FINC2012 Weekly Notes:
Corporate Finance Project Evaluation and Value Creation

Corporate Finance II

Semester 1 2026

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At that price, an owner of first-generation equipment should compare operation with the \$2.50 salvage value:

$$\text{NPV}_{\text{continue}} = -2.50 + \frac{5.75 - 5.50}{0.20} = -1.25.$$

Old capacity exits. Equilibrium is restored at $P = \$6$, where

$$0 = -2.50 + \frac{P - 5.50}{0.20},$$

and demand is $Q = 80(10 - 6) = 320$ million units. Thus 20 million units of old capacity leave the market.

4.6.3 Long-Run Equilibrium

After five years, competitors can install third-generation plants. Entry continues until a new plant has zero NPV:

$$0 = -10 + \frac{P - 3}{0.20} \qquad \Longrightarrow \qquad P = \$5.$$

At $P = \$5$, demand is $Q = 80(10 - 5) = 400$ million units. First-generation plants cannot cover their \$5.50 manufacturing cost and leave the market. The expected price path is therefore \$6 for years 1–5 and \$5 thereafter.

4.6.4 Value of the New Plant

The new plant supplies 100 million units. Its cash flow is \$300 million in years 1–5 and \$200 million per year thereafter:

$$\text{NPV}_{\text{new}} = -1{,}000 + \sum_{t=1}^{5} \frac{300}{1.20^t} + \frac{1}{1.20^5}\left(\frac{200}{0.20}\right) = \$299 \text{ million}.$$

4.6.5 Externality on Marvin's Existing Plant

Without Marvin's expansion, the \$7 price would persist for five more years. Expansion causes an immediate \$1 price reduction on the company's existing 24 million units:

$$\Delta PV_{\text{existing}} = -24 \sum_{t=1}^{5} \frac{1}{1.20^t} = -\$72 \text{ million}.$$

Thus the true incremental NPV is

$$\text{NPV}_{\text{total}} = 299 - 72 = \$227 \text{ million}.$$

4.6.6 Alternative Expansion Sizes

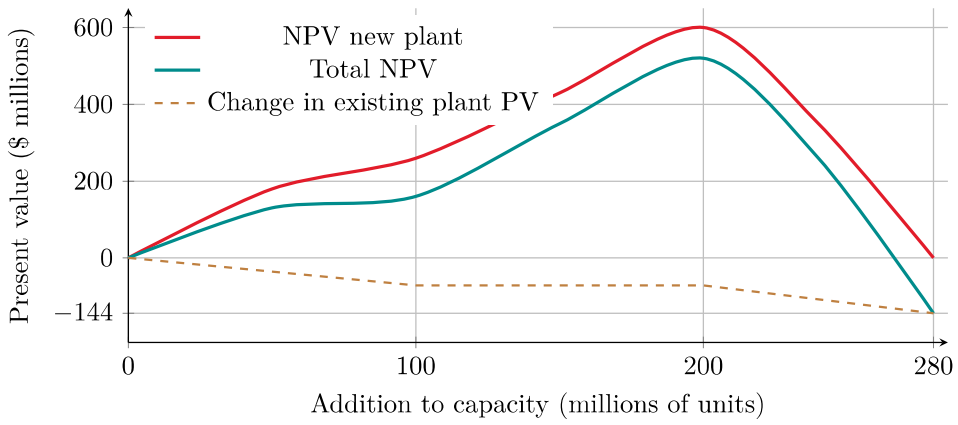

Figure 6: Effect of expansion size on Marvin's project value. Curves reproduce the relationships shown in the lecture figure.

The 100-million-unit plan has total NPV of $227 million. At 280 million new units, new-plant NPV is zero and the existing plant loses $144 million, so total NPV is −$144 million. Total NPV is maximised at approximately 200 million new units, where price is pushed just below $6 and first-generation producers exit.

4.7 Week 4 Summary

- Strategic forecasts are vulnerable to optimism, overconfidence, planning, confirmation, and framing biases.
- Start with competitive market values and ask what firm-specific advantage justifies departing from them.
- Separate operational bets from unrelated asset-price bets.
- Positive NPV is the present value of economic rents generated by a durable competitive advantage.
- Explicitly model competitive entry, imitation, price responses, and the time before rents disappear.
- Include cannibalisation and changes in the value of existing assets in incremental cash flow.
- Salvage value is both an opportunity cost and a source of abandonment flexibility.