Discussion of Fuchs and Garicano (2009): Markets for Advice

Marina Halac

Columbia University
Objective of the paper

- Study whether the available knowledge in an economy can be efficiently used through markets for advice
- Understand inefficiencies caused by asymmetric information about
  - The difficulty of the problem
  - The skill of the advisor
  - Whether a solution is provided
- Characterize optimal contracts and provide empirical implications
Agents indexed by their level of knowledge $z \sim U[0, 1]$

- Problem originator ($O$):
  - Draw problem of difficulty $q \sim U[0, 1]$
- Problem solver ($S$):
  - Advise up to $1/h$ agents, $h < 1$
- If $z \geq q$, solve, get 1
- If $z < q$
  - Seek advice ($A$)
  - Remain independent ($I$)
Full information benchmark

- First best allocation: matching function $m(z)$ and cutoff types $z_1, z_2$

  - $m(0) = z_1$, $m(z_1) = 1$, $m'(z) > 0 \rightarrow$ positive sorting
  - Number of independents increasing in $h$ ($I = \emptyset$ if $h \leq 0.75$)

```markdown
<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>I</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>$z_1$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$z_2$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

In a consulting market, where originators pay fixed price and claim residual income from solution.

In a referral market, where advisors pay fixed price and claim residual income from solution.
Full information benchmark

- First best allocation: matching function $m(z)$ and cutoff types $z_1, z_2$

  \[ m(0) = z, \quad m(z_1) = 1, \quad m'(z) > 0 \rightarrow \text{positive sorting} \]

- Number of independents increasing in $h$ ($I = \emptyset$ if $h \leq 0.75$)

- First best achieved in a competitive equilibrium:
  - In a **consulting market**, where originators pay fixed price and claim residual income from solution
  - In a **referral market**, where advisors pay fixed price and claim residual income from solution
One-sided asymmetric information

- If only the skill of advisors can be observed, a consulting market still attains the first best.
- If only the skill of originators can be observed, a referral market still attains the first best.

**Intuition:** Markets set so that prices are based on the observable type \( \Rightarrow \) privately informed side self-selects the efficient match.
Two-sided asymmetric information

- Advisors want to play smart. Originators want to play dumb.
- If output-contingent contracts cannot be written and ownership cannot be transferred $\Rightarrow$ market breakdown

**Intuition:** If some type wants to become an advisor, then all types below want the same
Two-sided asymmetric information

- If output-contingent contracts are feasible: originators pay advisors fixed fee \( w \) plus share of output \( \alpha \) if problem is solved
- Fully separating equilibrium: positive sorting and cutoff \( z_1 = z_2 = z^* \)

![Diagram showing two-sided asymmetric information with cutoff at \( z^* \).]
Two-sided asymmetric information

- If output-contingent contracts are feasible: originators pay advisors fixed fee $w$ plus share of output $\alpha$ if problem is solved

- Fully separating equilibrium: positive sorting and cutoff $z_1 = z_2 = z^*$

- Equilibrium construction:
  (i) Market clearing; (ii) Occupational choice; (iii) Advice seeking; (iv) Truthtelling:

  Originator: $w'_z + \alpha'_z \frac{m(\tilde{z}) - z}{1 - z} = (1 - \alpha^*_{\tilde{z}}) \frac{m'(\tilde{z})}{1 - z}$

  Advisor: $w'_{m^{-1}(\tilde{z})} + \alpha'_{m^{-1}(\tilde{z})} \frac{z - m^{-1}(\tilde{z})}{1 - m^{-1}(\tilde{z})} = \alpha_{m^{-1}(\tilde{z})} \frac{(1 - z)}{(1 - m^{-1}(\tilde{z}))^2}$
Two-sided asymmetric information

For $h < 0.85$, there exists a separating equilibrium where:

- Share schedule $\alpha_z$ is increasing with $\alpha_{z^*} = 1$
- Fixed payment $w_z$ is concave, single peaked, with $w_{z^*} \leq 0$

Compared to first best:
- Weakly too much advice
- Originators get weakly worse advice, advisors weakly harder problems
- Inequality falls
Two-sided asymmetric information

For $h < 0.85$, there exists a separating equilibrium where:

- Share schedule $\alpha_z$ is increasing with $\alpha_z^* = 1$
- Fixed payment $w_z$ is concave, single peaked, with $w_z^* \leq 0$

Compared to first best:

- Weakly too much advice
- Originators get weakly worse advice, advisors weakly harder problems
- Inequality falls
My comments

- Really interesting paper, excellent job in developing simple and elegant model to address very hard questions

- How do we interpret the model and results?
- Is it enough with this equilibrium characterization?
My comments

- Really interesting paper, excellent job in developing simple and elegant model to address very hard questions

- But...
  - How do we interpret the model and results?
  - Is it enough with this equilibrium characterization?
My comments: How do we interpret the model and results?

- Previous papers (Garicano 2000, Garicano & Rossi-Hansberg 2006): Hierarchies in organizations; agents may decide how much knowledge to acquire depending on cognitive skill
  - Lots of examples, very clear empirical implications

- This paper: “Hierarchies” set up in the market; agents decide on which side of the market to be depending on skill
  - Skill must then be “market-specific.” Empirical implications become less clear
My comments: How do we interpret the model and results?

**Example:** Market for advice on litigation

- Are originators clients? But then,
  - Decision to become $O$ or $S$? Relationship between $z$ and $q$?
  - Who understands difficulty of problem better, clients or experts?
  - What can we say about inequality?

- Or are originators low-skilled lawyers? But then,
  - High-skilled lawyers are also “originators.” Decision to become $O$ or $S$?

**Example:** Online expert markets

- Who’s who in InnoCentive.com?

  “**Around 900 challenges have been posted so far by some 150 firms including big multinationals such as Procter & Gamble and Dow Chemicals.**”

  - Are these the low-skilled agents who decided to become originators? Again, can we talk about inequality?

*The Economist, 9/19/2009*
My comments: Is it enough with this equilibrium?

- Paper characterizes fully separating equilibria: each type of originator offers a different contract and matching function is strictly monotonic.

- How about equilibria with partial pooling?
  - Can this help to keep those in the middle of the distribution out of the market (i.e., to have them remain independent)?
  - Can some pooling, in turn, make the use of knowledge more efficient?
  - Can we Pareto-rank these equilibria (ex ante)?
Thank you!