Persuasive Lobbying with Allied Legislators

Emiel Awad

University of Rochester

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Motivation

Lobbyists influence policy-making *(US, international organizations)*

Some use intermediaries to help in the lobbying process

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Q1 What can intermediaries do that lobbyists cannot do by themselves?

Q2 Which intermediaries are targeted? Allies or enemies?

Tobacco lobbying

- In 2012, Dutch government proposed consumer tax on tobacco
- Philip Morris requested local politicians to sign and forward a letter
- Letter was leaked to the media
- Philip Morris already had access, still prefers intermediaries

Approach

Model with three features

1. lobbyist persuades through
   - public cheap talk
   - disclosure to intermediaries

2. intermediaries
   - verify information
   - publicly endorse policies

3. legislators vote between
   - status quo
   - proposal

Contribution

(i) Provide conditions under which intermediaries are used
- appropriate intermediaries are available
- lobbyist cannot maximize influence without them

(ii) Characterize who are selected as intermediaries
- strongest allies who are sufficiently moderate
- *with competition, even more moderate*

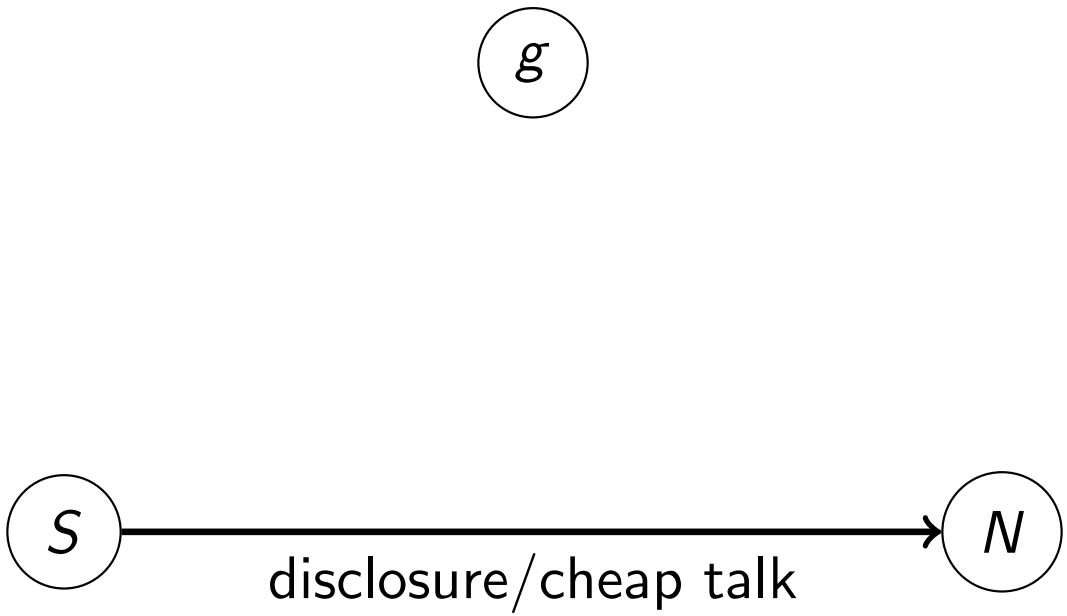
Group persuasion

- Public cheap talk
  - Schnakenberg 2017 *AJPS*
- Verifiable information
  - Caillaud and Tirole 2007 *AER*
- Bayesian persuasion (public)
  - Alonso and Câmara 2016 *AER*
- Bayesian persuasion (private)
  - Bardhi and Guo, *forthcoming TE*
  - Chan, Gupta, Li, and Wang, *R&R at JET*

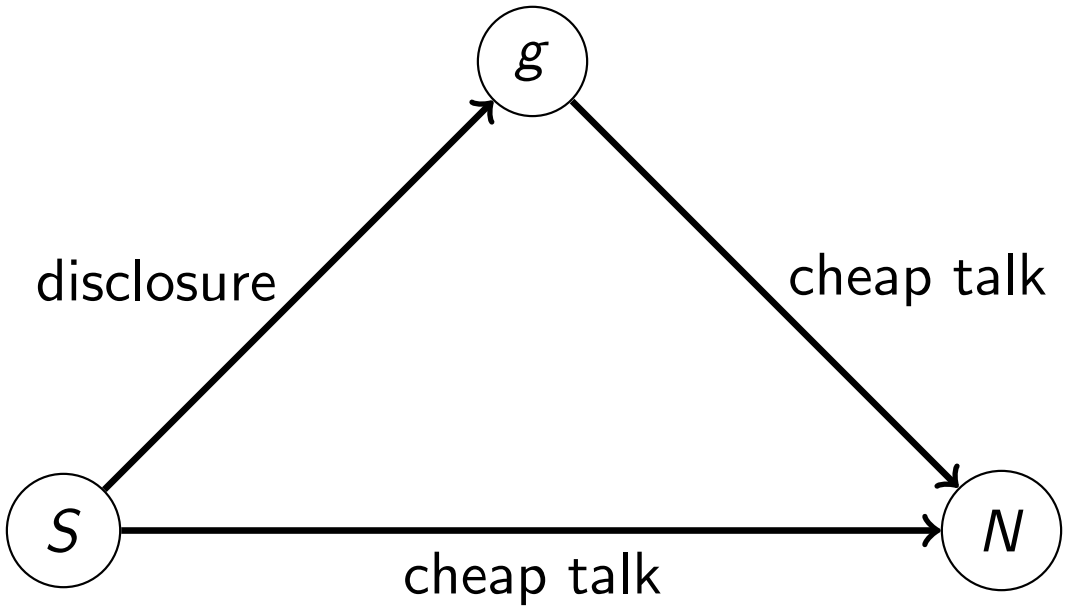
Players

- Sender S
- Legislature $N = \{1, \ldots, n\}$
- Selected group of intermediaries $g \subseteq N$

Direct persuasion



Indirect persuasion



Setting

- Finite state space Ω
- Common prior $p = (p(\omega))_{\omega \in \Omega}$
- Collective decision $x \in \{0, 1\}$
- Proposal passes ($x = 1$) iff $\geq k$ yes-votes

Timing

Persuasion stage

S *observes* ω (1) S sends $s = (m, g)$

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Intermediary stage

$j \in g$ *observes* ω (2) $j \in g$ endorses $e_j \in \{0, 1\}$

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S *observes* ω (1) S sends $s = (m, g)$

Intermediary stage

$j \in g$ *observes* ω (2) $j \in g$ endorses $e_j \in \{0, 1\}$

Voting stage

$i \in N$ *observes* $(s, (e_j)_{j \in g})$ (3) $i \in N$ accepts/rejects $a_i \in \{0, 1\}$

Payoffs

Sender

$$u_S(x) = \begin{cases} 0 & \text{if } x = 0 \\ 1 & \text{if } x = 1 \end{cases}$$

Legislator $i \in N$ has payoff vector $\delta^i = (\delta^i(\omega))_{\omega \in \Omega}$

$$u_i(x, \omega) = \begin{cases} 0 & \text{if } x = 0 \\ \delta^i(\omega') & \text{if } x = 1 \text{ and } \omega = \omega' \end{cases}$$

Equilibrium notion

Sender-optimal perfect Bayesian equilibrium (PBE) s.t.

