CURSING OR BANDWAGONING?
SOCIAL INFORMATION AND THE UNINFORMED VOTING BEHAVIOR

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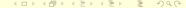MOTIVATION

THEORY

RESEARCH DESIGN

HYPOTHESIS

DISCUSSION

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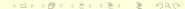
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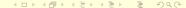- ▶ Less is known about the voting behavior in the **absence** of information.
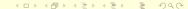
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- ▶ Strong empirical and theoretical connection between information and voting participation and sophisticated voting behavior.

- ▶ Less is known about the voting behavior in the **absence** of information.

- ▶ The current project aims to theorize and test the logic of **uninformed voting behavior**.

MOTIVATION

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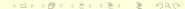 Expected payoff (B) from voting is **0** (Matsusaka 1995).

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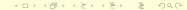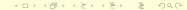
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- ▶ Uninformed voting behavior is determined solely by C and D, which is constant within individuals.

Issues:

1. Unable to explain **participatory patterns across elections**.
2. Unable to explain **vote choice**.

MOTIVATION

Voters who are uninformed about their own preferences may reference **social information** to make systematic decisions.

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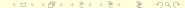
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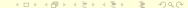
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- ▶ Two candidates (0, 1) and three types of voters (0 partisan, 1
  partisan, independent). Voters are either informed or
  uninformed.

- ▶ Conditioned by information and preference distributions,
  uninformed independent voters may have **strategic incentive**
  to abstain and to vote against partisan majority.

IMPLICATIONS (SVC)

Uninformed independent voters act to "maximize the probability that the informed independent agents determine the winner" (414).

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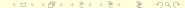1. If *partisan bias* $= 0$, uninformed independents **abstain**.

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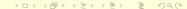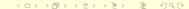
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2. If *uninformed independents $<$ partisan bias > 0*, uninformed independents turn out to **vote to offset partisan bias**.

3. If *uninformed independents $>$ partisan bias > 0*, uninformed independents **mix voting and abstaining**. (uninformed independents are more likely to vote when **partisan bias increases** or **uninformed independents decreases**.)

THEORY & IMPLICATIONS (BW)

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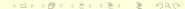
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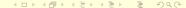
- ▶ Voters may form the biased perception of the majority **anchored by the prior beliefs**.

CULTURAL DIFFERENCES

▶ More collectivist behavioral tendency in East Asian Countries; More individualistic behavioral tendency in North America (Markus and Kitayama 1991, Hamamura 2012).

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▶ More collectivist behavioral tendency in East Asian Countries;
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  (Markus and Kitayama 1991, Hamamura 2012).

▶ The **collectivist culture may induce stronger
  bandwagoning tendency** compared to the individualistic
  culture.
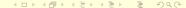
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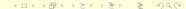2. Manipulate **partisan bias** and **uninformed population**.
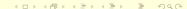
DESIGN FOCUS

1. **Contextualized mock-election experiment** of the SVC model. Past experiments on SVC (Battaglini, Morton and Palfrey 2008, 2010) were too stylistic.

2. Manipulate **partisan bias** and **uninformed population**.

3. Two channels of common knowledge: **polling** (complete information) and **social interaction** (incomplete information).

EXPERIMENT SETTING

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- ▶ 16 participants (in each session)
- ▶ State $Z = \{A, B\}$; State A with prior probability 0.5
- ▶ Two candidates of public goods distributor $D = \{A, B\}$
- ▶ 3 types of voters $T = \{A, B, I\}$
- ▶ Voters' Preference:
    1. Type A (A's Ally): $A \succ_A B$
    2. Type B (B's Ally): $A \prec_B B$
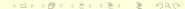   3. **Independent**: $A \succ_I B$ if $z = A$; $A \prec_I B$ if $z = B$

EXPERIMENT INSTRUCTION (PREAMBLE)

▶ You are participating in a group experiment. The experiment helps us to understand decision-making in voting processes. In this session, all students in this room constitute the group. Please **read the following instruction carefully**.

