Discussion of: "Profit Sharing: A Contracting Solution to Harness the Wisdom of the Crowd"

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Disclaimer

The views expressed in this discussion are those of the author and do not necessarily reflect those of the Bank of Canada.

A Brief Summary

- Paper models equity-crowdfunding
  - Relatively new form of crowdfunding enabled under the JOBS Act.
- Equity crowdfunding is similar in many respects to conventional equity financing.
- **Key difference:** Many small investors pledge funds, earlier in the process than a conventional IPO.

The Basic Idea: "The Wisdom of the Crowd"

- Multiple investors with multiple signals pool funds for a single investment
- Investors have different information precision. Those with better information precision can provide the more "guidance" on a project.
- Different from VC or Angel investors, where a single high-information investor judges a project.
- **Outside the model:** Entrepreneurs benefit from the presence of more informed investors.

The Problem: Limited Information and Coordination

- Some agents are better informed and receive more accurate private signals ($\tau_i > \tau_j$).
- Agents cannot view each others' private signals, leading to coordination problems.
- Agents may not have the incentive to truthfully reveal their signal or the precision of their signal.
- **The result**: Agents underweight their private signal, compared to the asset's prior. Total investment differs from full-information case

The Solution: Profit-Sharing

- Consider investors who split the profits 50/50, regardless of amount invested.
- These investors engage in a different maximization problem, considering the other party's optimal strategy as well.
- **Equilibrium Result:** These agents put more weight on their private signal than those in the common-equity case

Key Results

- With equally risk-tolerant investors, an evenly split profit-sharing agreement is equal to a full-information benchmark.
- The profit sharing contract aligns the investor's incentives, despite different private signals.
- Further:
  - With different risk-tolerances, a profit-sharing agreement contingent on risk-tolerance maximizes investor utility.
  - With decreasing returns to scale, profit-sharing plus cash transfers can achieve social planner's solution.

General Thoughts

- Well written paper. Exposition is easy to follow.
- Though paper is framed in a "crowdfunding" sense, seems to solve a much more general problem.
- Solution is interesting and surprising:
  - Initially, 50/50 profit sharing would seem to create a free-rider problem
  - However, author shows that solution is identical to the full information case.

Two Minor Questions

1. Some level of scalability seems essential to the results.
   - Author does prove results for decreasing returns to scale.
   - Unclear if results would hold for investments of fixed size.
   - Many crowdfunding campaigns seek a fixed scale of investment.
2. Paper exposits investors as deep-pocketed with CARA utility.
   - Very standard finance assumption.
   - However, crowdfunding contributions are often very small relative to traditional investments (Ex: Title II restrictions).
   - Unclear if solution (and lack of free-rider problem) would hold under different utility/wealth assumptions.

Conclusion

- Very interesting paper, which shows that profit-sharing agreements can move investors to socially optimal investment decisions.
- Profit sharing does not introduce a free-rider problem under CARA utility assumptions.
- Solution applicable to general investment problems involving different information sets among dispersed investors.