(i) sincere endorsements

(ii) sincere votes

Selecting intermediaries

Sender-optimal PBE characterized by intermediary set $G = (g)_{g \in G}$

(i) g only targeted if all $j \in g$ agree with S

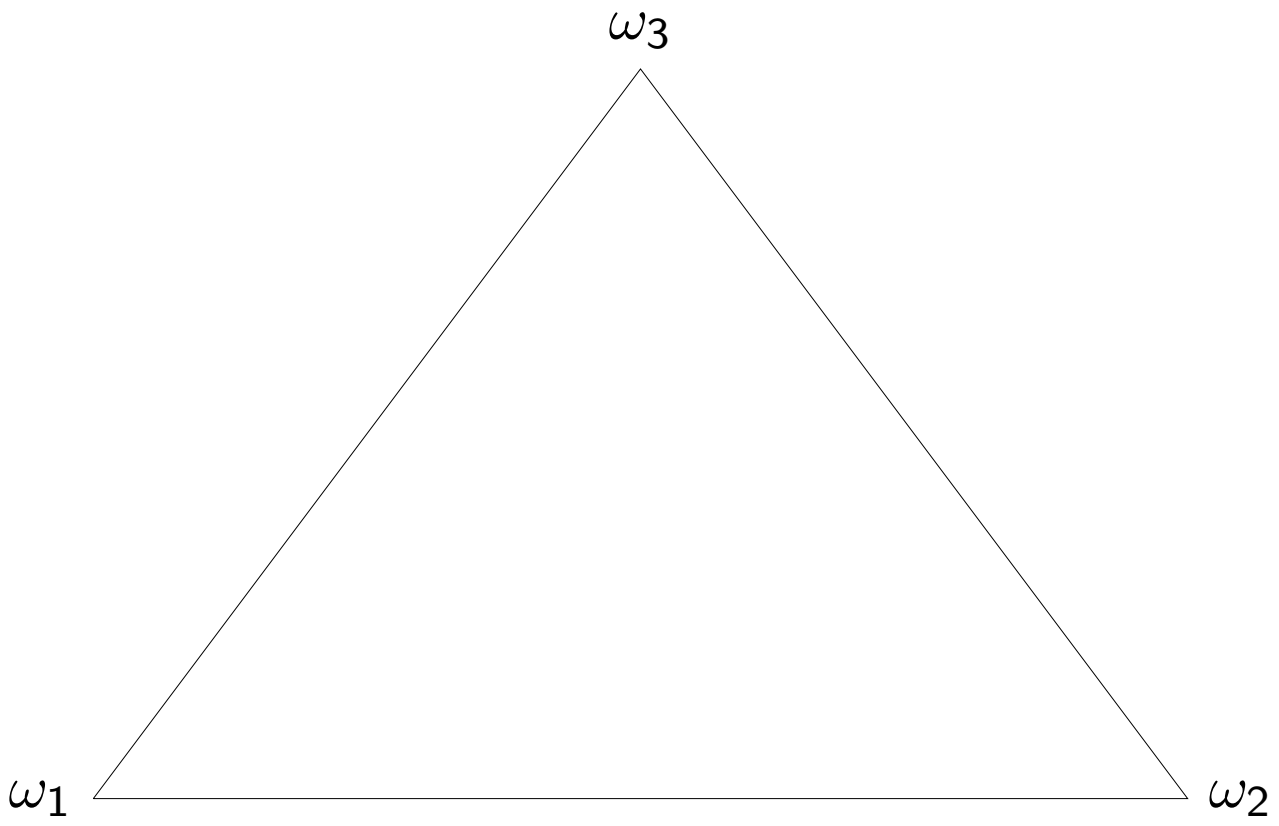
(ii) g only targeted if in equilibrium, proposal passes afterwards

Example

- $n = k = 2$
- $\Omega = \{\omega_1, \omega_2, \omega_3, \omega_4\}$
- Payoff vectors

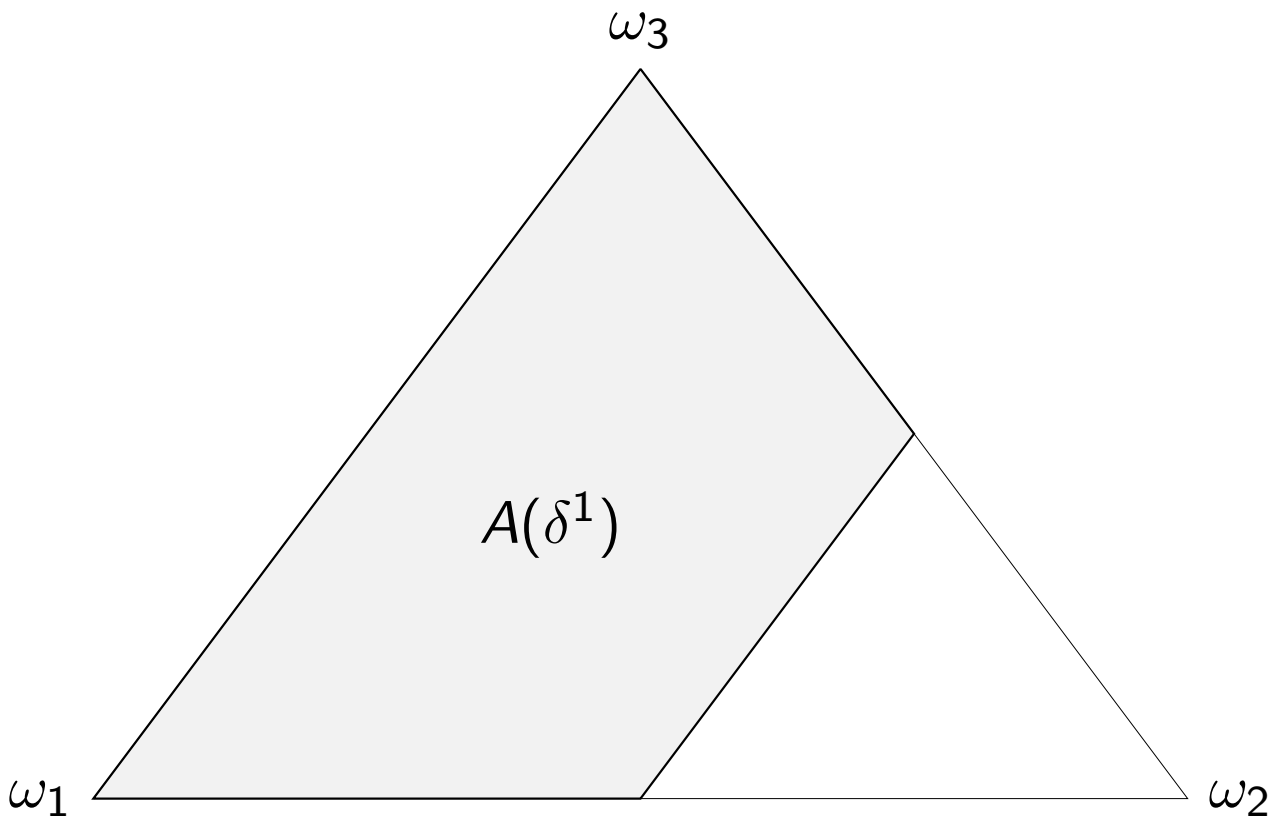
  $\delta^1 = (1, -1, 1, -1)$
  $\delta^2 = (-1, 1, 1, -1)$
- How to optimally disclose information?
  - Assume $p(\omega_4)$ sufficiently high (cheap talk not influential)
  - Focus on $\Omega' := \{\omega_1, \omega_2, \omega_3\}$

