Receiver Inattention and Persuading to be Persuaded

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Motivation (Essence of Persuasion)

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Friction in Persuasion

- Introducing the receiver's inattention
  Jain and Whitmeyer (2019), Bloedel and Segal (2019), Dall'Ara (2024)
- Most focus on how friction affects static persuasion

Sequential Persuasion

- Studies extending the analytical framework to sequential
  Ely (2017), Renault et al. (2017), Honryo (2018), Guo and Shmaya (2018), Bizzotto et al. (2020), Ely and Szydlowski (2020), Senkov (2022)
- Most do not concern the friction
- Exogenous v.s. endogenous dynamic process

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Example: Elevator Pitch

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Question 1: When does the sender persuade sequentially?

- Determined by the feasible set of persuasion strategies

Question 2: How does the sender persuade sequentially?

- A less aggressive opening pitch in the sequential persuasion design.

Additional Literature and Contribution

Model (Canonical Based - Binary State and Action)

Environment

- One signal receiver and one signal sender
- Binary-state (ω): high (h) and low (l)
- The sender has binary action $\alpha \in \{0, 1\}$

Payoffs

- The sender has payoff: $u(\alpha) = \gamma\alpha$, $\gamma \in (0, 1)$
- The receiver has payoff $v(\omega, \alpha) = \alpha[\mathbb{1}(\omega = h) - \gamma]$

Bayesian persuasion

- Symmetric prior belief $\mathbb{1}(\omega = h) = q_1 < \gamma$
- The sender can choose information structure $\iota \in \Delta\Delta\Omega$
- Objective: to change the receiver's belief to $\mathbb{1}(\omega = h) \geq \gamma$

Model (Modification)

Receiver's Inattention

- The receiver pays attention to the persuasion (and updates belief after it) only when the participation constraint is satisfied.

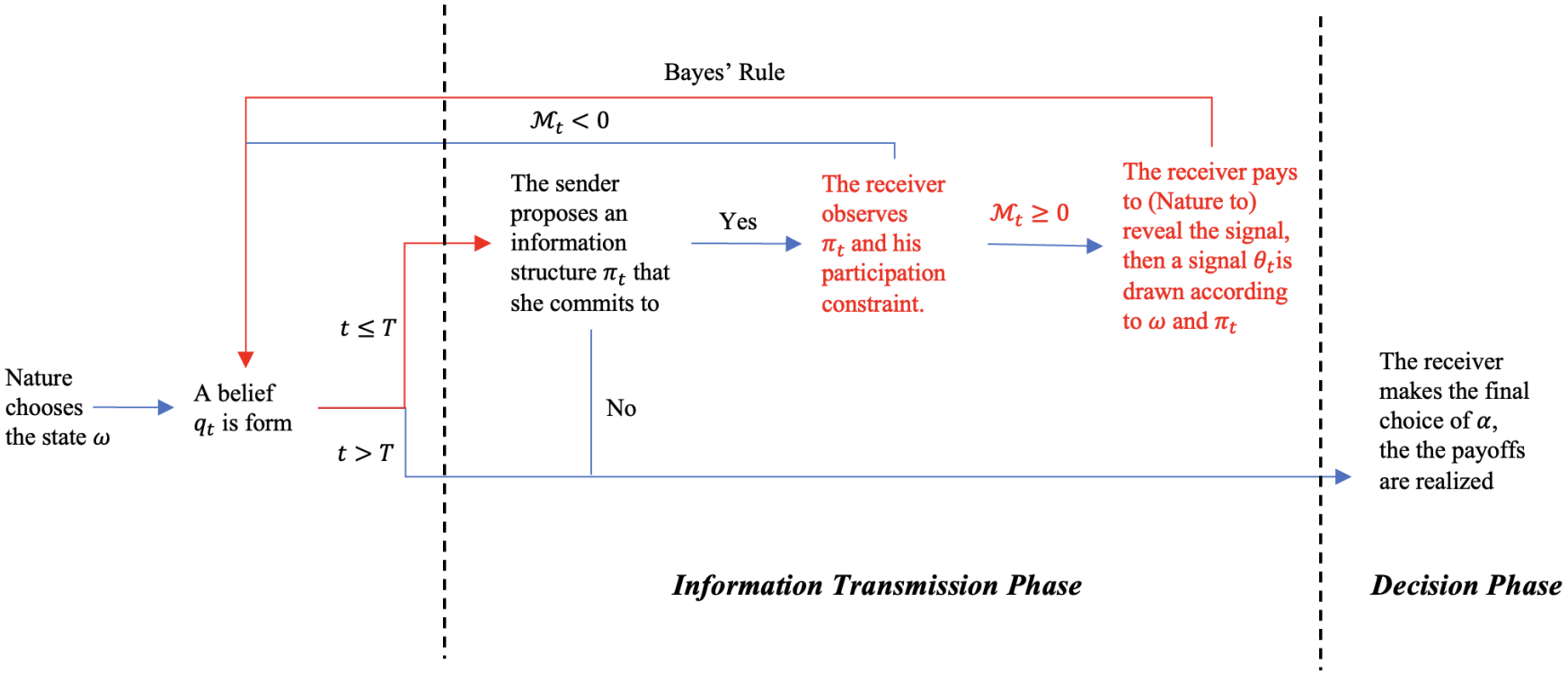
$$\underbrace{\mathcal{M}(q_t, \pi_t)}_{\text{motivation function}} = \underbrace{B(q_t, \pi_t)}_{\text{information benefit}} - \underbrace{C(q_t, \pi_t)}_{\text{information cost}} \geq 0$$

- Feasible set $\{\pi_t | \mathcal{M}(q_t, \pi_t) \geq 0\}$
- Assumption: $c(q_t, \pi_t) > 0$, disappointment penalizing.

