

## Decision Analysis

### Tutorial Exercise 1

Consider the following modification to the "build small - build large" example in the notes:

#### *Marketing information:*

Probability of high demand for first two years	75%
Probability that an initial high demand	
will be followed by eight more years of high demand	70%
will be followed by eight years of medium demand	20%
will be followed by eight years of low demand	10%
Probability of low demand for first two years	25%
Probability that an initial low demand	
will be followed by eight more years of low demand	100%

#### *Annual income:*

Details as in notes, with additional information:

A large plant, with medium demand, would yield £0.4m p.a.

An expanded small plant, with medium demand, would yield £0.3 m p.a.

A small plant, with medium demand, would yield £0.5m p.a.

- a) Draw the decision tree and work out the best strategy for the company.
- b) Suppose that the company discovers that there is an option to build a medium sized factory from the outset, although it could neither later expand such a factory to a large size nor expand a small factory to become medium sized.

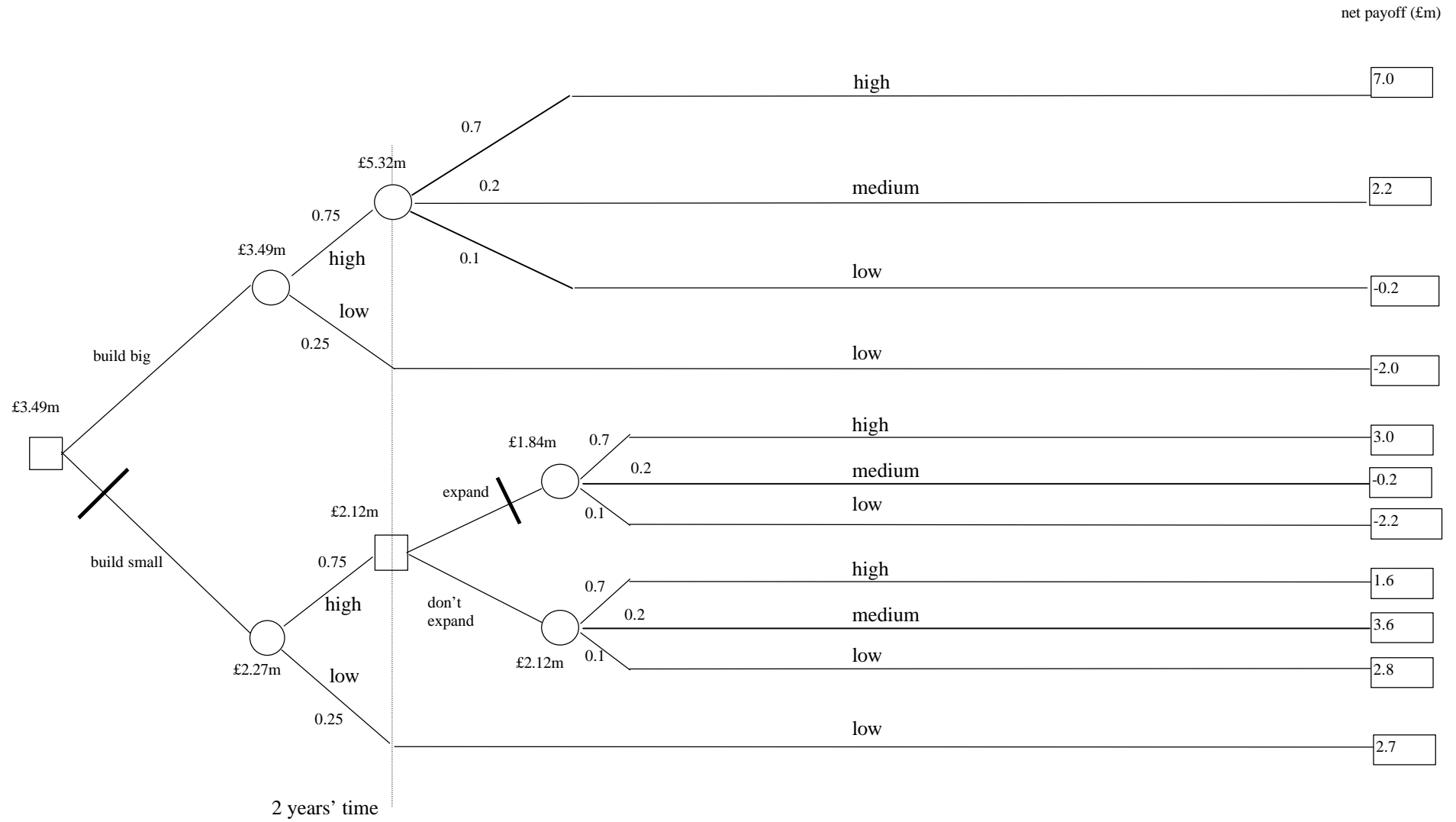
A medium plant, with high demand, would yield £0.7m p.a.

A medium plant, with medium demand, would yield £0.5m p.a.

A medium plant, with small demand, would yield £0.25m p.a.

What should you advise the company?

# Solution to part a



Solution to part b