

Accounting Conservatism and Investment Efficiency

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13. Juni 2023
iwp Wissenschaftsforum



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and Taxation*
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Overview

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Accounting conservatism

- One of the most important characteristics of accounting systems.
- One of the most traditional valuation principles in accounting (Sterling, 1967).

“(...) the inclusion of a degree of caution in the exercise of the judgments needed in making the estimates required under conditions of uncertainty.”

Mora and Walker, 2015, p. 621.

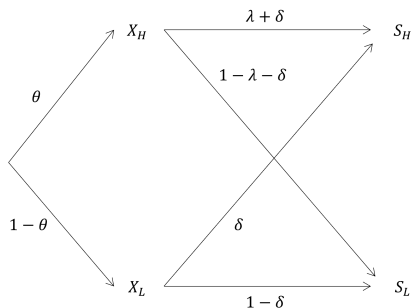
Background and motivation

Theoretical and empirical research on accounting conservatism

- Central object of research in accounting as it is one of the most intensively researched topics.
- Guay and Verrecchia (2018) report that in the years 2008-2018 alone, at least 47 empirical papers on conservatism were published in the three leading international accounting journals.
- Inconsistency between analytical and empirical accounting research.
 - Results of empirical studies overwhelmingly support the view that conservatism plays a useful role in contracting.
 - Analytical accounting literature shows mixed results with regard to the usefulness and value of conservatism.

Methodology

- Analytical models
- Modeling of conservatism
 - Binary information structure to model the accounting system.
 - Based on Venugopalan (2004).



**On the Optimality of Conservatism when Auditors
Review Covenant Compliance**

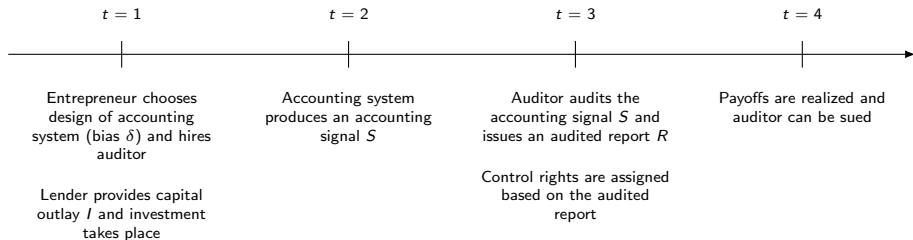
Weidinger

Overview

- Debt contracts often include covenants that are contingent on accounting numbers to restrict the firm's activities or to allocate control rights to the lender in case of covenant violation.
- Accounting-based covenants are widely used in private lending agreements (Baylis et al., 2017).
- As part of the annual audit under GAAP, auditor's are required to check borrowers' compliance with covenants in private lending agreements.
- Lenders often use clauses in private debt contracts that require auditors to report directly to them regarding the borrowers' covenant compliance (AS 3305 Special Report specifies the scope of this type of assurance).

Model & Timeline

- 3 risk-neutral players: an entrepreneur, a lender, and an auditor.
- Debt contract specifies who has control over the continuation/liquidation decision via a debt covenant.
 - R_H : Entrepreneur retains control.
 - R_L : Lender receives right to liquidate the project.



Equilibrium strategies

- The optimal audit effort a^* decreases in conservatism.
- Optimal debt contract includes accounting-based covenant if $K > K_{cov}$.
- The optimal face value of debt D^*
 - increases in conservatism if $K_{cov} < K < K_d$,
 - decreases in conservatism if $K > K_d$.

Optimal accounting system

- If $\theta > \theta_\delta$, there exists a threshold for the liquidation value K_δ such that the entrepreneur's expected payoff
 - decreases in conservatism if $K < K_\delta$,
 - increases in conservatism if $K > K_\delta$.

Optimal accounting system

- If $\theta < \theta_\delta$, and when $k < k_\delta$, there exists a threshold for the liquidation value K_δ such that the entrepreneur's expected payoff
 - decreases in conservatism if $K < K_\delta$,
 - increases in conservatism if $K > K_\delta$,
- and when $k > k_\delta$, the entrepreneur's expected payoff increases in conservatism for all $K > K_{cov}$.

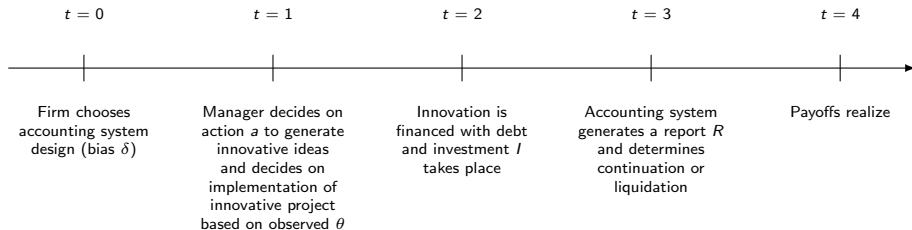
Debt Financing of Innovation and the Role of Conservatism

Ewert, Vrenzi & Weidinger

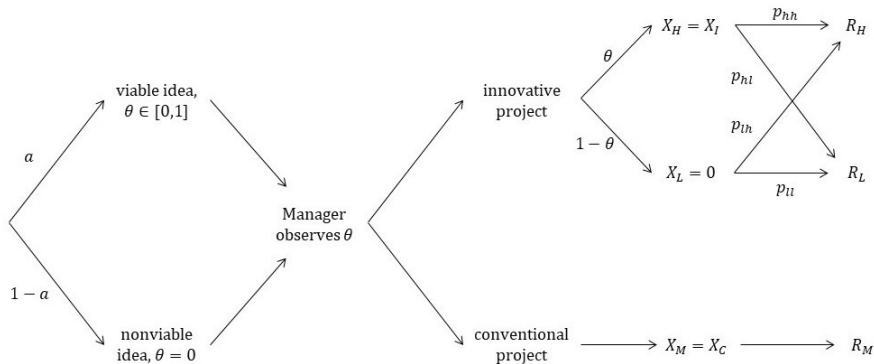
- Role of conservatism in debt financing innovation.
- Early research on capital structure and innovation strongly claimed against the role of debt in financing innovation.
- Recent work on financing innovation has been more nuanced in determining this conclusion.
- Debt is an important source of startup capital (Robinson, 2014).

