SFB/Transregio 266

ACCOUNTING FOR TRANSPARENCY

Research on Corporate Transparency

Element 7: Signaling

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Motivating question

Does costly signaling make disclosures more informative?

Intuitive Answer

Yes

but at a cost (HaHa)

Costly signaling

When the cost of sending a certain signal is correlated with the underlying type of the the firm, the receiver of the signal can use it to assess the underlying type (to some extent).

Signaling games often have a pooling and a separating equilibrium

- In the pooling equilibrium the receiver cannot use the signal to differentiate firms. Thus, no signal is being sent
- In the separating equilibrium, costly signaling allows the receiver to separate the sending firms according to their underlying type

A use case: Beyer and Guttman (JAR, 2012)

A manager runs a firm which value consists of an existing production technology ($\theta k - \frac{1}{2}k^2$) and a potential new investment ($I + \mu_r$). θ measures the productivity of the existing technology, k the investment into the existing technology, I the new investment and $\mu_r > 0$ the expected return to the new investment.

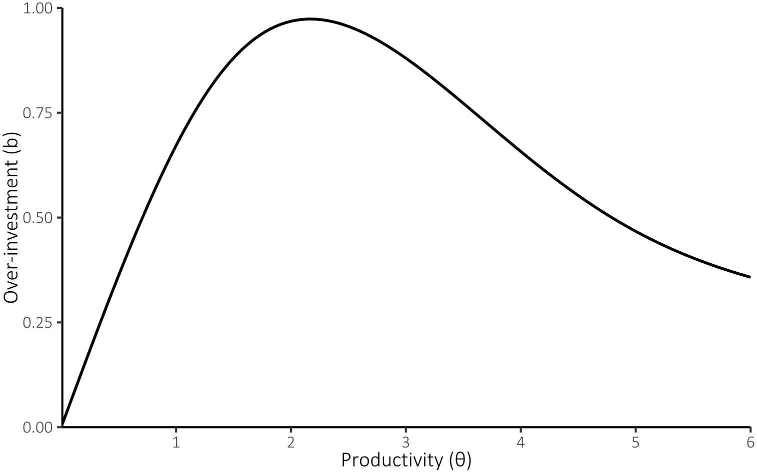
If the manager wants to invest into the new technology, she has to sell a part α of the firm to a risk-neutral capital market to raise the necessary capital I.

The manager also has the option to issue a report of the investment level k to the capital market.

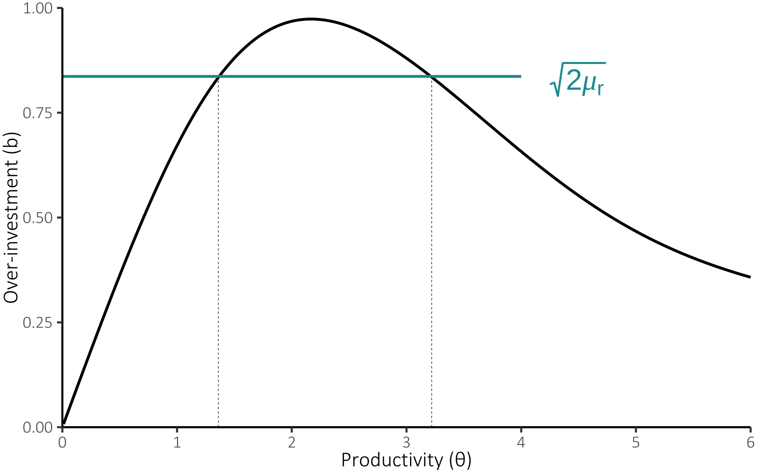
The manager has to decide simultaneously

- whether to raise capital and pursue the new investment opportunity,
- whether to issue a report, and
- whether and to what extent to over-invest in the existing production technology.

Step 1: Optimal over-investment when manager wants to raise capital



Step 2: When is this waste of ressources worth the effort?



Step 3: Maybe invest but don't disclose?