

---

Discussion of

HIDDEN OVERCONFIDENCE AND  
ADVANTAGEOUS SELECTION

by R. Huang, Y. Liu and L. Tzeng

Florian Scheuer, MIT

ARIA Meeting, Quebec City

08/07/2007

---

## What question does the paper address?

---

**Motivation:** explain zero or negative correlation between risk and coverage in insurance markets

## What question does the paper address?

---

**Motivation:** explain zero or negative correlation between risk and coverage in insurance markets

→ DeMeza/Webb (2001): advantageous selection based on heterogeneous **risk preferences**

- risk-neutral types take no precautions, buy no insurance
- risk-averse types put effort into reducing risk, buy insurance

## What question does the paper address?

---

**Motivation:** explain zero or negative correlation between risk and coverage in insurance markets

→ DeMeza/Webb (2001): advantageous selection based on heterogeneous **risk preferences**

- risk-neutral types take no precautions, buy no insurance
- risk-averse types put effort into reducing risk, buy insurance

→ This paper: similar outcome based on heterogeneous **overconfidence**

- overconfident types subjectively underestimate their damage probability, exert no precautionary effort, buy little insurance
- rational types reduce risk, buy more insurance

- Presence of overconfident types provides alternative explanation for a **negative correlation** between risk and coverage.

- Presence of overconfident types provides alternative explanation for a **negative correlation** between risk and coverage.
- In contrast to DeMeza/Webb, equilibria emerge where neither type reduces risk, but different amounts of insurance are purchased.  
→ **zero correlation** between risk and coverage

- Presence of overconfident types provides alternative explanation for a **negative correlation** between risk and coverage.
- In contrast to DeMeza/Webb, equilibria emerge where neither type reduces risk, but different amounts of insurance are purchased.  
→ **zero correlation** between risk and coverage
- If the overconfident type's degree of optimism is small, the standard adverse selection outcome of Rothschild/Stiglitz results.  
→ **positive correlation** between risk and coverage

## Results

---

- Presence of overconfident types provides alternative explanation for a **negative correlation** between risk and coverage.
- In contrast to DeMeza/Webb, equilibria emerge where neither type reduces risk, but different amounts of insurance are purchased.  
→ **zero correlation** between risk and coverage
- If the overconfident type's degree of optimism is small, the standard adverse selection outcome of Rothschild/Stiglitz results.  
→ **positive correlation** between risk and coverage

The paper identifies the **degree of overconfidence** as a driving force behind different market outcomes.

## Further Questions I

---

Welfare properties of the equilibria:

## Further Questions I

---

**Welfare properties** of the equilibria:

- Consider the advantageous selection separating equilibrium.
- Compared to the first-best, the rational type buys **excessive** insurance.