▶ This experiment involves twenty rounds of election. At each round, monetary rewards will be offered to your group and you and other participants in this room will be asked to elect a distributor of rewards. By the decision of the elected distributor, you will receive the portion of rewards. At the end of experiment, **we will pay you the 10% of the total amount of rewards** you received in all rounds.
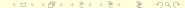
EXPERIMENT INSTRUCTION (FIRST ROUND)

- ▶ **1st Round:** $X of rewards are offered to your group, and you and other participants are electing the distributor of the rewards. There are two candidates A and B. Some participants are **allies of candidate A**, others are **allies of candidate B**, and remaining are **independents**.

- ▶ A candidate of distributor falls into one of two types. One candidate is an **equal** distributor. He distributes the reward evenly **to all members** of the group. Another candidate is a **unequal** distributor. He distributes the reward **only to his allies** (evenly among his allies). Some of you know the candidates' type **for sure**, while others know the type only **by 50-50 chance**.

EXPERIMENT INSTRUCTION (FIRST ROUND)

► In the election, you can choose to **vote for A**, **vote for B**, or
  abstain. The majority of casted votes determines the winner.
  If there is a tie, the winner is determined by the fair coin toss.
  After the election, winning candidate distributes the reward to
  your group based on his type.

PRIVATE INFORMATION

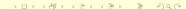- ▶ You are {**a candidate A's ally / a candidate B's ally / an independent** }.

PRIVATE INFORMATION

- You are {**a candidate A's ally / a candidate B's ally / an independent** }.

- Also, you know **by 50-50 chance** that:
  - candidate A is an **equal** distributor and candidate B is an **unequal** distributor; OR candidate A is an **unequal** distributor and candidate B is an **equal** distributor

PRIVATE INFORMATION

- ▶ You are {**a candidate A's ally / a candidate B's ally / an independent** }.

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- ▶ Also, you know **for sure** that:
    - ▶ candidate A is an **equal** distributor and candidate B is an **unequal** distributor
    - ▶ candidate A is an **unequal** distributor and candidate B is an **equal** distributor

COMMON KNOWLEDGE
(POLLING: COMPLETE INFORMATION)

- The automated polling result shows that {**37.5% / 31.25% / 25%** } are **candidate A's allies**, {**12.5% / 18.75% / 25%**} are **candidate B's allies**, and **50%** are **independents**.

- Also, { **25% / 50% / 75%**} know the candidates' types **for sure**, and {**75% / 50% / 25%** } know the candidates' types only by **50-50 chance**.

COMMON KNOWLEDGE
(SOCIAL INTERACTION: INCOMPLETE INFORMATION)

▶ The following table shows the seat allocation of the participants of this session. You can check the type and information status of **up to 5 participants** by clicking on numbers to open their profiles.

1	2	3	4
5	6	7	8
9	10	You	12
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▶ Participant { **1/.../16**} is {**a candidate A's ally / a candidate B's ally / an independent** } and knows the candidates' types {**for sure / only by 50-50 chance** }.

VOTING

- ▶ Please choose your action in this round of election:
  1. **Vote for Candidate A**
  2. **Vote for Candidate B**
  3. **Abstain**
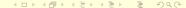
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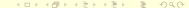
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- ▶ Candidate {A /B} won the election. He is an {equal / unequal } distributor. You receive {$0, $X/16, $X/6, $X/5, $X/4, $X/3, $X/2 } in this round.

TREATMENT DESIGN

- **Common Knowledge Channel**:
    1. **Polling**
    2. **Social Interaction**

- **Partisan Bias**:
    1. **Heavy Skew:** 6 or 2 A's ally, 2 or 6 B's ally and 8 indep.
    2. **Little Skew:** 5 or 3 A's ally, 3 or 5 B's ally and 8 indep.
    3. **Equal:** 4 A's ally, 4 B's ally and 8 independents

- **Uninformed Population**:
    1. **More Uninformed:** 4 informed, 12 uninformed
    2. **Equal:** 8 informed, 8 uninformed
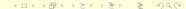   3. **Less Uninformed:** 12 informed, 4 uninformed

TREATMENT DESIGN

▸ Consists of 2 stages, 10 rounds of election in each stage (channels are b/w stage, partisan bias and uninformed population are w/in subject treatments): 320 votes (20 combinations)/ session.

