

68.2 An exercise on risk and rate of return

The figures below are taken from the published accounts of five listed companies.

For each company

- calculate the rate of return on equity achieved in the year under consideration
- calculate the return on capital employed.

company activity	micro-chip maker	cement producer	precision engineer	milk wholesaler	satellite broadcaster
operating profit	49 898	2 678	692	27 495	877
profit after tax	48 588	1 589	994	18 450	551
borrowings					
current	-	1 664	400	2 291	163
non-current	-	9 421	990	5 024	1 825
total borrowings	nil	11 085	1 390	7 315	1 988
equity	663 204	11 794	2 725	119 258	121
capital employed	663 204	22 879	4 115	126 573	2 109

Response

company activity	micro-chip maker	cement producer	precision engineer	milk wholesaler	satellite broadcaster
RoE (profit after tax)	$\frac{48\,588}{663\,204}$ = 7.3%	$\frac{1\,589}{11\,794}$ = 13.5%	$\frac{994}{2\,725}$ = 36.5%	$\frac{18\,450}{119\,258}$ = 15.5%	$\frac{551}{121}$ = 455.4%
ROCE	$\frac{49\,898}{663\,204}$ = 7.5%	$\frac{2\,678}{22\,879}$ = 11.7%	$\frac{692}{4\,115}$ = 16.8%	$\frac{27\,495}{126\,573}$ = 21.7%	$\frac{877}{2\,109}$ = 41.6%

In your opinion, do your results support the theory that investors will only support higher risk investments if they produce higher rates of return?

Response

In the tables below, the companies are ranked in ascending order of rate of return:

rank		RoE
1	micro-chip maker	7.3%
2	cement producer	13.5%
3	milk wholesaler	15.5%
4	precision engineer	36.5%
5	satellite broadcaster	455.4%

rank		ROCE
1	micro-chip maker	7.5%
2	cement producer	11.7%
3	precision engineer	16.8%
4	milk wholesaler	21.7%
5	satellite broadcaster	41.6%

Do we find that these rankings reflect an ascending order of risk? Not exactly. To an outsider, it would seem (at the time of writing) that designing and making micro-chips is probably the most risky activity of the five in our sample – because of the rate of change in the industry. Yet the micro-chip maker shows the lowest rate of return. Meanwhile satellite broadcasting would seem to be a fairly risk-free undertaking, once the initial risk of setting up the network has been overcome. Yet the satellite broadcaster shows spectacularly high rates of return.

These results draw attention to a number of factors concerning the evaluation of investments:

- The difference between the rate of return that investors may require, and the rate of return that they actually get. In accordance with theory, investors may not undertake a risky project unless they are *promised* a high rate of return, but there is no guarantee that they will *get* a high rate of return.
- The difference between the capital invested by a company and the capital invested by a shareholder (and hence a potential difference in the rates of return that each may achieve). The capital invested by a company is shown in the balance sheet with the cost of the goods and services acquired. This is the basis for our calculations of the company's rate of return on capital. The capital invested by a shareholder is the value paid for his or her shares. As we know, the market price of a share will vary, and in particular, if investors consider that the company is exposed to higher risk, the market price of its

shares will fall, so that any investors who buy the shares from then on will achieve a higher rate of return on their investment.

- The difference between the rate of return achieved by a company in the present, and the rate of return promised in the future. It may be that the micro-chip company in our example is currently building its business, which involves high expense and low profits (and therefore a low rate of return) in the present, but promises very high profits (and high rates of return) in the future.
- The difference between business risk and financial risk. While we lack the expertise to form any reliable judgement of the general business risks involved in the satellite broadcasting industry, it is plain to see that the particular company in our example has created huge financial risks for itself by borrowing more than sixteen times the value invested by its shareholders. (See more about this in the discussion of gearing in Chapters 69 and 70.)