Endogenously Sequential Game Structure

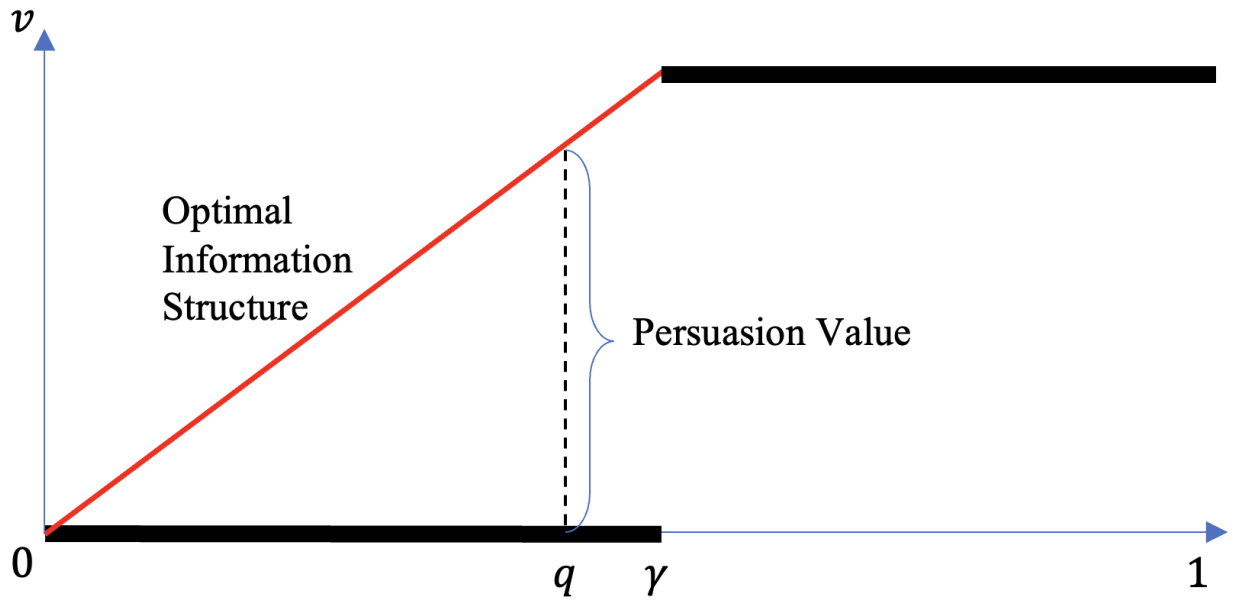
- Finite attempt limit T (to ensure equilibrium)
- The sender can propose to persuade up to the attempt limit

Model (Timeline)



Simplification (Binary State and Action)

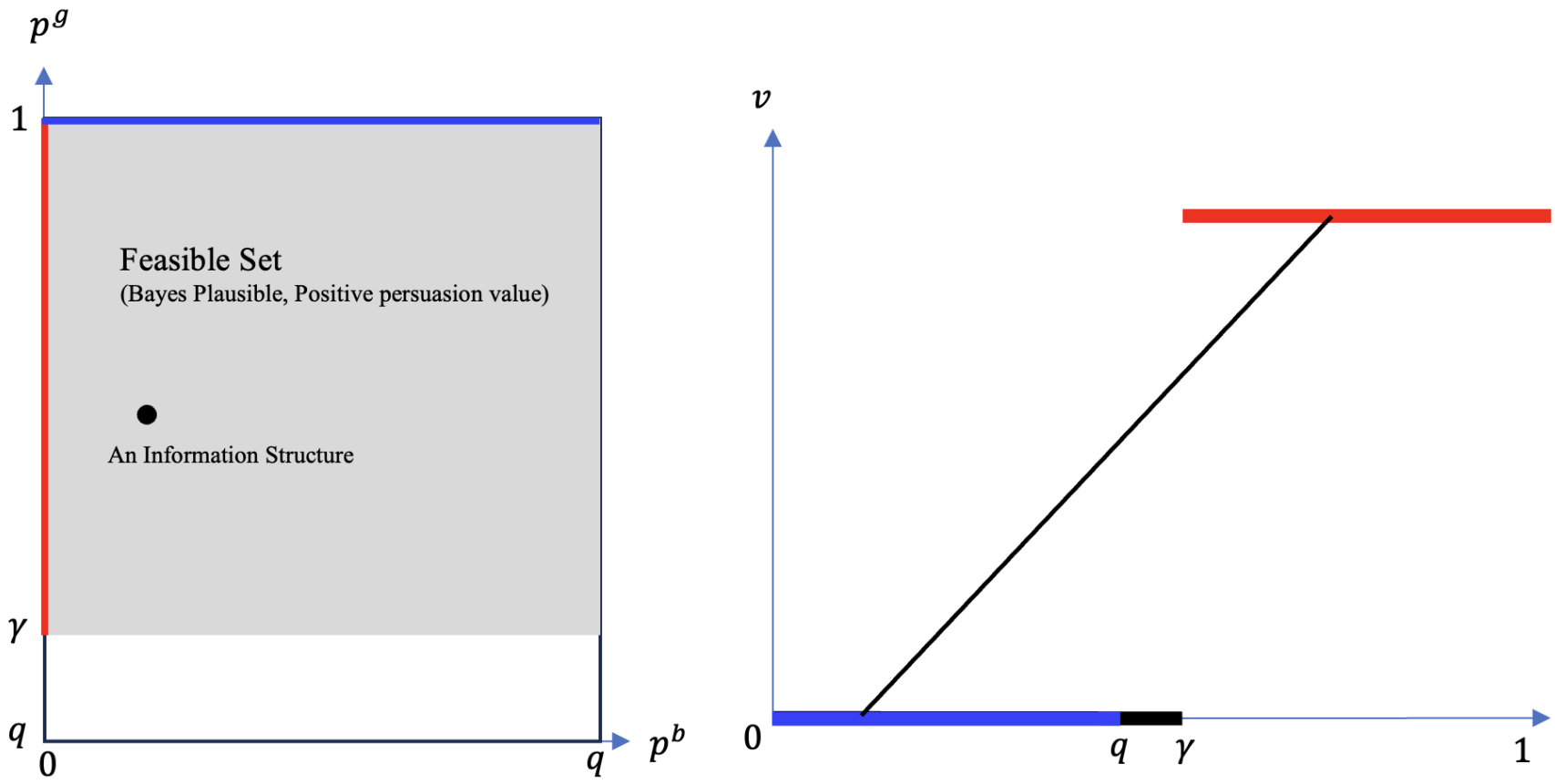
Non-dominated information structures generate two signals: $p^b < q$, $p^g > q$.



