Solved examples for use inside the class

ERR FRR FINANCIAL LEVERAGE EXAMPLES

For the 2007-2008 periods, a company has the following account (in Euros):

	2007	2008
Sales	51.000	55.625
Purchases of raw materials	13.500	12.750
Expenses in personnel	10.000	13.200
Financial Expenses	7.000	14.000
Positive Result	20.500	15.675

This company has had the same total net assets during the years of 2007 and 2008 (200,000 Euros), financed with equity capital. These equities have had a cost of 10% in both years; therefore, we'd like to know:

a) Economic profitability. Interpret the results.
b) The sales margin and asset turnover. Interpret the results.
c) Financial Profitability. Interpret the results.
d) Type of leverage in both periods.
e) Please explain the differences between the Economic profitability and Financial Profitability in both periods.
f) Do you think it would be good for the company to increase its debt levels for the up coming year 2009? Support your explanation based on the concept of leverage.

Year 2007	**Year 2008**
a)$EBIT = 51.000 - 13.500 - 10.000 = 27.500$	$EBIT = 55.625 - 12.750 - 13.200 = 29.675$
$ERR = {}^{27.500}/_{200.000} = 0{,}1375;$	$ERR = {}^{29.675}/_{200.000} = 0{,}148;$
ERR=13.75%	**ERR=14.8%**
Pick the return on assets	

b) Sales Margin=ebit/s=27.500/51.000=**0.539** The margin measures how the company is able to convert sales into profits (associated with the core business, operating or farm). In this case, the company is able to covert the 53.9% of its sales into profits. . Assets turnover = S / TA = 51000/200000 = 0.**255** Measures the efficiency of assets. The closer it is to 1, the more efficient it'll be. In this case it could further increase its efficiency by trying to boost its sales, for example, by developing trade policies.	Sales Margin=29675/55625=**0.533** The company is able to covert the 53.3% of its sales into profits. Assets turnover = 55625/200000 = 0.278 The efficiency, although on a minor level, has improved thanks to increased sales.
c) $7.000 = 0{,}1 \times D \Rightarrow D = 70.000$ $E = 200.000 - 70.000 = 130.000$ E= 70.000/130.000=0.54<1 Mainly funded with FP? $RF = 0{,}1375 + (0{,}1375 - 0{,}1) \times {}^{70.000}\!/_{130.000} = 0{,}1576$ FRR = 0.1375+ (0.1375-0.1) x 70000/130000 = 0.1576 Alternatively (tax = 0) FRR =NP/E ; FRR=0.1576 **FRR=15.76%** Is the profitability of the owners or stockholders or equity.	$14.000 = 0{,}1 \times D \Rightarrow D = 140.000$ Has doubled its debt $E = 200.000 - 140.000 = 60.000$ Its financial structure has changed, now E = 140.000/60.000 = 2.3> 1. It is financed mainly with FA? $RF = 0{,}148 + (0{,}148 - 0{,}1) \times {}^{140.000}\!/_{60.000} = 0{,}26$ RF=BN/FP ; RF=15675/60000=0.26 FRR = 0.26 FRR =NP/E ; FRR=0.26 **FRR=26%**

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<td>d)

ERR-Ki = 0.1375 – 0.1 = 0.0375
It is positive, has an amplifying effect. That is, increases in debt levels are associated with increases in the level of profitability achieved by the owners or shareholders.</td>
<td>$ApalancamientoFinanciero = 0{,}148 - 0{,}1 = 0{,}048$
ERR-Ki = 0.148 – 0.1 = 0.048

Is positive, it still maintains the amplifying effect.</td>
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<td colspan="2">E) Explanation:

Remember: the ERR = margin * turnover. Therefore, it’s not affected by the financial structure, only by those variables associated with the company's main activity (EBIT).

In this case, the RE increases by 1% in 2008 compared to 2007, although the difference is not significant, the slight increase is explained not by the margin (which decreases very little) but because of the turnover or efficiency in the use of assets, improved due to improved sales.

The RF is significantly increased by 10.24%. The reasons for this increase are explained by:

- The slight increase in the RE (and this increases for the reasons explained above)
- A positive financial leverage in 2007.
- An increase in the level of debt (70,000 to 140,000) which has doubled. Together with the fact that in 2007 the leverage effect was > 0, it has caused an amplified leverage on debt, which has led to improve the financial returns in 2008.
- It is noteworthy that this increase in debt has not generated increased risk or the cost of financing (KFA), which has encouraged even more the increase in RF.</td>
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<td colspan="2">f) Given the fact that in 2008 the leverage effect is positive, we can expect that increases in the debt level would generate increases in the RF, as long as the cost of financing (KFA) does not increase, or at least does not exceed the RE, so the leverage effect will remain positive in 2009 and may amplify the effect caused by the increase in debt again.</td>
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