituale degli oneri finanziari più restrittivo dell'indice EBITDA ÷ OF;

- It is an index of income coverage of financial charges (interest expense), more restrictive than the EBITDA ÷ IE index;

- Se l'indicatore EBIT ÷ OF (Indice di copertura degli interessi) fosse pari a 3: l'impresa avrebbe a disposizione 3 euro di margini per pagare 1 euro di oneri finanziari.
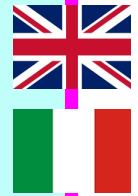
- If the EBIT ÷ IE index (Interest Coverage Ratio) was equal to 3: the firm would have 3 euros of margins available to pay 1 euro of financial charges.

Business English Dictionary

Interest Coverage Ratio

['in-t(ə-)rəst 'kəv-rij 'rā-shē-ˌō]

A debt and profitability ratio used to determine how easily a company can pay interest on its outstanding debt.

Credit Scoring Model.xls

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INTEREST COVERAGE RATIO (ICR)
Damodaran's Rating Model

EBIT ÷ INTEREST EXPENSE

< 1.5

> 3

Credit Scoring
Model.xls
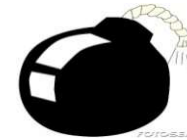
- Il **Rating Model di A. Damodaran** è stato studiato e sperimentato dal prof. Aswath Damodaran della Stern School of Business di N.Y. e prende quale base di giudizio unicamente l'indicatore EBIT/OF. Alla capacità di generare un'unità di reddito al servizio di un'unità di onere finanziario, viene associato uno spread medio. Il calcolo è suddiviso fra due classi di imprese caratterizzate dalla dimensione: PMI e grandi imprese.

- **A. Damodaran's Rating Model** was studied and tested by Prof. Aswath Damodaran of the Stern School of Business in N.Y. and takes the EBIT/IE indicator alone as the basis for judgement. An average spread is associated with the ability to generate a unit of income to service a unit of financial expense. The calculation is divided between two classes of enterprises characterised by size: SMEs and large firms.
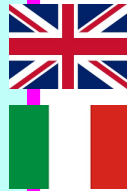
For a more in-depth approach to the model, see Prof. Damodaran's material at:
https://pages.stern.nyu.edu/~adamodar/

INTEREST COVERAGE RATIO (ICR)
Damodaran's Rating Model – To do at home

- **I propose you a job to do at home and which you will comment on in the next lesson. You can also work in groups:**

  ❖ Look for the annual reports of two companies with different countries of origin (for example, one with registered office in Europe, the other South American, American, Middle Eastern, Asian, Pacific, African, etc.). These two companies will have to differentiate themselves by the value of the ICR. That is, one must have an ICR lower than 1.5 and the other an ICR higher than 3. I suggest you do an initial search on the web page: www.annualreports.com.

  ❖ From the income statement indicated in the annual report, isolate the operating income, "i.e. the income before finance costs and taxes", and the "financial costs". You will insert the selected data into the Xls file. You will do this operation for both companies, therefore using two Xls files.

  ❖ The XLS file also includes the inclusion of the "long term government bond rate" (https://it.investing.com/).

  ❖ The simulation in Xls will provide you, for each individual chosen company, with an estimate of the rating, spread and cost of debt.

  ❖ At this point, in the next lesson, you will comment in the classroom on what in your opinion were the determinants that impacted the three variables mentioned.

To do at home

Solve the problem at home

Credit Scoring Model.xls