- Positive persuasion value requires $p^g \geq \gamma$.
- Positive information benefit requires $p^g \geq \gamma$.
- Non-dominated, Bayes-plausible information structure: $p_t^b \in [0, q_t]$, $p_t^g \in [\gamma, 1]$.

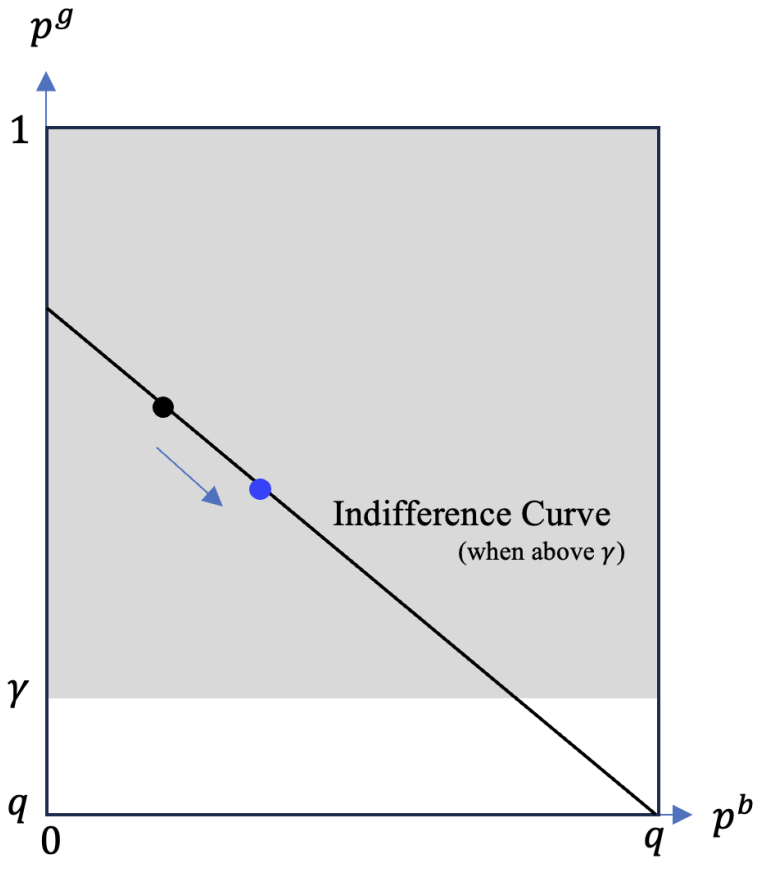
Feasible Set

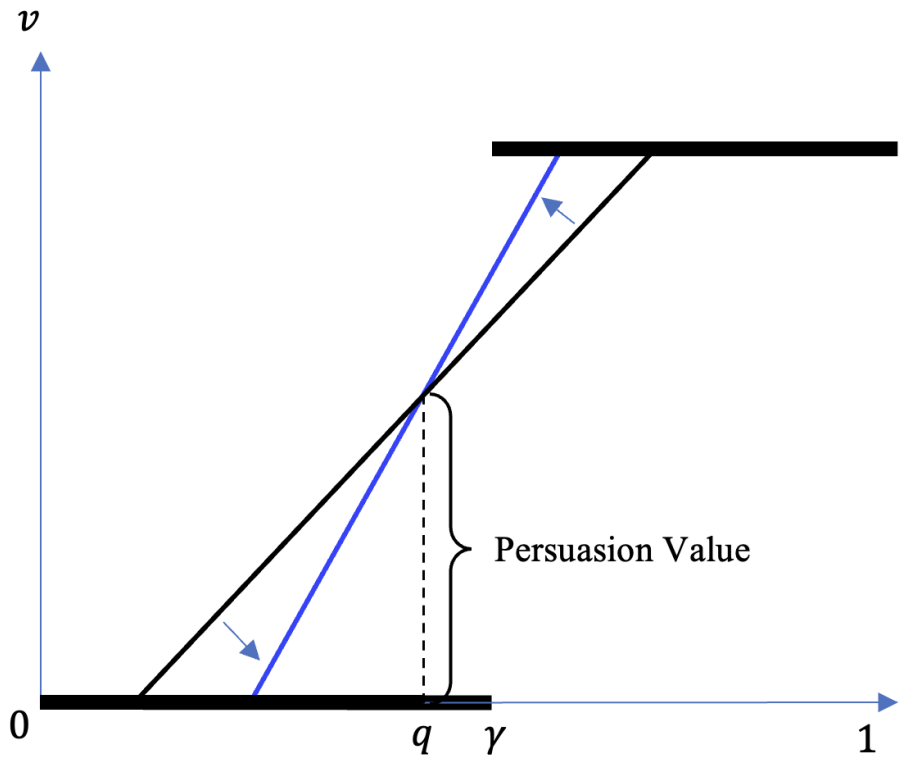
Frictionless environment requires: $p^b \in [0, q]$, $p^g \in [\gamma, 1]$.