Sender-optimal disclosure



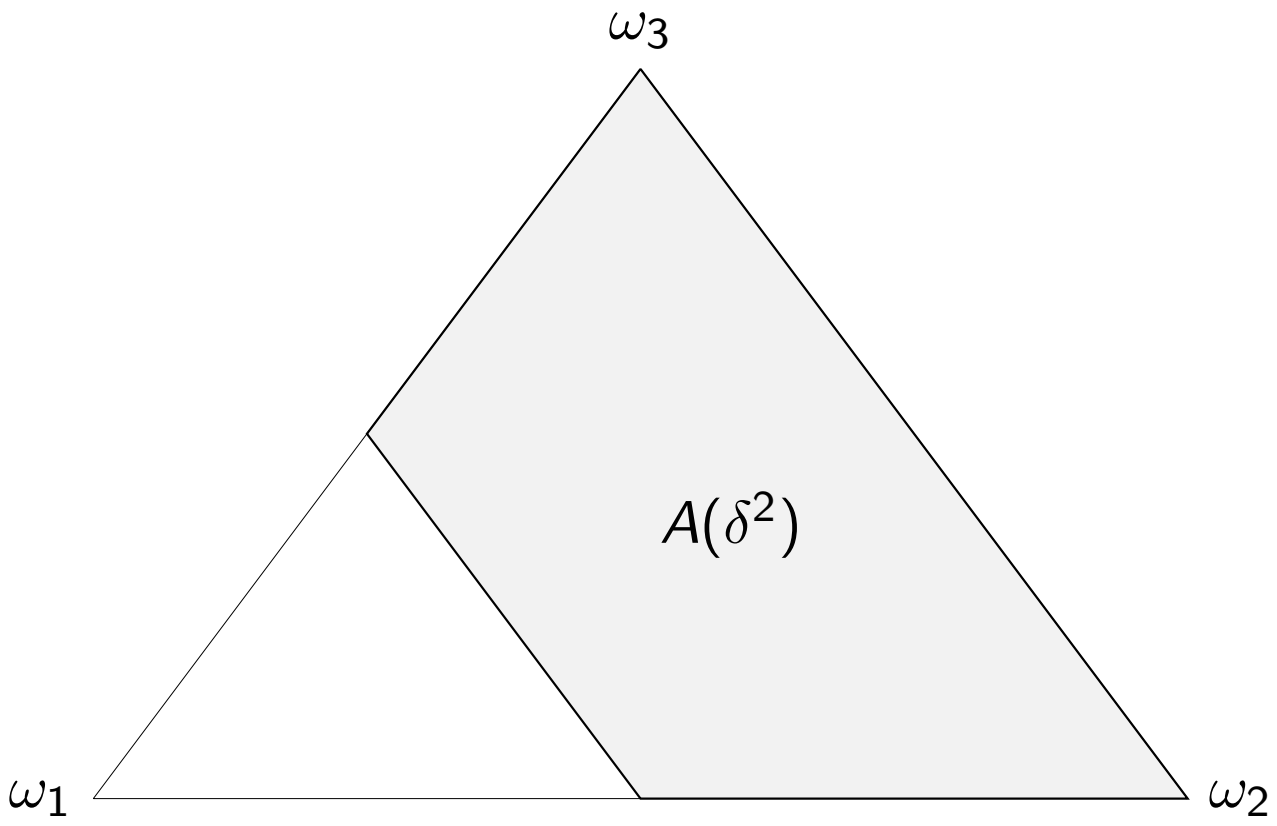
$$G = (\{1\}, \{2\})$$

Sender-optimal disclosure



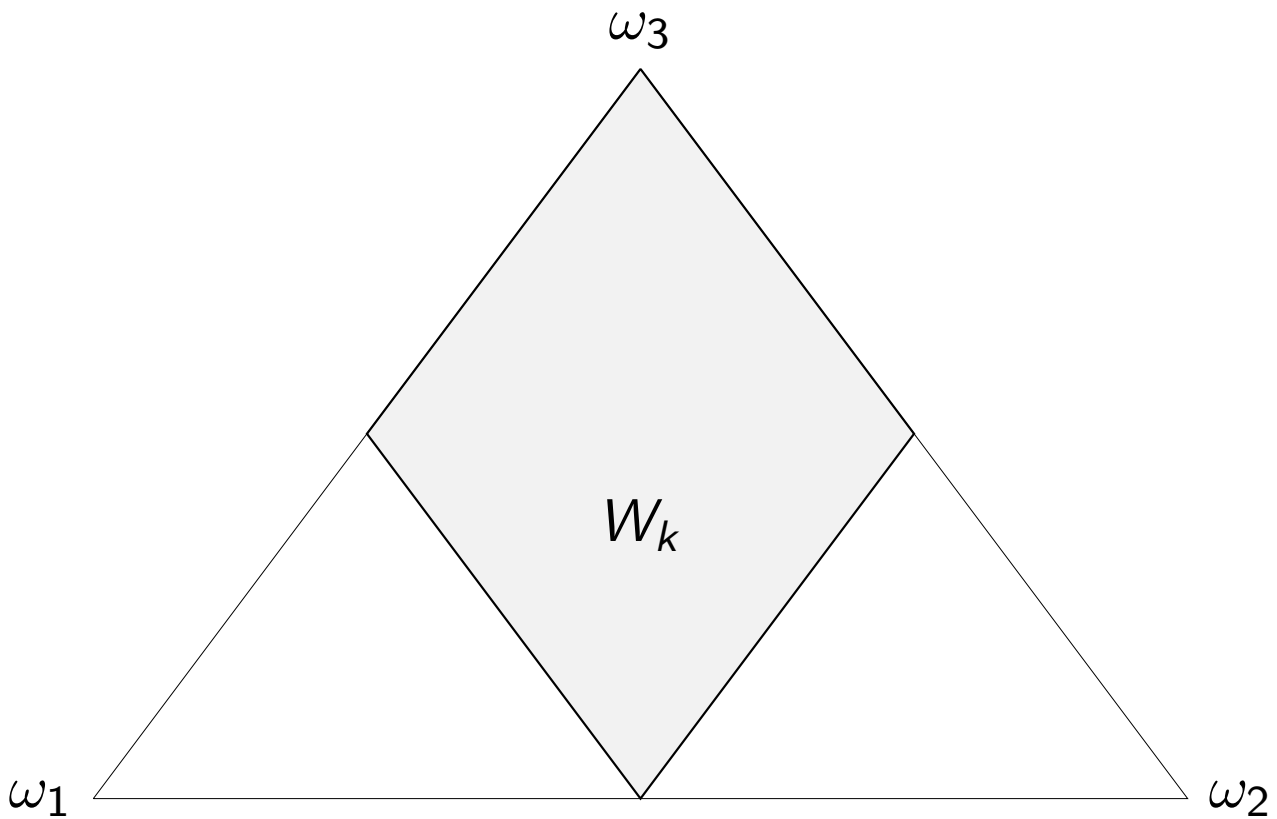
Acceptance set 1

Sender-optimal disclosure



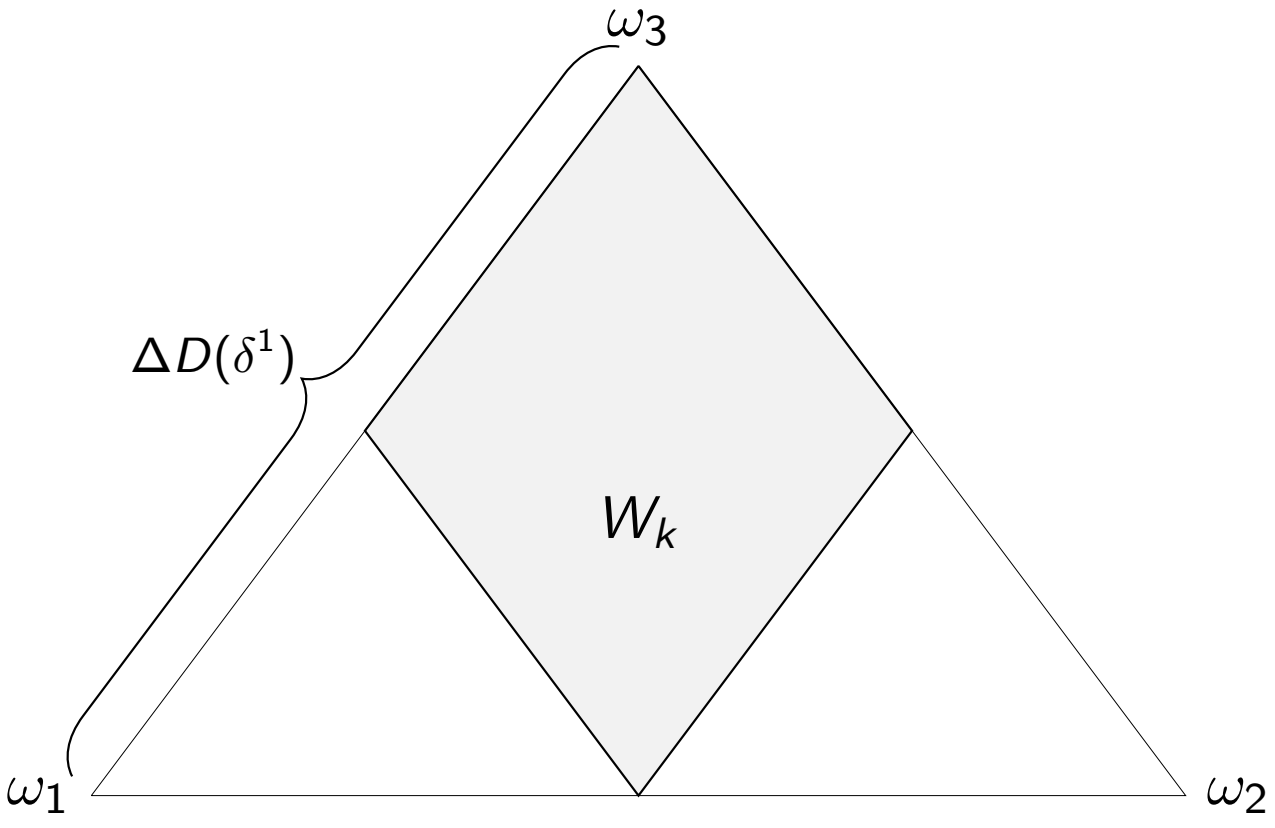
