

# Quack Markets: A Theoretical Analysis

## Understanding the Interaction between Quacks and Patients

Research Team

April 29, 2024

# Overview

- The study of a hypothetical market with quacks and patients.
- Quacks provide treatments with no actual help for recovery.
- Patients' decisions are influenced by bounded rationality and anecdotal reasoning.
- The impact of market competition on patient welfare.

# Research Background

- The market is active with quacks charging positive prices for worthless treatments.
- Patient welfare suffers due to the presence of quacks.
- The relationship between patient welfare loss and market participants is non-monotonic.

# Research Questions

- Can market competition mitigate the negative impact of quacks on patient welfare?
- How do patients' decision-making processes affect market outcomes?

# Hypotheses

- Patients follow a limited rationality decision rule based on anecdotal evidence.
- Quacks are profit maximizers.
- The Nash equilibrium of the market is unique, symmetric, and mixed-strategy.

# Model Derivation

- Patients choose based on the  $S(1)$  procedure.
- Quacks consider patient choice when determining pricing strategies.
- The Nash equilibrium is derived for the market.

# Formula Interpretation

- The relationship between recovery probability  $\alpha$  and expected price is negatively correlated.
- As  $\alpha$  decreases, the likelihood of success in patient samples decreases, leading to higher prices.

# Key Findings

- 1 Quack markets are active with positive prices for worthless treatments.
- 2 Patient welfare loss is non-monotonic with respect to  $n$  and  $\alpha$ .
- 3 In extended models, quacks minimize price competition by offering treatments with maximum differentiation.
- 4 Patient welfare loss is robust to market interventions that may not be effective in this context.



# Implications

- The study provides insights into market interactions in "soft skill" industries.
- Consumers often rely on anecdotes in the face of unexpected issues.
- The findings are relevant for understanding and designing effective market interventions.

# Conclusion

- The market can be active even with completely worthless services.
- Traditional competition policies may not improve consumer welfare.
- The study highlights the importance of understanding consumer behavior and market dynamics.

# References