An Indifference Curve

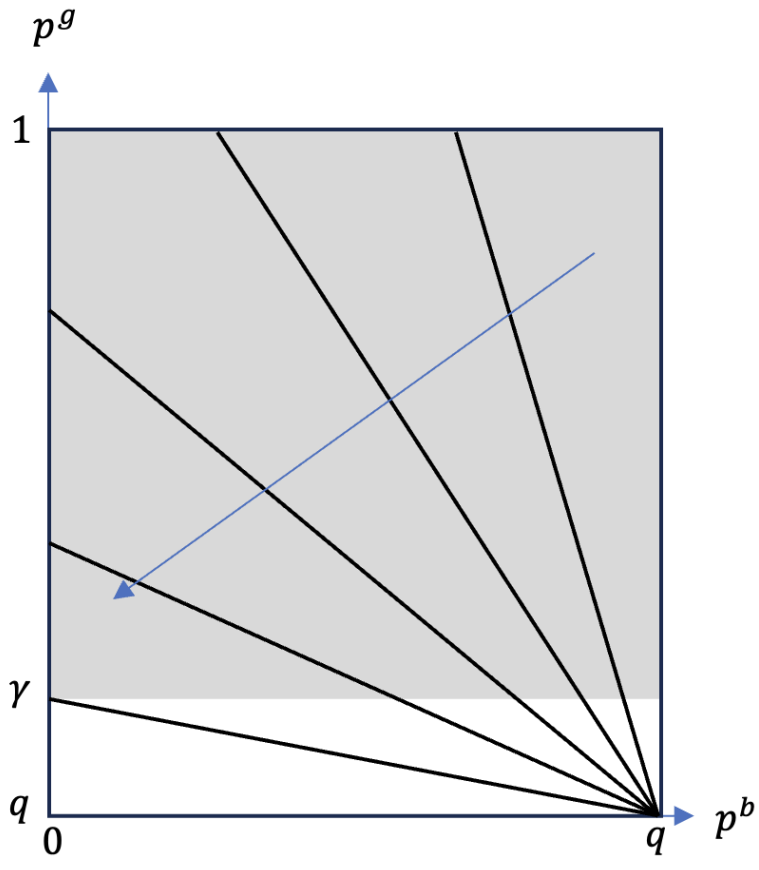
Indifference curve: $\frac{p^g - q}{p^g - p^b} = \rho$