Acceptance set 2

Sender-optimal disclosure



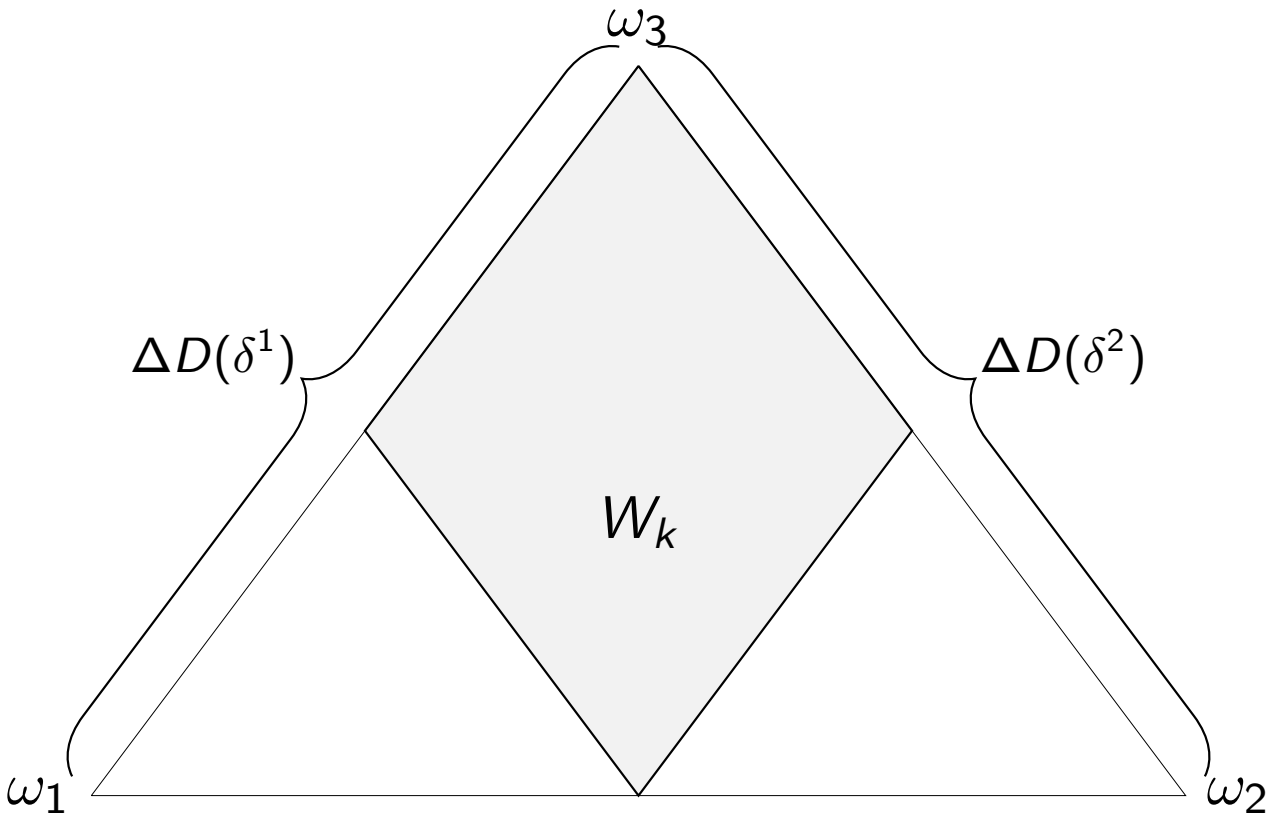
Win-set

Sender-optimal disclosure



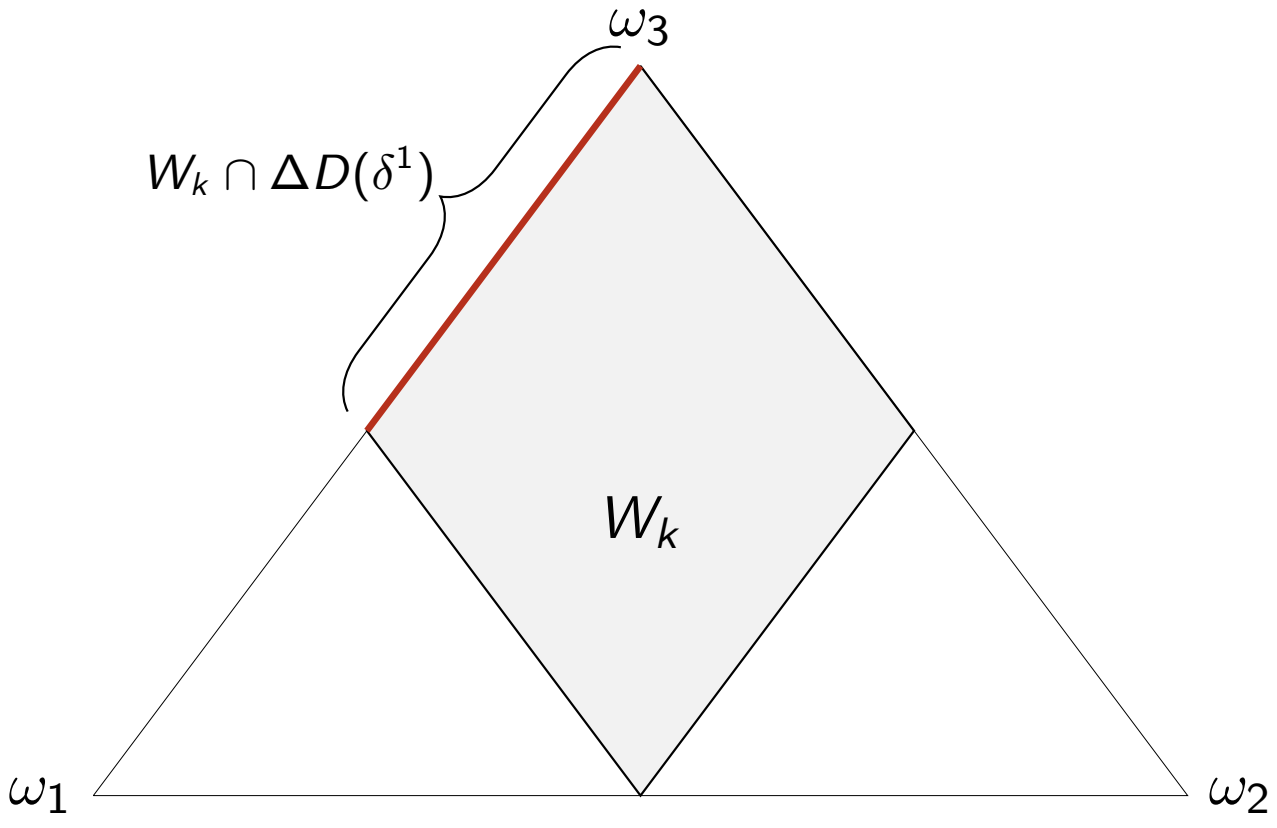
Distributions that only put pos. prob. on states acceptable to 1

