

Topic: ESG investments and financing under competition

The recent literature review by Christensen et al. (2021) investigates economic consequences of mandatory disclosure of corporate social responsibility (CSR) information. A common finding among researchers is that a firm's activities and their reporting in the area of CSR, and more broadly with regard to environmental, social, and governance (ESG) issues, will have consequences for debt and equity financing and thus affect the firm's cost of capital.

First, this master's thesis should provide a systematic literature review of recent research on the implications of ESG investments, as well as ESG reporting, on financing cost in the accounting and finance literature. Second, a simple theory model – potentially a *Cournot* competition model – should analyze strategic consequences of ESG investments under competition.

References

Christensen, H.B., Hail, L. & Leuz, C. (2021). Mandatory CSR and sustainability reporting: economic analysis and literature review. *Review of Accounting Studies*, 26(3), 1176-1248.

Bewerbungsprozess

Interessierte Studierende können sich bis **06.11.2022** per Email an christian.schmid@univie.ac.at bewerben. Dazu senden Sie mir bitte

- ein Sammelzeugnis und
- die Beantwortung der Fragestellung des **Problem set 1**. Die Antwort soll insgesamt maximal eine Seite lang sein.

Ein zusätzliches Motivationsschreiben ist nicht nötig.

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Problem set 1:

Consider a market with two firms that compete in quantities (*Cournot competition*), where q_1 denotes the quantity firm 1 produces and q_2 denotes the quantity of firm 2. Firm 1 faces marginal cost of production of c_1 , while firm 2 bears marginal cost of production of c_2 , which are not the same, i.e., $c_1 \neq c_2$. (We assume that fixed costs are zero.) Assume that the inverse demand (or price) can be expressed by

$$p(q_1, q_2) = a - b(q_1 + q_2),$$

where $a > 0$, $b > 0$. Both firms maximize their profit by simultaneously choosing their quantities. Thus, firm 1 chooses q_1 to maximize

$$\pi_1 = p(q_1, q_2) \cdot q_1 - c_1 \cdot q_1$$

and firm 2 maximizes

$$\pi_2 = p(q_1, q_2) \cdot q_2 - c_2 \cdot q_2.$$

- (a) Derive the optimal quantities and profits in equilibrium.
- (b) Which condition guarantees that both firms produce positive quantities?
- (c) What could be reasons that we find different marginal costs of production in practice? How could ESG measures influence firms' cost of production.