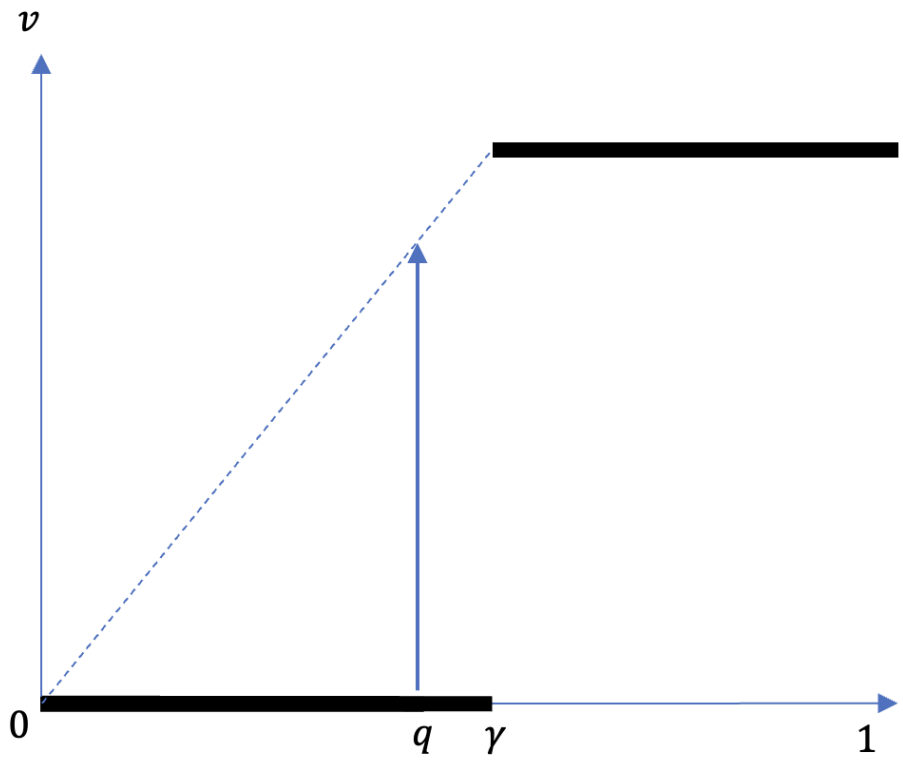




Indifference Curve Set

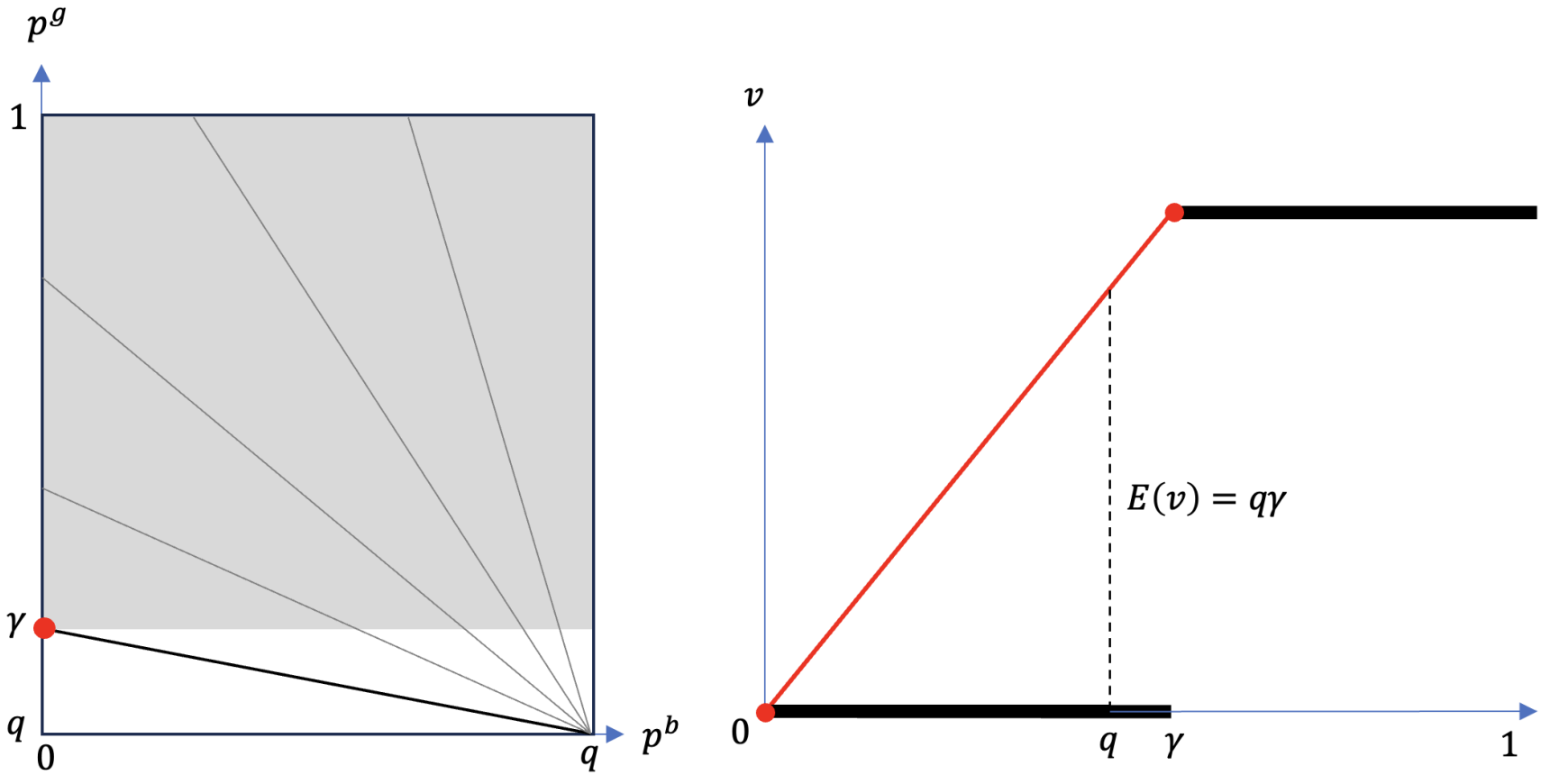
$\frac{p^g - q}{p^g - p^b}$ is smaller as p^θ, $\theta = b, g$ is smaller.