Sender-optimal disclosure



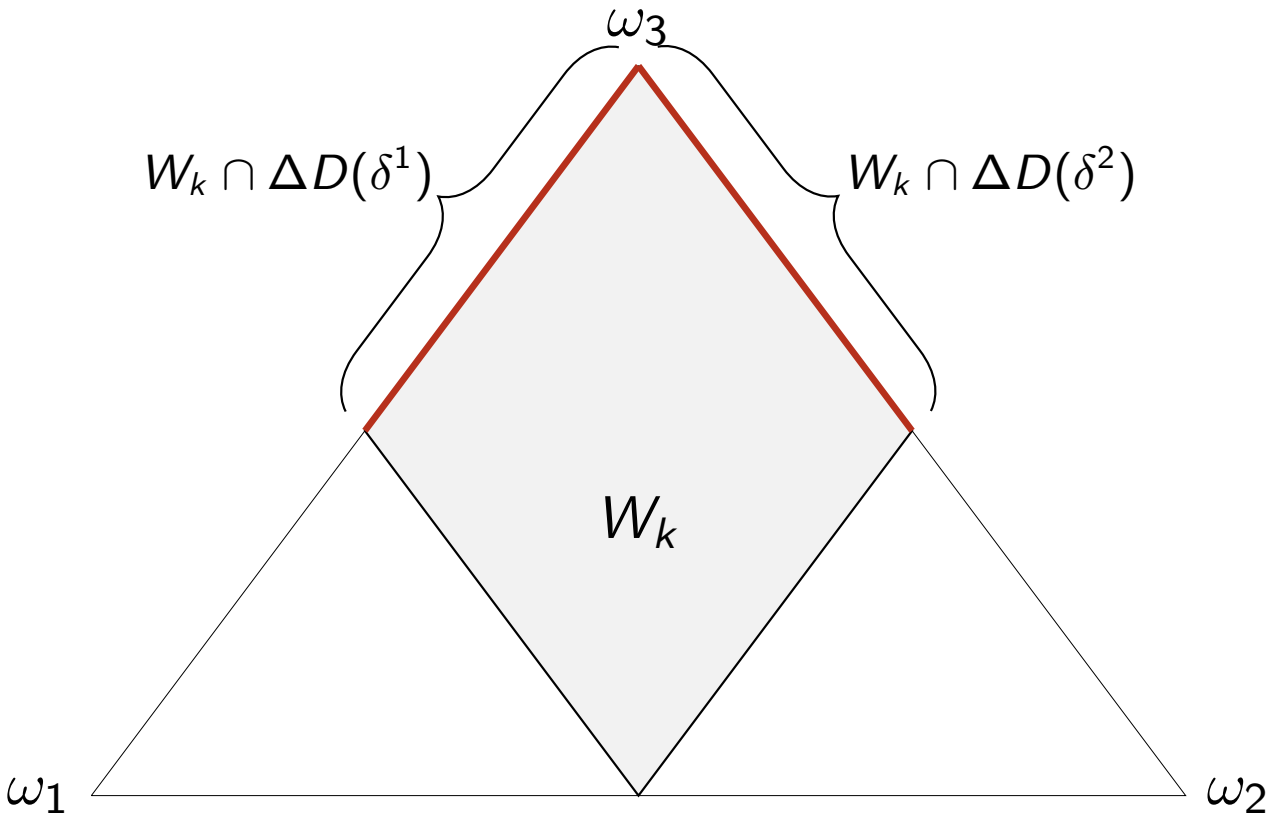
Distributions that only put pos. prob. on states acceptable to 2

Sender-optimal disclosure



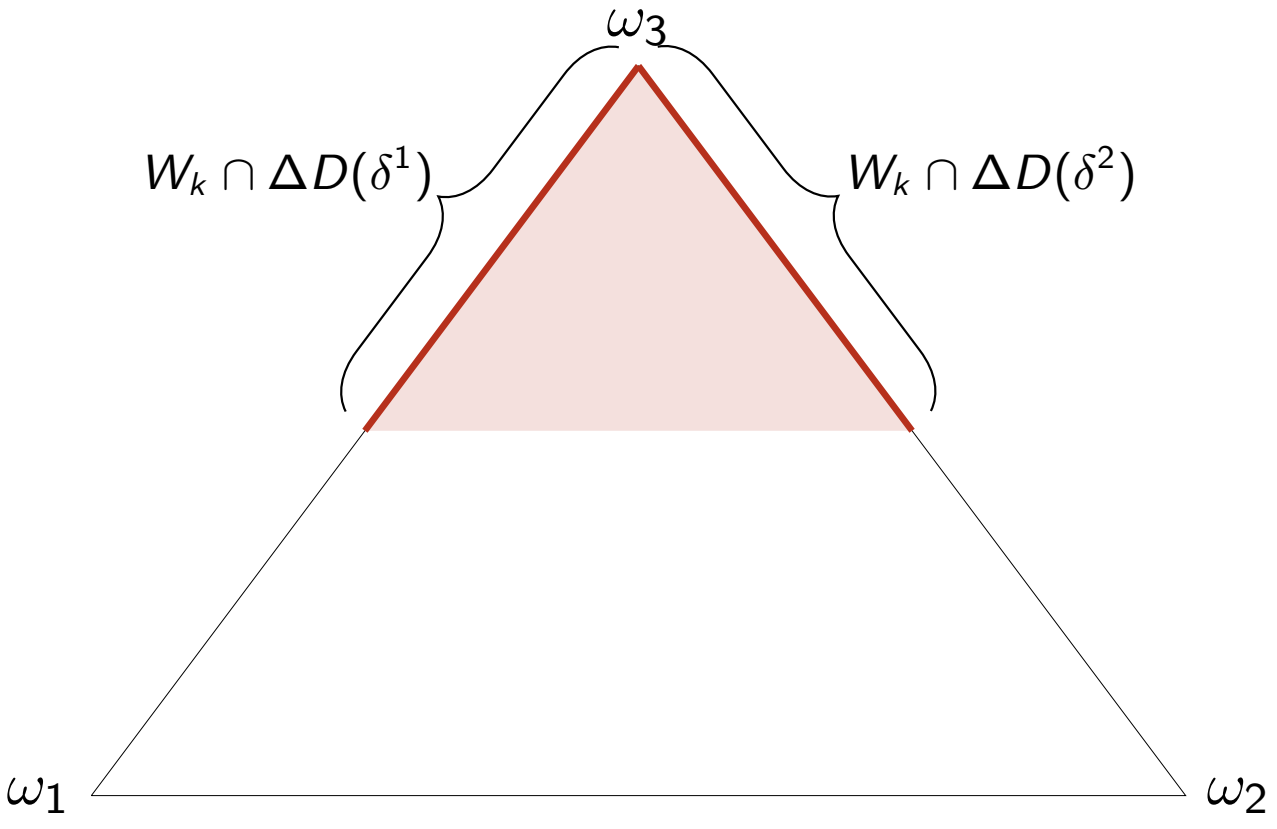
Intersection with win-set (1)

Sender-optimal disclosure



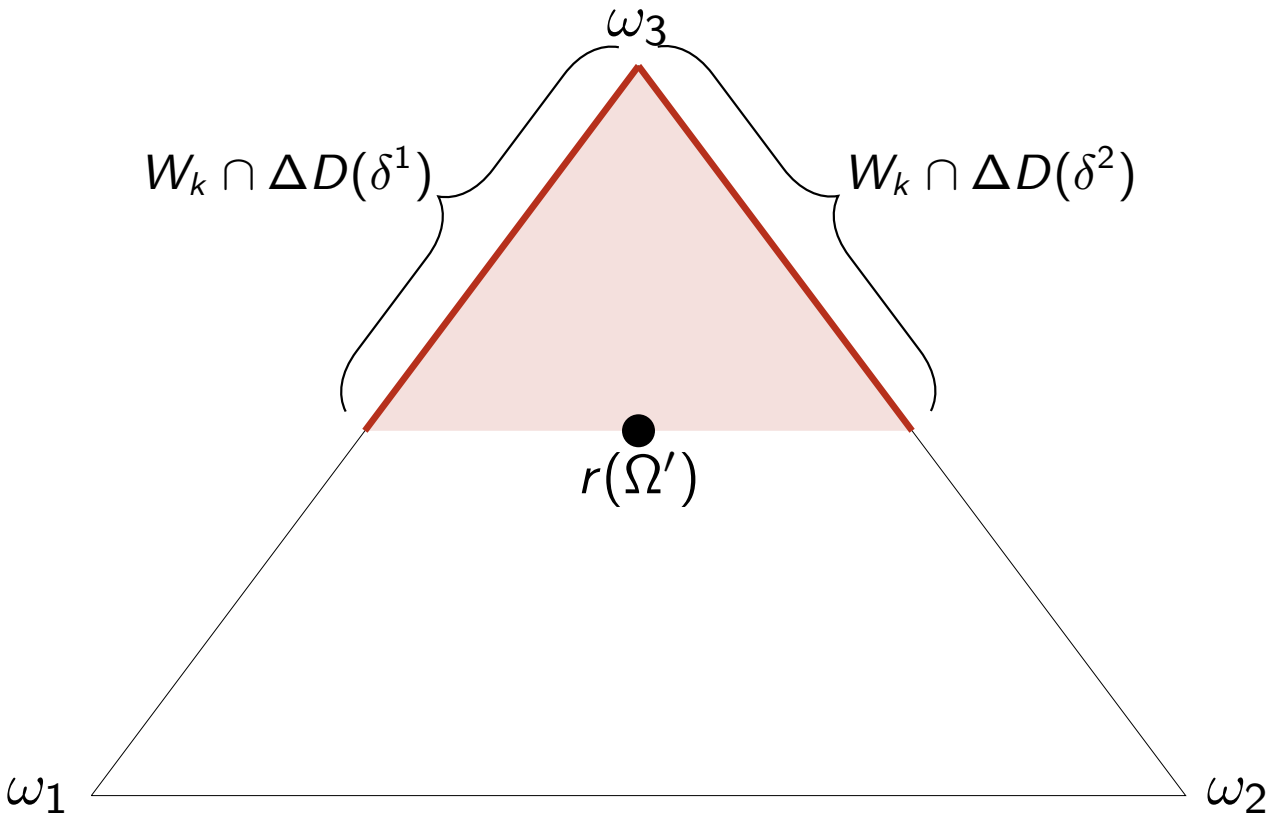
Intersection with win-set (2)