**Welfare properties** of the equilibria:

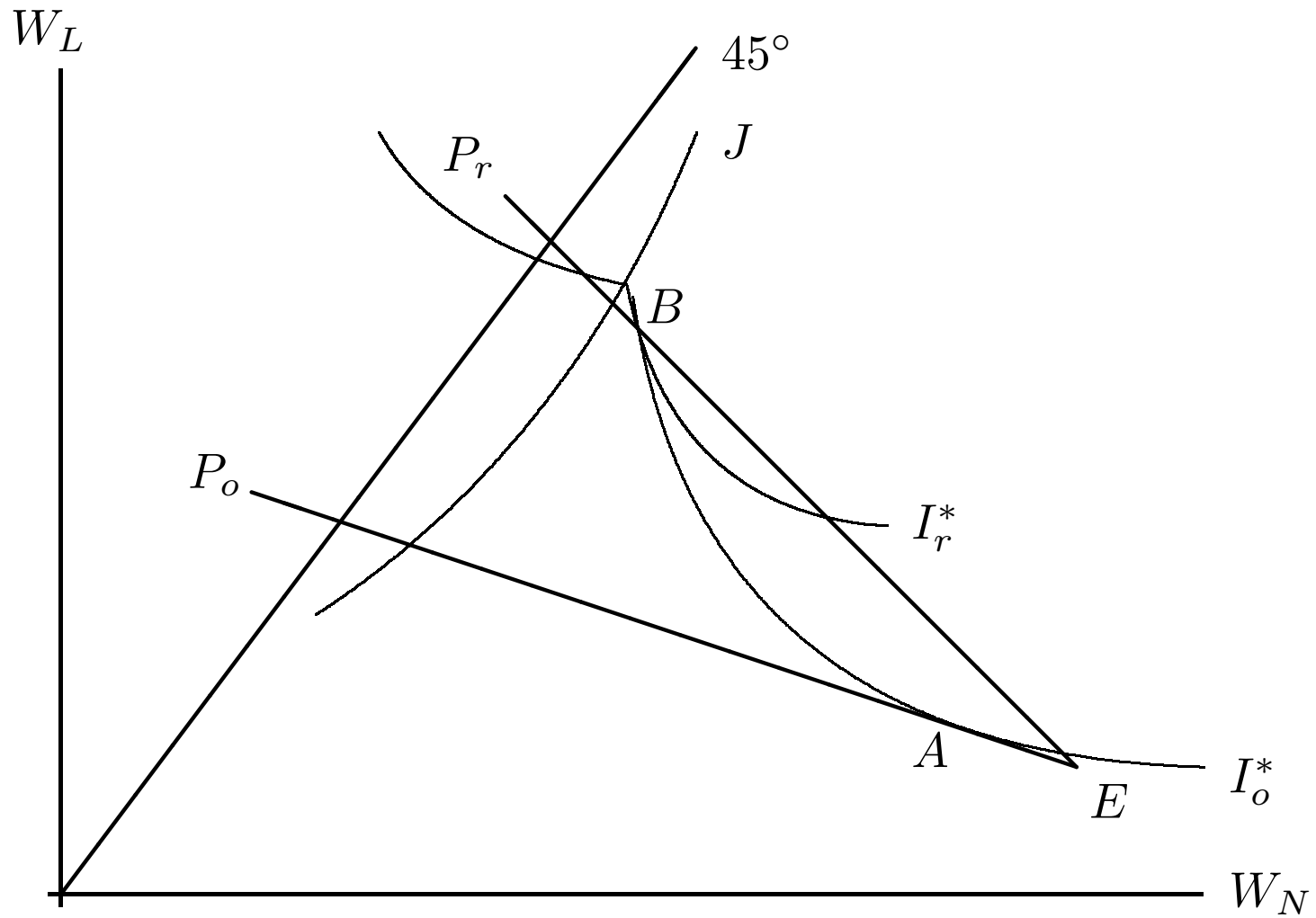
- Consider the advantageous selection separating equilibrium.
- Compared to the first-best, the rational type buys **excessive** insurance.
- Introduction of partial social insurance leads to a Pareto improvement.
- This is achieved by **lowering** the rational type's insurance coverage.
- Social insurance crowds out private insurance at a rate of **more than 100 percent**.

**Welfare properties** of the equilibria:

- Consider the advantageous selection separating equilibrium.
- Compared to the first-best, the rational type buys **excessive** insurance.
- Introduction of partial social insurance leads to a Pareto improvement.
- This is achieved by **lowering** the rational type's insurance coverage.
- Social insurance crowds out private insurance at a rate of **more than 100 percent**.
- The welfare implications do not depend on whether the 'subjective' or 'objective' preferences of the overconfident type are considered.

# Advantageous Selection Separating Equilibrium

---





## Further Questions II

---

- Empirical prediction: the higher the degree of optimism of the overconfident type, the lower the correlation between risk and coverage.

→ Test this across different insurance markets?

## Further Questions II

---

- Empirical prediction: the higher the degree of optimism of the overconfident type, the lower the correlation between risk and coverage.  
→ Test this across different insurance markets?
- In the paper, there is a perfect correlation between risk and overconfidence.  
→ How would the results change under two-dimensional heterogeneity in risk/overconfidence?

## Further Questions II

---

- Empirical prediction: the higher the degree of optimism of the overconfident type, the lower the correlation between risk and coverage.
  - Test this across different insurance markets?
- In the paper, there is a perfect correlation between risk and overconfidence.
  - How would the results change under two-dimensional heterogeneity in risk/overconfidence?
- Given overconfidence, insurers may be better informed about individual risks than customers.
  - Villeneuve (2005): Signalling game where advantageous selection outcome is also possible