Bandwagon effect: an experimental study

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Introduction

- As defined by H. Leibenstein (1950) the bandwagon effect is "the extent to which the demand for a commodity is increased due to the fact that others are also consuming the same product" (p. 189).
- This could be observed in phenomena like buying under time constraints or on political vote decisions.
- Usually, markets, products, and topics might influence results of experiments in marketing and policy. This experiment tries to avoid this.
- The goal is to demonstrate the way bandwagon effect manifests itself inside rational decision making.
Bandwagon from two perspectives

- **H. Leibenstein (1950)**
  - Non functional demand;
  - "the extent to which the demand for a commodity is increased due to the fact that others are also consuming the same product" (p. 189);
  - Diagrammatical method.

- **G. S. Becker (1991)**
  - People consume product together and partly public;
  - Bandwagon and prices;
  - Supply-demand diagram;
  - Critics (Gisser M., McClure J., Ökten G., Santoni G. (2009)).

Bandwagon effect: connected notions

- **Unique theory**
  - van Herper E., Pietars R., Zeelenberg M (2009)

- **Underdog theory**
  - Gartner M. (1975)

- **Information cascades**
  - Spiwoks M., Bizer K., Hein O. (2007);

- **Herd behavior**
  - Banerjee V. B. (1992);
Resume

<table>
<thead>
<tr>
<th></th>
<th>Binary choice</th>
<th>Methods</th>
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</thead>
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<tr>
<td>Economics</td>
<td>Social learning models, expectations, information</td>
<td>Laboratory experiment</td>
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<td>Marketing</td>
<td>+ Endogenous social effects</td>
<td>Desk research, computer modeling</td>
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<tr>
<td>Political science</td>
<td>+ Endogenous social effects</td>
<td>Questionnaires</td>
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The model

- With our model we will test bandwagon effect
- We set 3 groups of 4 players. Each player has to choose individually and simultaneously with the other members of her group to buy or not a product
- Group 1 starts to play, then group 2 receives information about group 1’s decisions then plays, then group 3 receives information about group 1 and 2’s decisions then plays.
Payoff functions

- $\pi_1 = 20 - a$
- $\pi_2 = 15 - a$
- $\pi_3 = 10 - a$
- With a C (20, 10, 5) and be chosen randomly with equal probability of 1/3.
- Payoff functions are private information

Our experiment

- Conducted on HSE Moscow, thanks to Alexis Belianin
- Paper and pen experiment
- 15 students with higher education in economics
- 4 treatments:
  - Treatment 1: Gr 1 -> Gr 2 (info Gr 1) -> Gr 3 (info Gr 1 + Gr 2)
  - Treatment 2: Gr 3 -> Gr 2 (info Gr 3) -> Gr 1 (info Gr 3 + Gr 2)
  - Treatment 3: Gr 1 -> Gr 2 (info Gr 1) -> Gr 3 (info Gr 2)
  - Treatment 4: Gr 3 -> Gr 2 (info Gr 3) -> Gr 1 (info Gr 2)
Our experiment (2)

- Value of a randomly selected at the end of the experiment
- For one of the players (randomly selected), payoff was $100 \cdot \text{points gained during one of the treatment (randomly selected)} \cdot \text{coefficient (made differently for each group in order maximum payoff would be$100$)}$
- We expect to observe bandwagon effect, i.e. a player who decides to not buy in treatment 2 (or 4) while she has decided to buy in treatment 1 (or 3)

Our results

- Though we do not have enough data to say that our results are significant, we found do observe some non-rational behaviour (from an economic point of view!) that could be explained by bandwagon effect
- Results confirmed by questionnaire. Players did admit that they followed others!!
Results (2)

Players’ decisions by experiment x

<table>
<thead>
<tr>
<th>Group</th>
<th>Experiment 1</th>
<th>Experiment 2</th>
<th>Experiment 3</th>
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In red: « non-rational » behavior

Conclusion

- Even under situations where people have to maximize their payoff rationally, they can take non rational decisions (from an economic point of view) probably due to bandwagon effect.
- Bandwagon effect appears to be part of a decision rule for agents.
- However it would be interesting to conduct more sessions to be able to do a more relevant statistical analysis.
References