Sender-optimal disclosure



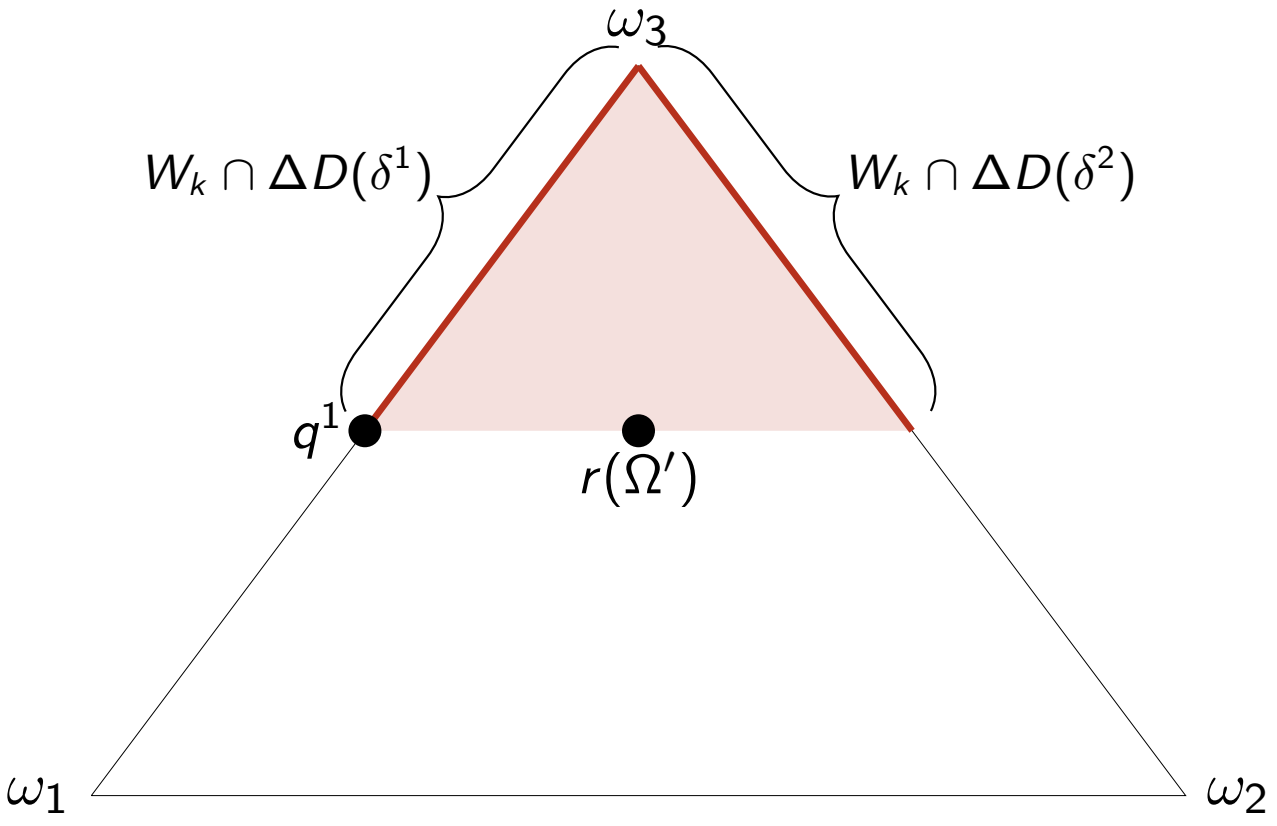
Its convex hull

Sender-optimal disclosure



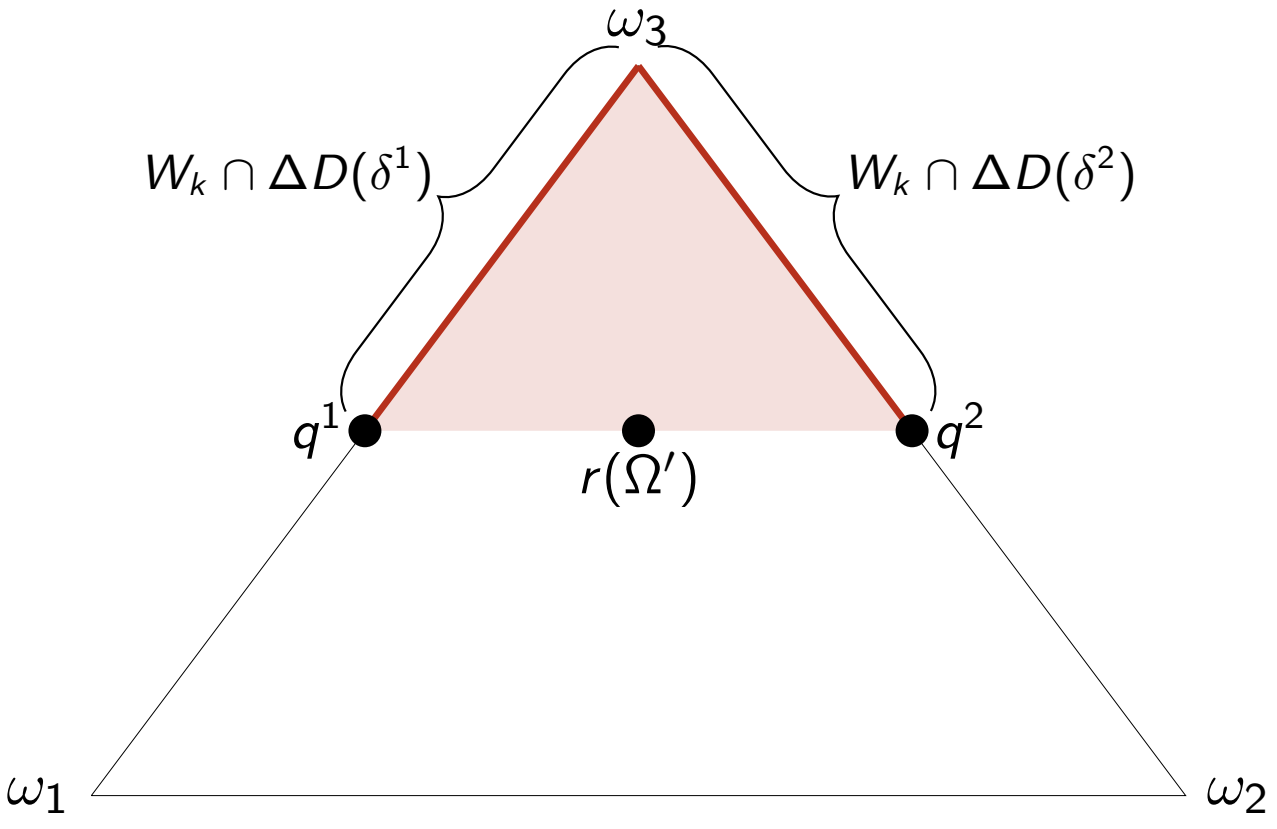
Distribution conditional on $\omega \in \Omega' = \{\omega_1, \omega_2, \omega_3\}$

