

## DOL

Calculate the DOL for two companies, A and B, if sales are 3.000€ for both,  $V_{ca} = 300$  and  $V_{cb} = 900$  and  $FC_a = 1.000€$  and  $FC_b = 400$

Analyze what is the effect in profits, if sales increase 10%, and if sales decrease 10%.

$DOL = (\text{Sales} - VC) / \text{Profit}$

A

S3000

VC300

FC1000

A → Profit = Sales - VC - FC = 1700

$DOL_a = (3000 - 300) / 1700 = 1,59$

If Sales increase 10% \* 1,59 = 15,9% → 16%

If sales decrease the EBIT will decrease 16%

B

S 3000

VC 900

FC 400

Profit = Sales - vc - fc

$DOL_b = (3000 - 900) / 1700 = 1,24$

If Sales increase 10% \* 1,24 = 12,35% → 12%

If sales decrease the EBIT will decrease 12%

### We have two companies:

Company A has variable costs of 10% of sales, company B has variable costs of 60% of sales. Regarding Fixed costs, company A has 60M USD and company B has 10M USD

1) What is the profit for each company if both achieve a level of revenues of 100M USD?

2) What happens to their profits if both companies double revenues to 200M USD?

3) And what if revenues are cut in half to 50M USD?

A

VC 10% of Sales

FC 60M

B

60% of sales

FC10M

1.  $100 - 10 - 60 = 30M$

$100 - 60 - 10 = 30M$

Both companies make the same amount of profits

2.  $200 - 20 - 60 = 120M$

$200 - 120 - 10 = 70M$

Company A (with higher operational gearing) 4x its profits vs company B which just does 2.3x

3.  $50 - 5 - 60 = -15M$

$50 - 30 - 10 = 10M$

Company A loses money (even though revenues are 50M USD) and company B still is profitable

Using real data from Facebook, **please calculate its operating leverage for the last 4 years:**

As we don't have the breakdown of fixed and variable costs, we can use the following approximation:

Operating leverage =  $\text{Yoy\% change in Operating Income} / \text{Yoy \% change in sales}$

Now, compare it to Hilton Hotels

REVENUE

INCOME FROM OPERATIONS

Copy numbers: Revenue and Income from operations

Calculate

$\text{YoY} = \text{This year} / \text{Previous year} - 1$

$\text{YoY operating rev} = \text{This year} / \text{Previous year} - 1$

Operating Leverage =  $\text{Yoy\% change in Operating Income} / \text{Yoy \% change in sales}$

When it is negative it indicates that the company is not generating enough revenue to cover costs when the CM is less than total fixed costs

For every 1% change in sales, the operating income is going to change (x, xx) times in the same direction

If sales increase a 10%, the operating income is going to increase  $10\% \times 1,68$ , so it will increase  $10\% \times 1,68 = 16,8\%$  (from 32.671€ to 38.159€)

If sales decrease a 10%, the operating income, will decrease  $10\% \times 1,68$ , so it will decrease 16,8% (from 32.671€ to 27.971€)