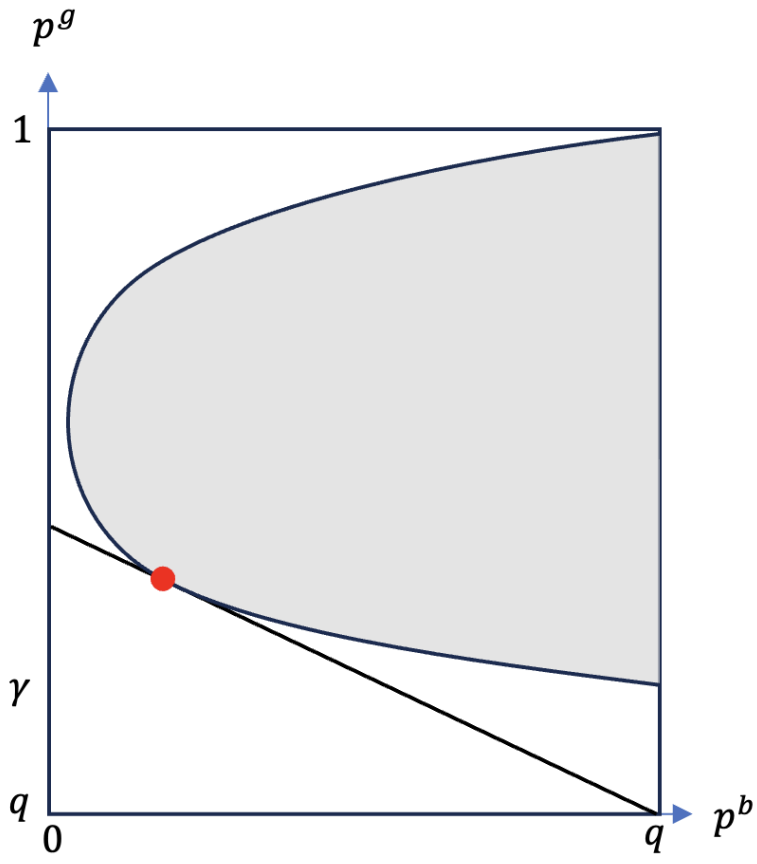


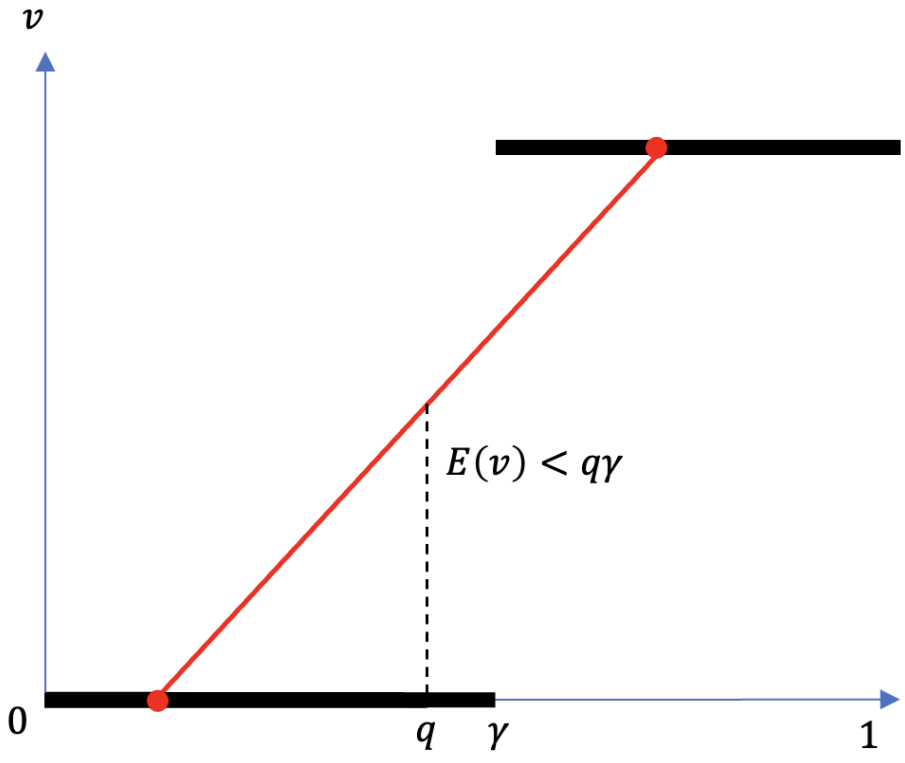
Optimal Static Strategy (Frictionless)

Optimal static information structure: $(p^b, p^g) = (0, \gamma)$.

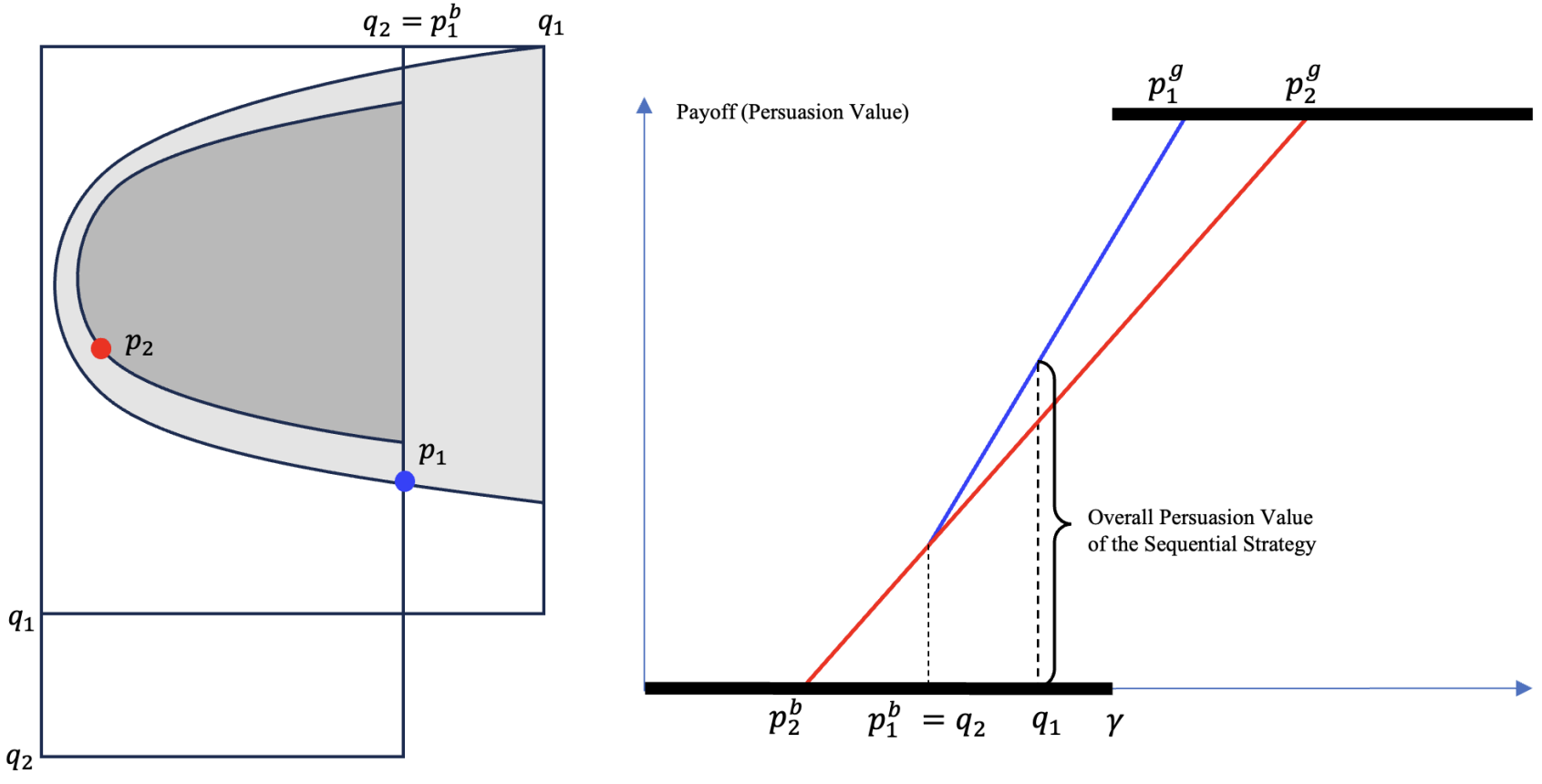


Optimal Static Strategy (With Friction)





