Quack Markets: Limited Rationality and Market Dynamics

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Research Background and Importance

- A hypothetical market with quacks and patients competing on prices.
- Quacks provide treatments with no actual help for recovery.
- Recovery probability α is fixed, regardless of treatment.
- Market should not exist if patients are rational.
- Patients' decisions are influenced by limited rationality and anecdotal reasoning.
- Limited rationality significantly impacts the market, leading to active markets, welfare losses for patients, and a non-monotonic relationship between market participants n and recovery probability α.

Research Questions and Hypotheses

- Can market competition mitigate the negative impact of quacks on patient welfare?
- A theoretical model is constructed assuming quacks are profit maximizers and patients follow limited rationality decision rules.
- Patients rely on random, anecdotal stories about treatment quality as complete information.

Model Derivation and Formula Interpretation

- Patients make choices based on the S(1) procedure.
- For each alternative i, patients sample once and get result x_i, where $x_i = 1$ for success and $x_i = 0$ for failure.
- Patients choose alternative i that maximizes $x_i - p_i$ in their sample.
- Quacks consider patient choice procedures when determining pricing strategies.
- The Nash equilibrium is unique, symmetric, and mixed-strategy.
- Quacks act as "cheaters," charging positive prices for worthless treatments.
- There is a negative correlation between α and expected prices.

Main Results

1. Quack markets are active, with positive prices for worthless treatments.
2. Patient welfare losses are non-monotonic in relation to n and α.
3. In an extended model, quacks minimize price competition pressure by providing treatments with the greatest differentiation.
4. Patient welfare losses are robust to market interventions that would eliminate low-quality firms in standard models but may be ineffective here.

Practical Significance

- Understanding market interactions in "soft skill" industries like psychotherapy, management consulting, forecasting, and alternative medicine.
- Consumers often rely on anecdotes when facing unexpected issues and entering the market without a long learning phase.
- Examples of anecdotal reasoning: "A friend took this medicine and feels much better now," or "We should trust this political analyst because he foresaw the collapse of the Soviet Union."

Conclusion

- Theoretical models show non-intuitive phenomena in market interactions between limited rationality consumers and rational firms.
- Markets can be active even with completely worthless services, and traditional competition policies may not improve consumer welfare.
- Findings are significant for understanding and designing more effective market interventions.