Sender-optimal disclosure



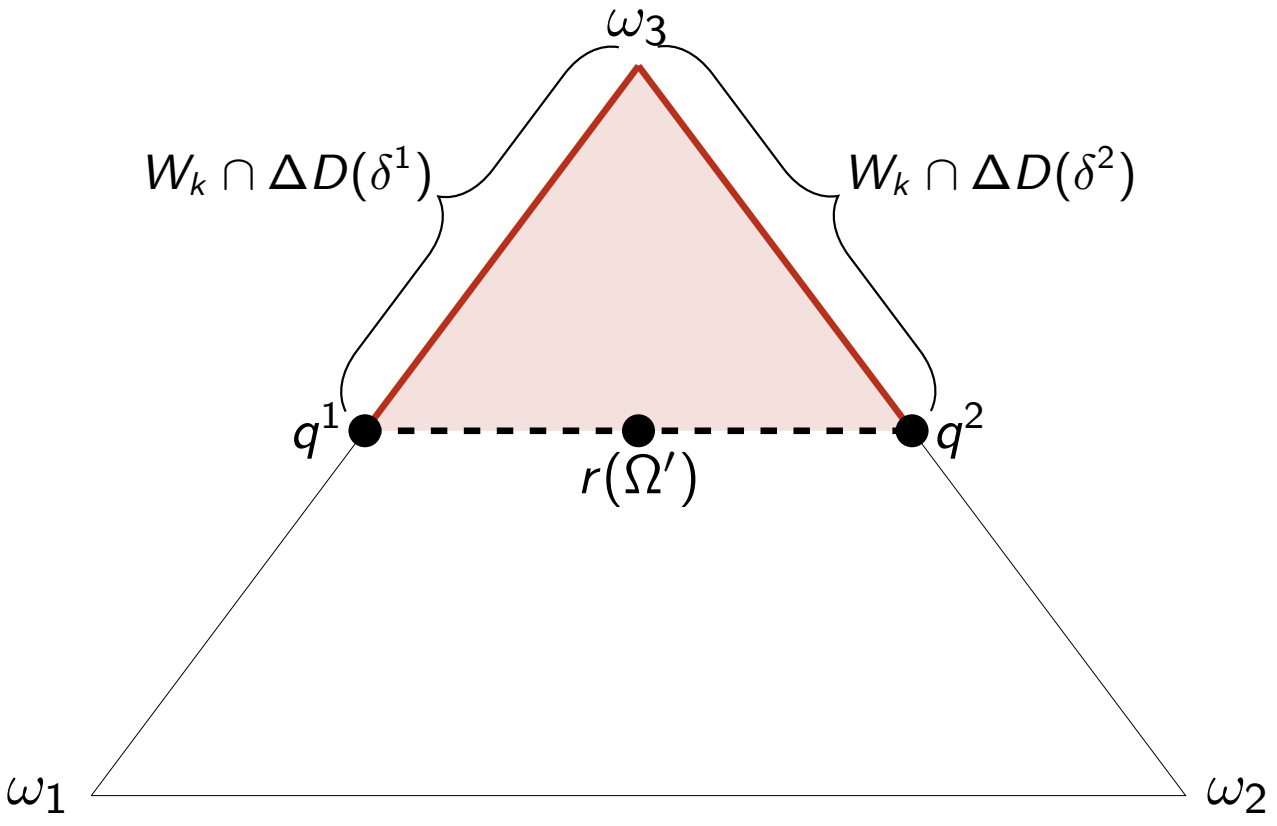
Belief 1

Sender-optimal disclosure



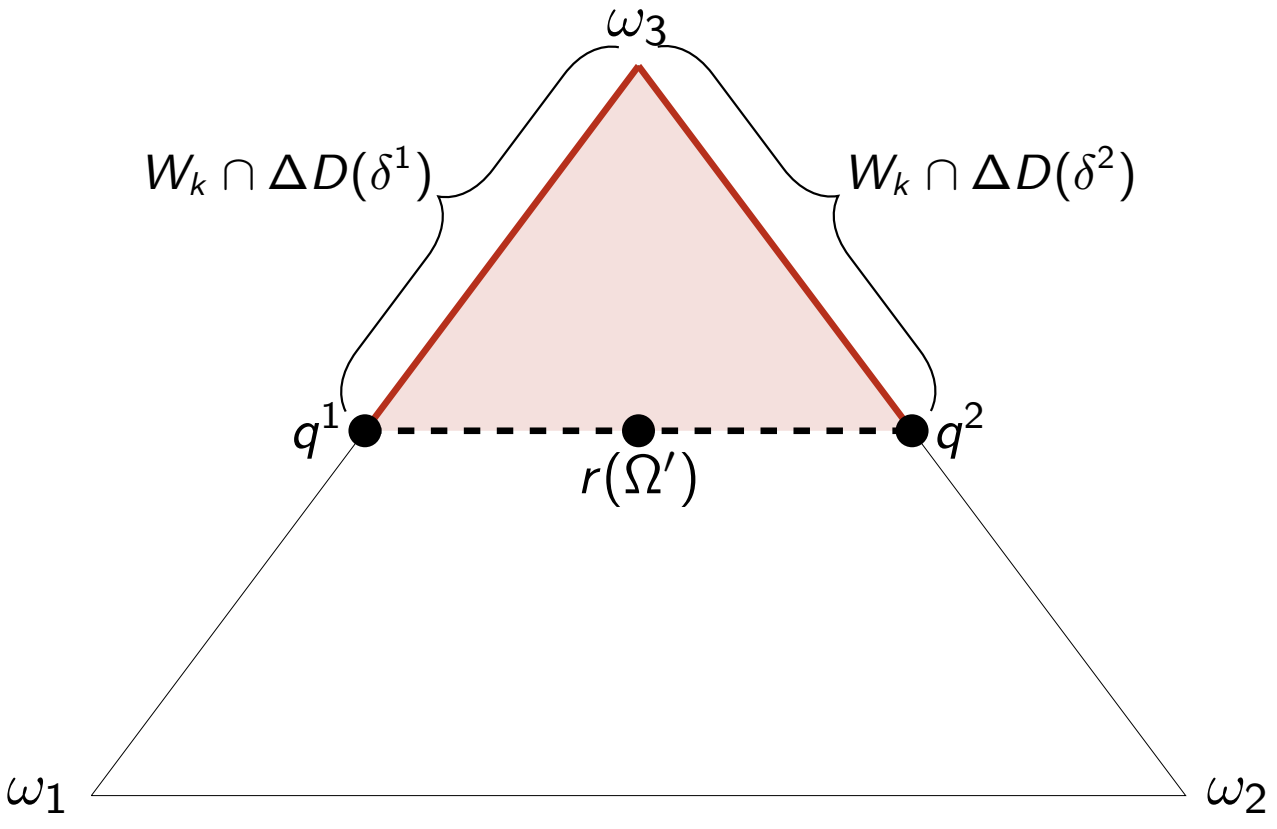
Belief 2

Sender-optimal disclosure



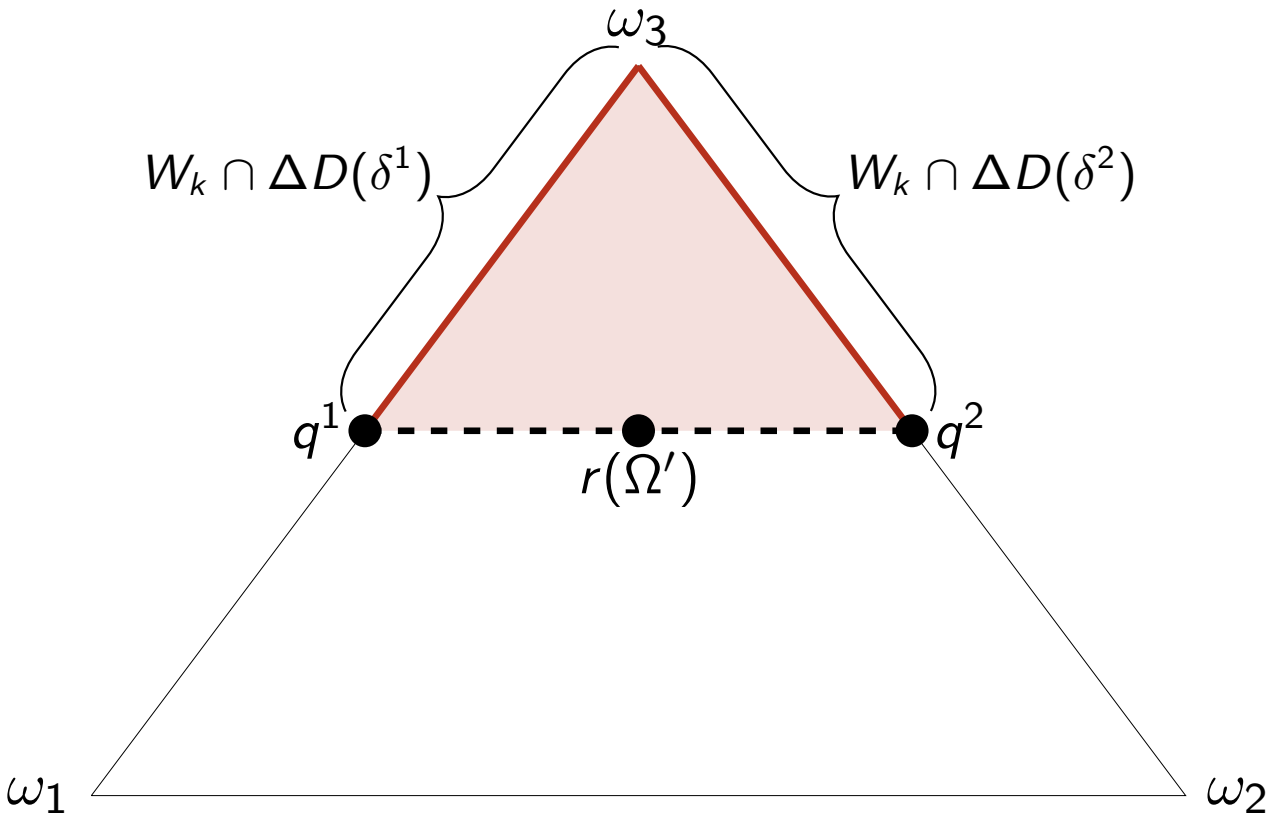
Bayes' plausibility

Sender-optimal disclosure