Overall Value of a Sequential (Two-Stage) Persuasion by a Static Information Structure



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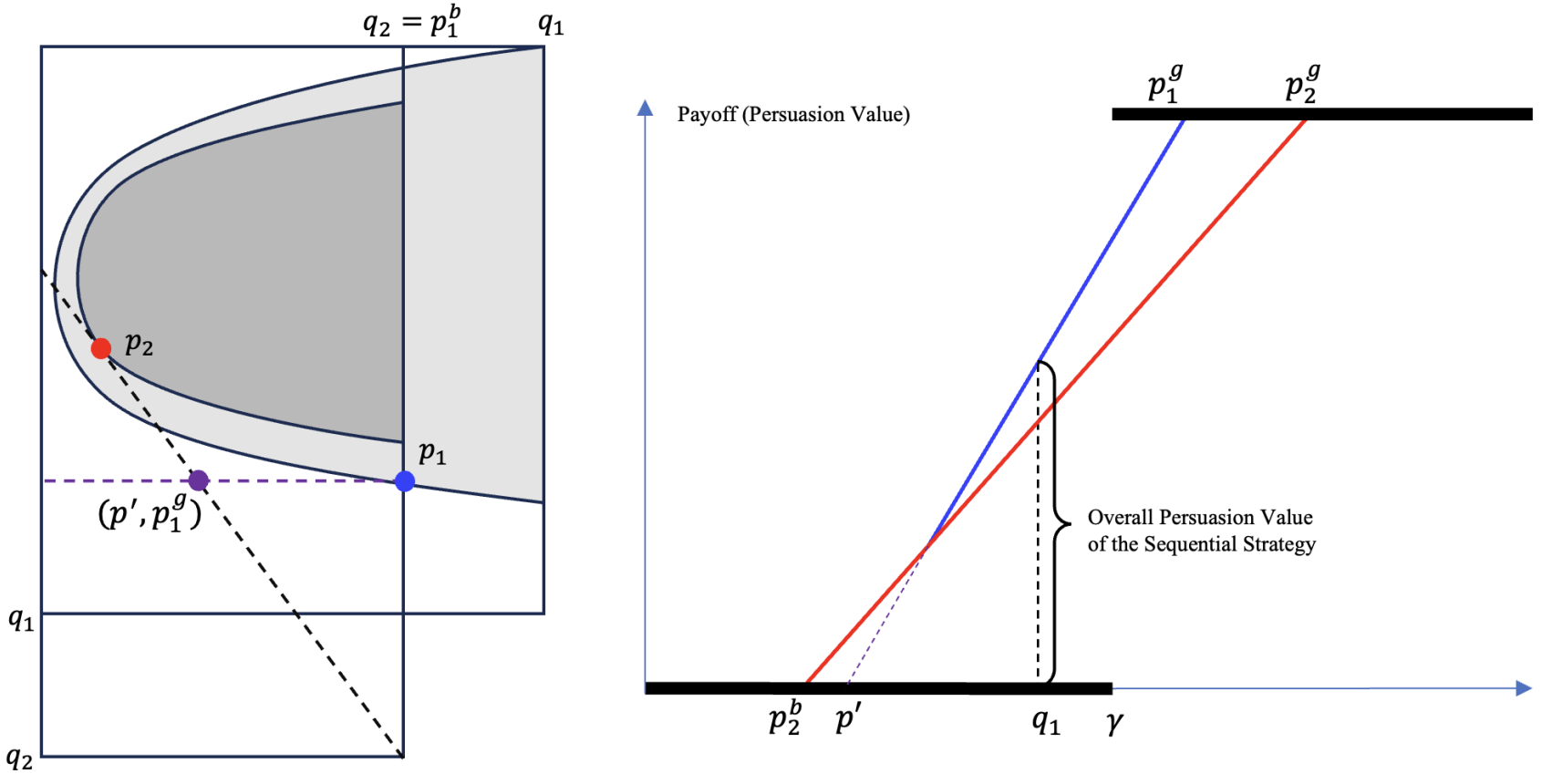