▸ 2 (Nature) x 2 (Channel) x 5 (P.Bias) x 3 (Uninformed Pop)

$$\begin{Bmatrix} A \\ B \end{Bmatrix} x \begin{Bmatrix} \text{Polling} \\ \text{Ingroup} \end{Bmatrix} x \begin{Bmatrix} \text{H.Skew (A)} \\ \text{L.Skew (A)} \\ \text{Equal} \\ \text{L.Skew (B)} \\ \text{H.Skew (B)} \end{Bmatrix} x \begin{Bmatrix} \text{Uninf. } \uparrow \\ \text{Equal} \\ \text{Uninf. } \downarrow \end{Bmatrix}$$

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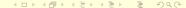
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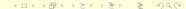## HYPOTHESIS

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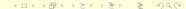
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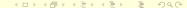   3.3 UI with high D turn out and vote randomly (DT)

4. Other predictions:
   4.1 BW model performs better under social interaction channel
   4.2 BW model performs better in East Asia (i.e., Japan) than in North America (i.e., US)

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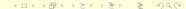
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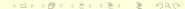
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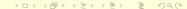
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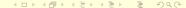- ▶ Reveal potentially important role of **common knowledge channels**.

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- ▶ Reveal the roles of both **partisan bias** and **uninformed population**.

- ▶ Reveal potentially important role of **common knowledge channels**.

- ▶ Reveal potential **cultural differences** in behavioral tendencies.

DISCUSSION

- Is the experiment realistic? (How much external validity?)

- Other ways to formulate the utility from the election?

- Additional treatments...
    1. The amount of money rewards (Bassi, Morton and Williams 2011).
    2. Number of available profiles (social interaction).
    3. Cost of information acquisition (social interaction).
    4. Cost of voting.
    5. Number of candidates.
    6. The size of voter population.

- Other types of potential cultural (and institutional) differences between Japan and US?

REFERENCES

Bassi, Anna, Rebecca B. Morton and Kenneth C. Williams. 2011. "The Effects of Identities, Incentives, and Information on Voting." *The Journal of Politics* 73(2):pp. 558–571.

Battaglini, Macro, Rebecca B. Morton and Thomas R. Palfrey. 2010. "The Swing Voter's Curse in the Laboratory." *The Review of Economic Studies* 77(1):pp. 61–89.

Battaglini, Marco, Rebecca B. Morton and Thomas R. Palfrey. 2008. "Information Aggregation and Strategic Abstention in Large Laboratory Elections." *The American Economic Review* 98(2):pp. 194–200.

Bischoff, Ivo and Henrik Egbert. 2013. "Social Information and Bandwagon Behavior in Voting: An Economic Experiment." *Journal of Economic Psychology* 34:270 – 284.

Downs, Anthony. 1957. *An Economic Theory of Democracy.* New York: Harper and Brothers.

Feddersen, Timothy J. and Wolfgang Pesendorfer. 1996. "The Swing Voter's Curse." *The American Economic Review* 86(3):pp. 408–424.

Hamamura, Takeshi. 2012. "Are Cultures Becoming Individualistic? A Cross-Temporal Comparison of IndividualismCollectivism in the United States and Japan." *Personality and Social Psychology Review* 16(1):3–24. PMID: 21700795.

Markus, Hazel R and Shinobu Kitayama. 1991. "Culture and the Self: Implications for Cognition, Emotion, and Motivation." *Psychological Review* 98(2):224.

Matsusaka, John G. 1995. "Explaining Voter Turnout Patterns: An Information Theory." *Public Choice* 84(1):pp. 91–117.

Riker, William H. and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *The American Political Science Review* 62(1):25–42.