

Discussion of:

**Efficiently Inefficient Markets
for Assets and Asset Management**

by

Nicolae Garleanu and Lasse Pedersen

Discussant: Dimitri Vayanos

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- Solve for equilibrium at two levels simultaneously.
- Equilibrium in asset market with asymmetric information.
 - Price informativeness, information acquisition.
 - Price determined by asset managers.
 - Grossman-Stiglitz (1981).
- Equilibrium in market for asset management with search costs.
 - Fees, choice of active vs. passive.
 - Fees determined by investors and asset managers.
- Two-level equilibrium allows to address new questions.
 - E.g., how does price informativeness relate to search costs?

Model

- One risky asset (extend to multiple assets).
- One trading period.
- Investors:
 - Can invest passively (as uninformed traders).
 - Can pay a search cost c to identify an informed asset manager.
 - Can pay an information acquisition cost k to become informed.
 - Does not happen in equilibrium. Information acquisition is done more efficiently by managers, who can share k between multiple investors.
- Managers:
 - Can pay an information acquisition cost k to become informed.
 - Choose investment in risky asset to maximize investor utility.
 - Negotiate fee with each investor in bilateral meeting.
- Noise allocators.
 - Invest with a random manager (informed or uninformed).
 - Even uninformed managers have investors.
- Noise traders.
 - Price is not fully informative. Information acquisition is beneficial.

Solution

- Step 1: Solve for price given information acquisition decisions.

$$\underbrace{u_i}_{\text{invest informed}} - \underbrace{u_f}_{\text{invest uninformed}} = \underbrace{\frac{1}{\gamma}}_{\text{inverse of CARA}} \times \underbrace{\eta}_{\text{price inefficiency}}$$

where

$$\eta = \frac{1}{2} \log \left(\frac{\text{var}(v|p)}{\text{var}(v|s)} \right)$$

- Grossman-Stiglitz (1981).
- Step 2: Solve for asset management fee f .

$$f = \frac{u_i - u_f}{2} = \frac{\eta}{2\gamma}$$

- Equal split of surplus between investor and informed manager.

Solution (cont'd)

- Step 3: Solve for search decision by investors.

$$\underbrace{u_i - c - f}_{\text{search for informed manager}} = \underbrace{u_f}_{\text{invest uninformed}} \Rightarrow c = \frac{\eta}{2\gamma}.$$

- Step 4: Solve for information acquisition decision by managers.

$$\underbrace{f}_{\text{fee}} \times \underbrace{\frac{A}{M}}_{\text{investors per informed manager}} = \underbrace{k}_{\text{information acquisition cost}} \Rightarrow k = \frac{A}{M} \frac{\eta}{2\gamma}$$

- These steps yield
 - Mass of informed managers M .
 - Mass of investors investing actively (with informed managers) A .
 - Fee f .
 - Price inefficiency η .

as functions of search cost c and information acquisition cost k .

- Interpretation of search cost.
 - Search cost vs. information acquisition cost.
 - Difference with Grossman-Stiglitz.
- Determination of fees.
- Welfare analysis.

Interpretation of Search Cost

- Interpretation 1: Examine a manager's past record of performance.
 - Low search cost.
 - But cannot assess with certainty whether or not manager is informed.
 - Limits of arbitrage literature.
 - Relationship $c = \frac{\eta}{2\gamma}$ does not hold.
- Interpretation 2: Determine whether the manager is informed.
 - Search cost must be same (or comparable) to information acquisition cost.
 - To assess whether or not someone knows how to invest, you must also know how to invest.
 - With $c = k$ we are back to Grossman-Stiglitz.
 - Equations $c = \frac{\eta}{2\gamma}$ and $k = \frac{A}{M} \frac{\eta}{2\gamma}$ imply $\frac{A}{M} = 1$. One investor per manager.
 - Investors can even bypass managers and invest actively on their own.
- An intermediate interpretation may be more realistic (and what the authors have in mind).
 - Pay a cost $c < k$ to obtain an imprecise signal about whether manager is informed.
 - But then analysis (including quantification) needs to be revisited. How does c relate to price inefficiency?

Differences from Grossman-Stiglitz

- Suppose that c is an increasing function of k (general version of $c = k$), and revisit main results of the paper.
 - Investors must become informed to invest with managers.
- Main results (p.1):
 - 1 *If investors can find managers more easily, more money is allocated to active management, fees are lower, and security prices are more efficient.*
 - Parallels GS result that prices are more efficient if information acquisition costs are smaller.
 - 2 *As search costs diminish, asset prices become efficient in the limit, even if information-collection costs remain large.*
 - Cannot do this exercise if search costs are related to information acquisition costs.
 - 3 *Managers of complex assets earn larger fees and are fewer, and such assets are less efficiently priced.*
 - Parallels GS result that prices are less efficient and there are fewer informed traders if information acquisition costs are larger.
 - 4 *Informed managers outperform after fees, uninformed managers underperform after fees, and the net performance of the average manager depends on the number of “noise allocators,” who allocate to randomly chosen managers.*
 - Parallels GS result that informed traders outperform. We also learn about underperformance of uninformed managers.

Differences from Grossman-Stiglitz (cont'd)

- Main results (p.1):
 - ⑤ *Searching for informed active managers is attractive for large or sophisticated investors with small search cost, while small or unsophisticated investors should be passive.*
 - Parallels GS implication that investors with lower information acquisition cost acquire information.
 - ⑥ *Managers with larger and more sophisticated investors are expected to outperform.*
 - Parallels GS result that informed traders outperform.
 - ⑦ *Finally, we discuss the economic magnitude of our predictions and welfare considerations.*
- Additional insights relative to Grossman-Stiglitz:
 - Determination of fees (\Rightarrow Underperformance of uninformed managers).
 - Role of search cost, if different in nature from information acquisition cost.
 - Useful to identify variation of search costs that is different from that in information acquisition costs.

Determination of Fees

- Negotiated between investors and managers in bilateral meetings.
- Realism:
 - May fit institutional asset management.
 - Does not fit mutual funds. “Posted prices”
- Modelling:
 - Outside option is to invest passively rather than to go to next manager. (One-period model)
 - Authors state that these are equivalent. ??
 - Fees in mutual funds could perhaps be derived from search frictions.
 - Diamond (1971), Burdett-Judd (1983).

- Welfare of noise traders is expected trading profits.
- Problematic (although done in other papers as well).
 - Are noise traders risk neutral?
 - Why do they trade?
- For welfare analysis to be more convincing, better to endogenize objective of noise traders (and noise allocators).

Summary

- Simple and clear setting to study two-level equilibrium for assets and asset management.
- Search cost plays key role, but its interpretation is unclear.
 - Ascertain with certainty whether manager is informed?
 - Close to Grossman-Stiglitz.
 - Observe past performance or other noisy signal?
 - How would analysis (including quantification) carry through?
- Useful to identify variation of search costs that is different from that in information acquisition costs.
- Lesser quibbles about determination of fees and welfare analysis.