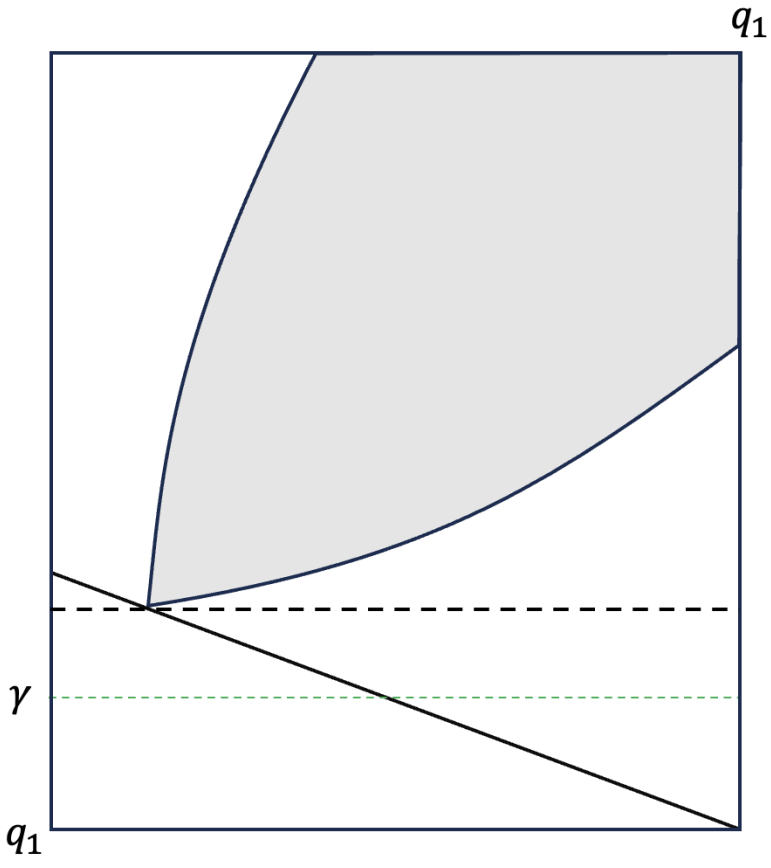
Question 1

What friction motivates the sender to persuade sequentially?

The lower boundary of the feasible set has a downward sloping portion that contains (p^{b*}, p^{g*})

- Necessary Condition with disappointment penalizing assumption
  - Endogenously sequential framework not widely used in frictionless persuasion studies.
- Sufficient condition when disappointment penalty is not too large.

Intuition



- The sender prefers both small p^g and p^b.
- Only positive slope: one information structure unconditionally dominates all others.
- Negative slope: larger p^g implies smaller p^b.
- Make use of the entire boundary when the disappointment penalty is small.

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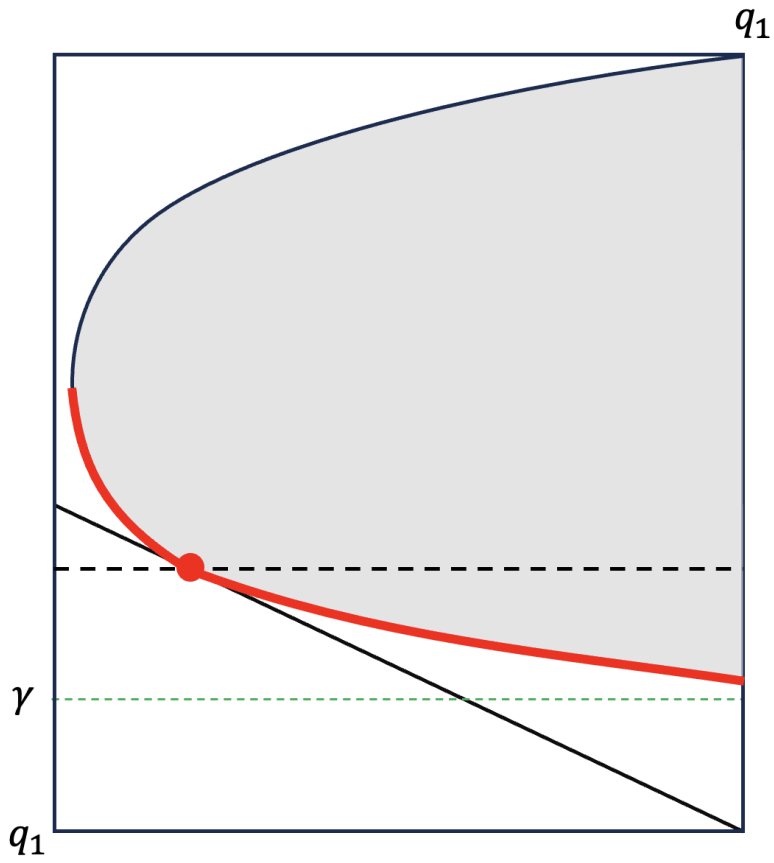

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Question 2

How does the sender optimally persuade sequentially?

Optimal opening pitch vs the optimal static pitch

- Same: "repeated static persuasions"
- Different: "intertemporal persuasion"

Large Disappointment Penalty

Optimal static persuasion strategy impairs or even eliminates the opportunity to persuade again if first attempt fails.

More Conservative Opening Pitch

Step back to control the receiver's disappointment for subsequent opportunities (larger $p_t^b \rightarrow$ larger q_{t+1}).

Question 2 (cont.)

Zero Disappointment Penalty

The shapes of feasible sets matter.

Condition

The lower boundary of the feasible set has a downward sloping portion that contains (p^{b*}, p^{g*}), with a significant slope

Summary

With a significant disappointment penalty or a significant negative slope on the lower boundary of the feasible set:

- sequential approach more effective $\rightarrow$ an intertemporal problem
- an intertemporal problem $\rightarrow$ a more conservative opening pitch

Generalization and Extension

Do our findings apply to a more general game with finite stages?

If the feasible set is convex, and the disappointment penalty is small enough,

- static persuasion design or sequential persuasion design exhausting all attempt permitted
- piecemeal information disclosure

What is the limit of the power of sequentiality in persuasion?

Allowing the sender to persuade infinitely,

- higher attempt limits improves effectiveness
- cannot achieve the frictionless efficiency

Additional Literature and Contribution

Condition motivating sequential persuasion

v.s. Ni et al. (2023), Su et al.(2022), Au (2015)

- Equilibrium v.s. (Unattainable) Efficiency Boundary
- Economic intuition and foundation for the power of sequentiality

Analytical Framework

v.s. Kamenica and Gentzkow (2011), Bloedel and Segal (2019), Wei (2021)

- Tractability: converts the analysis to the shape of feasible set.
- Allows for unspecified information cost in the analysis.

Framework for "Revealed Inattention"

v.s. Luciano Pomatto et al. (2023, 2025)

- Find/define the unobservable inattention from the observable outcome/equilibrium
- Research and policy implications

Back to main.