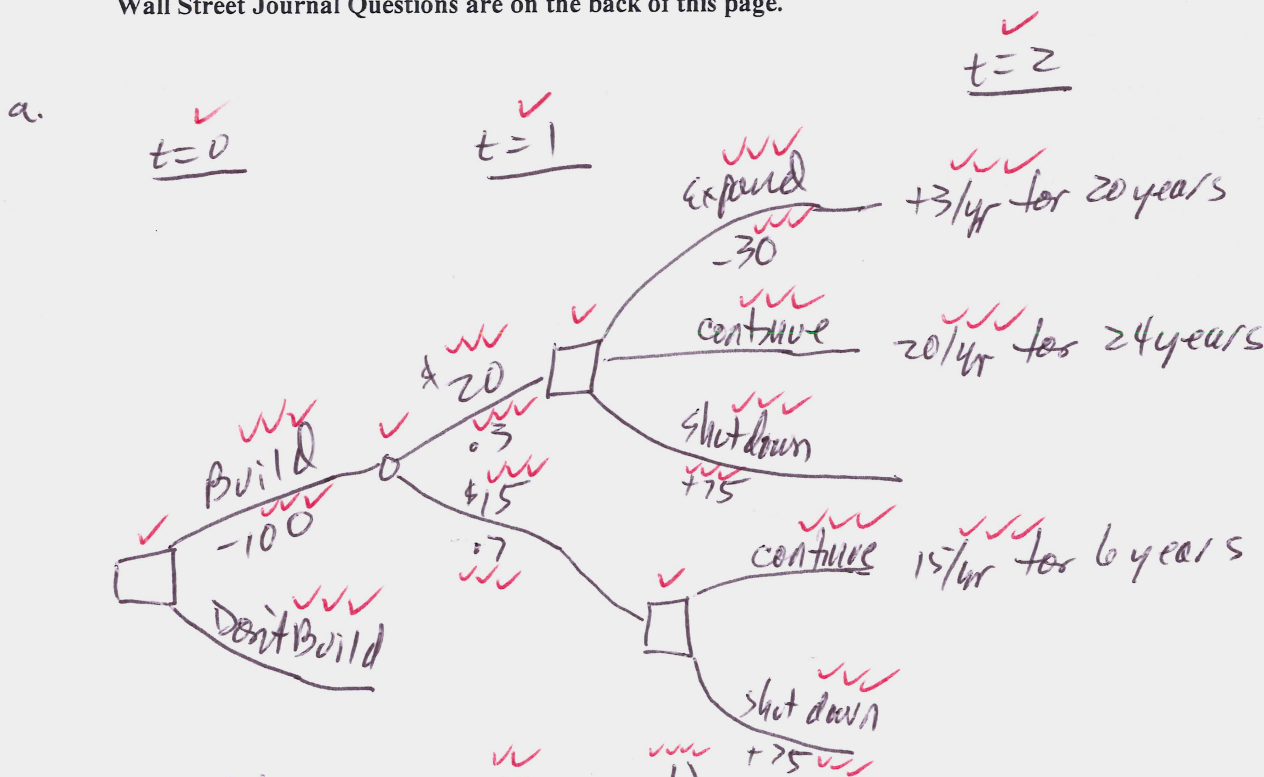


Bowl Bound 3 Inc. is considering whether to build a new plant today at a cost of \$100 million. There is a 30% chance that the plant will generate net cash flows of \$20 million per year for 25 years and a 70% chance that the factory will generate net cash flows of \$15 million per year for 7 years. In both cases, net cash flows would begin a year from today. For either level of net cash flows the factory could be shut down and sold a year from today (after net cash flows for the first year are realized) for \$75 million. If net cash flows equal \$20 million per year, the factory could be expanded at a cost of \$30 million. The expansion would produce net cash flows of \$3 million per year for 20 years. Assume the cost of capital for the project and the expansion equals 10%.

- Sketch a decision tree of this capital budgeting decision.
- Set up the calculations needed to determine whether the factory should be shut down and sold if sales equal \$15 million next year. How would you make a decision?

Wall Street Journal Questions are on the back of this page.



b.

$$NPV(\text{continue}) = \frac{15}{.1} \left(1 - \left(\frac{1}{1.1} \right)^6 \right)$$

\Rightarrow shut down if $NPV(\text{continue}) < 75$

Scale (checks = points)

77 = 75
75 = 74
74 = 73
71 = 70

69 = 68
68 = 67
67 = 66
66 = 65

62 = 61
48 = 47