

Benefits and Risks of Borrowing

Leveraging, borrowing or gearing quickly magnifies returns either positively or negatively depending on the performance of the business or investment. If we can identify investments where the RoA is substantially above the interest rate, then we can really ratchet up our returns by borrowing. However, the converse is also true – if RoA is less than interest rate then our RoE will be even lower. The important factor is ensuring the return remains well above interest rate – need to build in a margin of safety so this gap never closes.

Scenario 1 We invest \$10,000 and sell the investment a year later for \$11,700

- What is the RoA?

$$\text{Return} = 11,700 - 10,000 = 1,700$$

$$\text{RoA} = \frac{\text{Return}}{\text{Asset}} \times 100 = \frac{1,700}{10,000} \times 100 = 17\%$$

- Borrow 50% of investment: Of the \$10,000 invested my equity was \$5000 and the rest was financed with \$5000 borrowed at 6%. What is the RoE?

$$\text{RoE} = \frac{\text{Return} - \text{interest}}{\text{Equity}} \times 100 = \frac{1,700 - (5,000 \times 6\%)}{5,000} \times 100 = 28\%$$

- Borrow 90% of investment. Let's really look at the power of leveraging. Of the \$10,000 invested my equity was \$1000 and the rest was financed with \$9000 borrowed at 6%. What is the RoE?

$$\text{RoE} = \frac{\text{Return} - \text{interest}}{\text{Equity}} \times 100 = \frac{1,700 - (9,000 \times 6\%)}{1,000} \times 100 = 116\%$$

Scenario 2 We invest \$10,000 and sell the investment a year later for \$9,200

The table below shows the return on assets, and return on equity for the various levels of borrowing in this scenario. When return on assets is below interest rate we will quickly ratchet down our return on equity with borrowing.

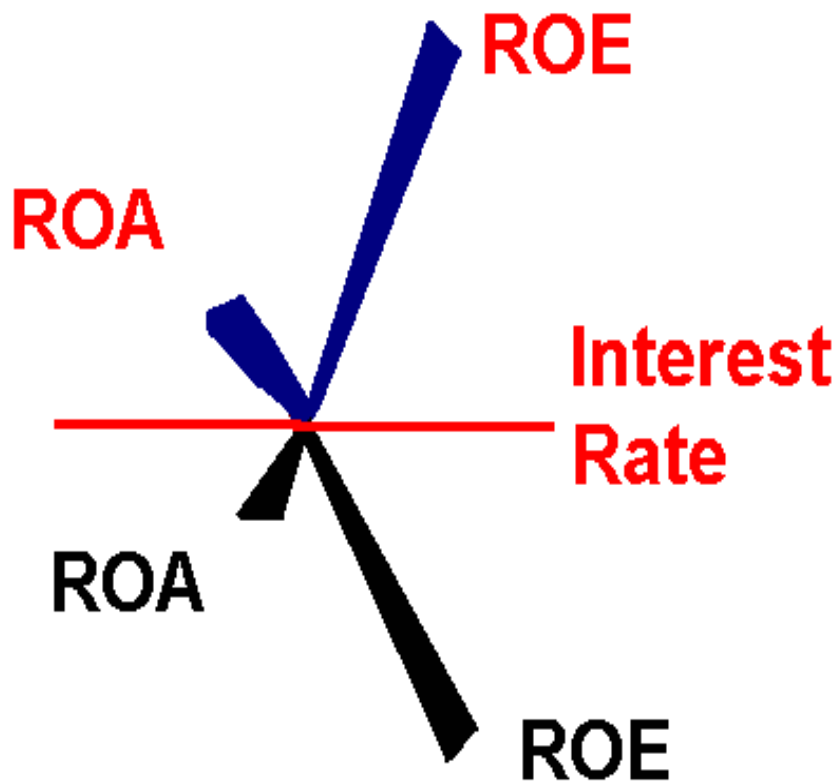
Relationship between RoA, RoE, Interest Rate and Proportion Borrowed.

	Scenario	
	1	2
Return on Asset	17%	-8%
Interest Rate	6%	6%
Return on Equity		
50% borrowed	28%	-22%
90% borrowed	116%	-134%

The following 'tick' diagram shows this relation between RoA and RoE

Relationship Between Return on Assets (ROA), Return on Equity (ROE) and Interest Rate

When ROA is above interest rate
ROE is even higher than ROA



When ROA is below interest rate
ROE is even lower than ROA