

Business Structures

There are three main forms of business structure which are:

- Sole trader, who is the sole equity owner;
- Partnership, where two or more partners own the equity in the business;
- Corporation, also called a company or a firm, where shareholders own the equity in the business. There are two main varieties;
 - Private corporations, Acme Pty Ltd;
 - Public or listed corporations, Acme Ltd.

Unlimited liability: Sole Traders and Partners

Sole traders and partners have unlimited liability.

It's possible for them to be sued and lose not only all of their business assets, but their personal assets as well.

Sole traders and partners face unlimited potential losses on their equity. So the lowest possible equity price is negative infinity ($-\infty$) and the lowest possible return on equity is also negative infinity ($-\infty$).

There is also no limit on how high the equity price and return could be, each has no limit (positive infinity, ∞).

$$-\infty < E_{\text{sole traders and partners}} < \infty$$

$$-\infty < r_{E, \text{sole traders and partners}} < \infty$$

Calculation Example: Unlimited liability

Question: Bob just began running a courier business as a sole trader. The business's only asset is a delivery van worth \$100,000, funded by equity. The business has no debt.

Bob's personal assets are the \$100,000 equity in the courier business and his \$500,000 house. He has no personal debt.

On his first day, Bob accidentally crashes his delivery van into a Ferrari sports car. Both the Ferrari and delivery van are totally written off. The Ferrari driver demands payment of \$800,000 as compensation. Bob has no insurance.

Calculate Bob's return on his business's equity assuming that he does not declare personal bankruptcy.

Answer: Since he's a sole trader he has unlimited personal liability.

Bob's business's assets are worthless since the van is a write-off. Therefore to pay the \$800,000 compensation to the Ferrari driver, he'll have to sell his personal asset which is his house for \$500,000.

To avoid paying the remaining \$300,000 he'll have to declare personal bankruptcy. Since we assume that he won't do this, he'll have to work to pay off the remaining debt.

Bob started (time 0) with \$100,000 of business assets and no debt, so he had \$100,000 of business equity.

$$V_0 = D_0 + E_0$$

$$100,000 = 0 + E_0$$

$$E_0 = 100,000$$

After the crash (time 1) he had no business assets, a debt of \$800,000, and because he has unlimited liability, his equity is worth -\$800,000.

$$V_1 = D_1 + E_1$$

$$0 = 800,000 + E_1$$

$$E_1 = -800,000$$

To find the return on equity:

$$r_{0 \rightarrow 1} = \frac{P_1 - P_0 + C_1}{P_0}$$

$$\begin{aligned} r_{E,0 \rightarrow 1} &= \frac{E_1 - E_0 + \text{Dividends}_1}{E_0} \\ &= \frac{-800,000 - 100,000 + 0}{100,000} \\ &= -9 \end{aligned}$$

So the return on equity is -900% which is upsetting for Bob.

Limited Liability: Corporations

Corporations have limited liability, so shareholders cannot lose more than the value of their equity, the shares. Shareholders in a corporation cannot be sued for their personal assets.

This is unlike sole traders and partners who face unlimited liability.

Therefore the lowest possible share price in a corporation is zero.

$$0 \leq E_{\text{corporation}} < \infty$$

The lowest possible return is therefore negative one (-1 or -100%).

$$-1 \leq r_{E,\text{corporation}} < \infty$$

Business Funding

Corporations can be financed by:

- Ordinary shares (also called common stock),
- Preference shares,
- Bonds,
- Loans,
- Short term debt such as overdrafts or money market securities including bank accepted bills (BAB's) or promissory notes (PN's, also known as commercial paper).

Corporate Insolvency (or Bankruptcy)

When a firm is insolvent it cannot pay its debts when they're due, usually because its current liabilities (CL) are too high compared to its current assets (CA).

The business assets will be distributed to debt and equity holders.

- Debt holders are paid first. The most senior debt holders are paid very first, then the next most senior, all the way down to the most subordinated debt if any assets remain.
- Equity holders are then paid the residual amount, if there is anything. Preferred stock holders are paid first and common stock holders last.

Questions: Limited Liability and Business Structure

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