Model & Timeline

- 2 risk-neutral players: a manager and a lender.
- Manager needs to raise capital from a lender to finance innovation.
- Debt contract specifies who has control over the continuation/liquidation decision via a debt covenant.
 - R_H : Manager retains control.
 - R_L : Lender receives right to liquidate the project.

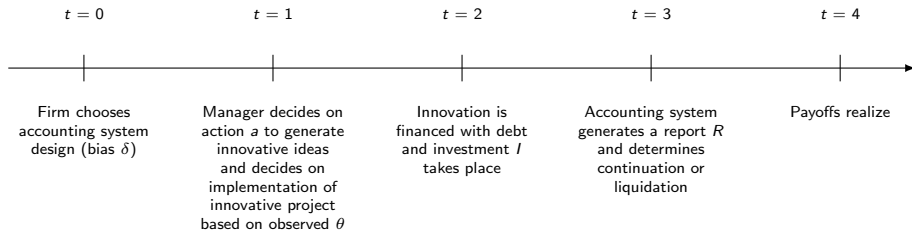


Model & Timeline



Model & Timeline

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Benchmark setting

- Investment threshold is observable to all players.
- If optimal debt contract includes a covenant (if $B < L$), then
 - the face value of debt increases in conservatism if $L < \frac{1}{2} I$,
 - the manager's utility decreases in conservatism.
- Hence, the most liberal accounting system is optimal.

Investment threshold is private information

- Investment threshold $\hat{\theta}$ is increasing in conservatism.
- Here, we assumed a given degree of accounting bias δ , being the same for all investment states $\theta \geq \hat{\theta}$.
 - 1 Ex-post, the manager approaches the lender, offers the terms of the contract, and the state-contingent optimal degree of δ is the same for all θ . This is similar to the benchmark-setting, however, θ is now private information of the manager.
 - 2 The choice of δ is made ex-ante via a commitment by the manager.
- In both cases, the most liberal accounting system is optimal.

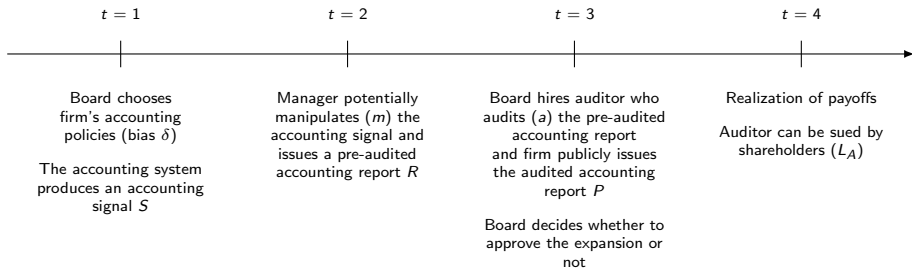
**The Effects of Accounting Conservatism and Corporate
Governance on Audit Quality**

Kern & Weidinger

- Accounting system design and auditing are inevitably linked with each other.
- Conservative accounting can
 - reduce the auditor's litigation risk (Watts, 2003).
 - increase incentives for managerial manipulation (Bertomeu et al., 2017).
- Corporate governance (CG) can mitigate manipulation.
- Conservatism can be desirable because it allows the board to better monitor investment decisions (Caskey and Laux, 2017).

Model & Timeline

- 3 risk-neutral players: a board, a manager, and an auditor.
- Investment opportunity (expansion) that requires investment I .
- Manager needs approval by the board.



Equilibrium strategies

- Manipulation m^* increases in conservatism.
- Audit effort a^*
 - decreases in conservatism if relative CG is strong ($0 < \pi < \pi_1$),
 - increases in conservatism if relative CG is weak ($\pi_2 < \pi \leq 1$),
 - is concave if relative CG is moderate ($\pi_1 \leq \pi \leq \pi_2$) with a maximum at δ_T .

Effects on board's preference function

- Direct effect of conservatism
 - Trade-off between the marginal benefit of avoiding unprofitable expansions and the marginal cost of forgoing profitable expansions.
- Indirect effects of conservatism
 - Via auditing: Effect is driven by the change in audit effort induced by conservatism (see equilibrium audit effort).
 - Via manipulation: Trade-off between "good" and "bad" manipulation.

Optimal accounting system

- Given that the firm's relative CG is strong ($\pi = 0$), the board prefers
 - conservative accounting if $NPV < NPV_1$,
 - liberal accounting if $NPV > NPV_2$,
 - an intermediate accounting bias if $NPV \in (NPV_1, NPV_2)$.

Conclusion

- The optimal accounting system design is determined by the underlying economic model and decision problem.
- Papers contribute to the large existing body of literature studying conservatism.
- Insights on how covenant compliance (first paper), debt financing innovation (second paper), and the interplay between managerial manipulation, auditing & corporate governance (third paper) affect the optimal accounting system.

Thank you!