Proposal passes if $\omega_1, \omega_2, \omega_3$

Sender-optimal disclosure



$$V^S = p(\omega_1) + p(\omega_2) + p(\omega_3)$$

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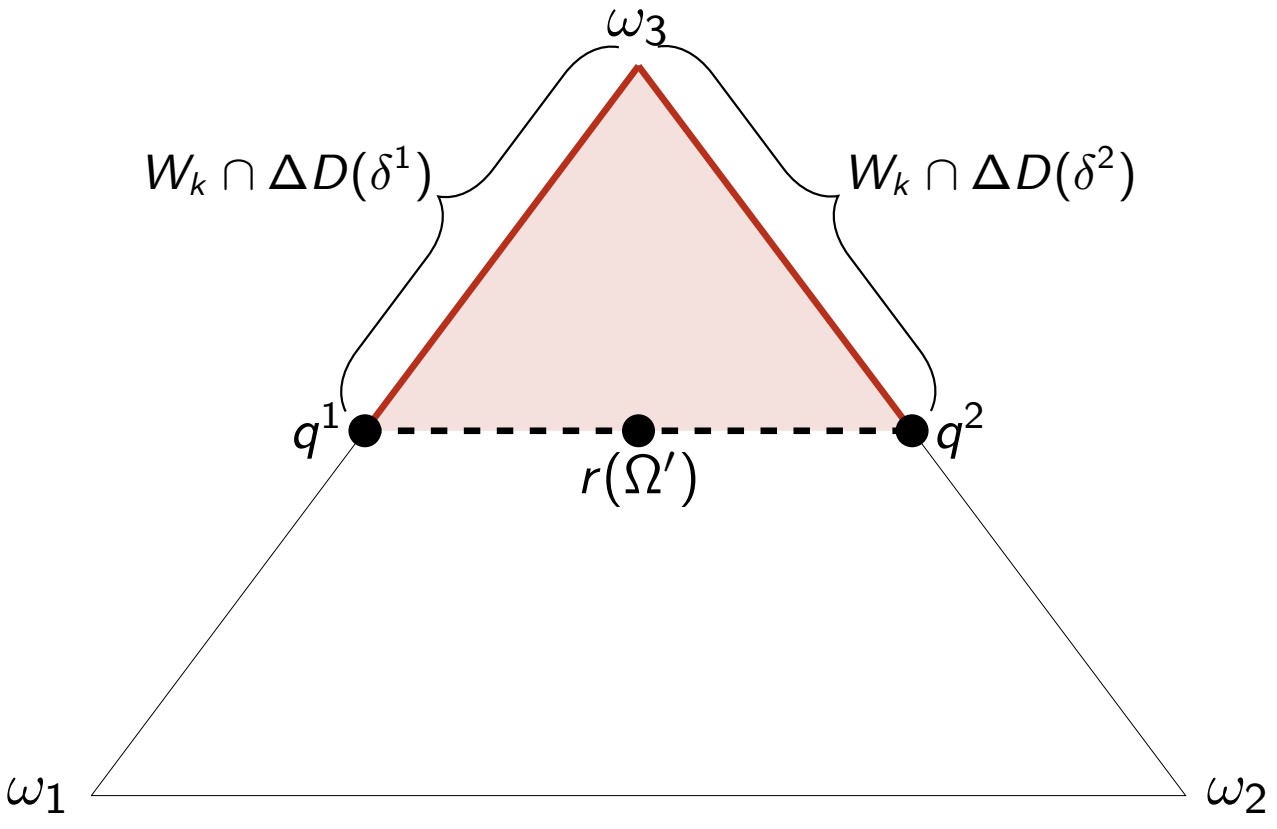
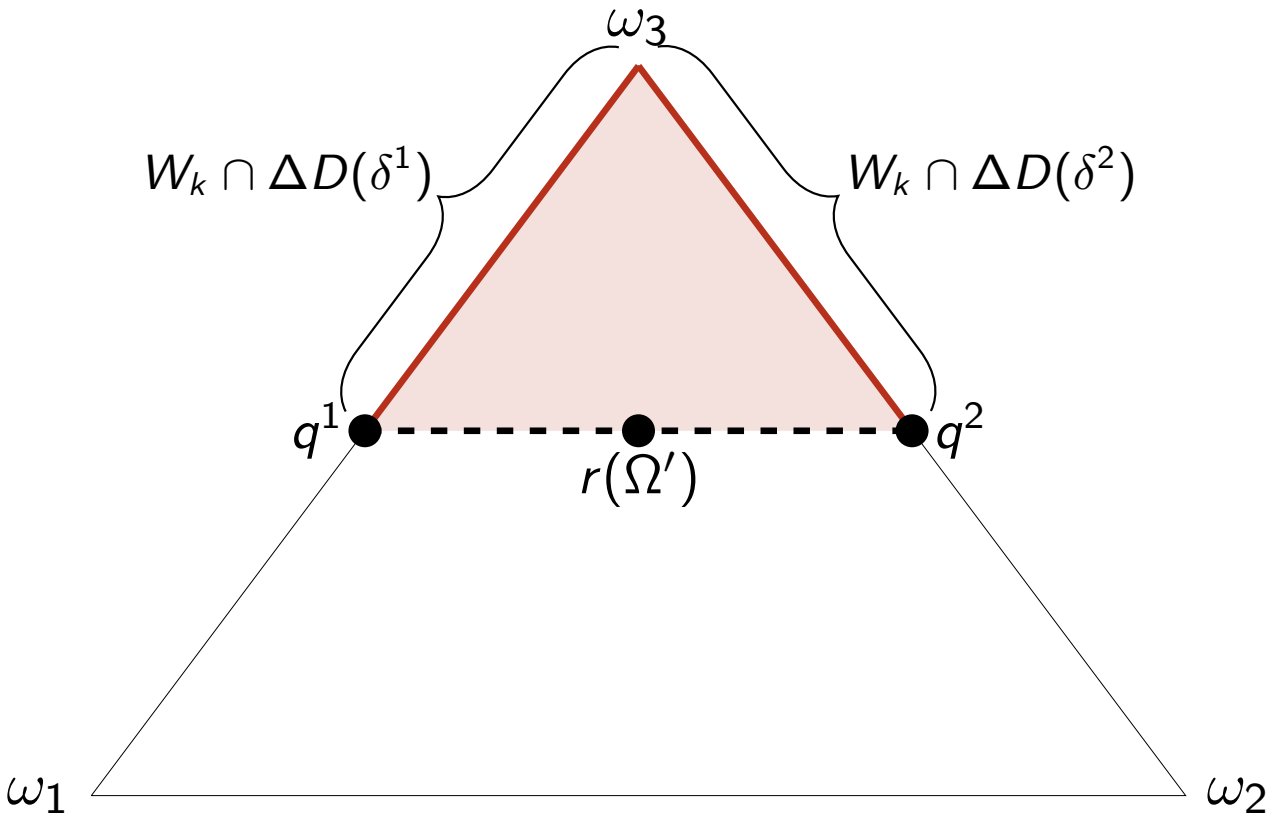


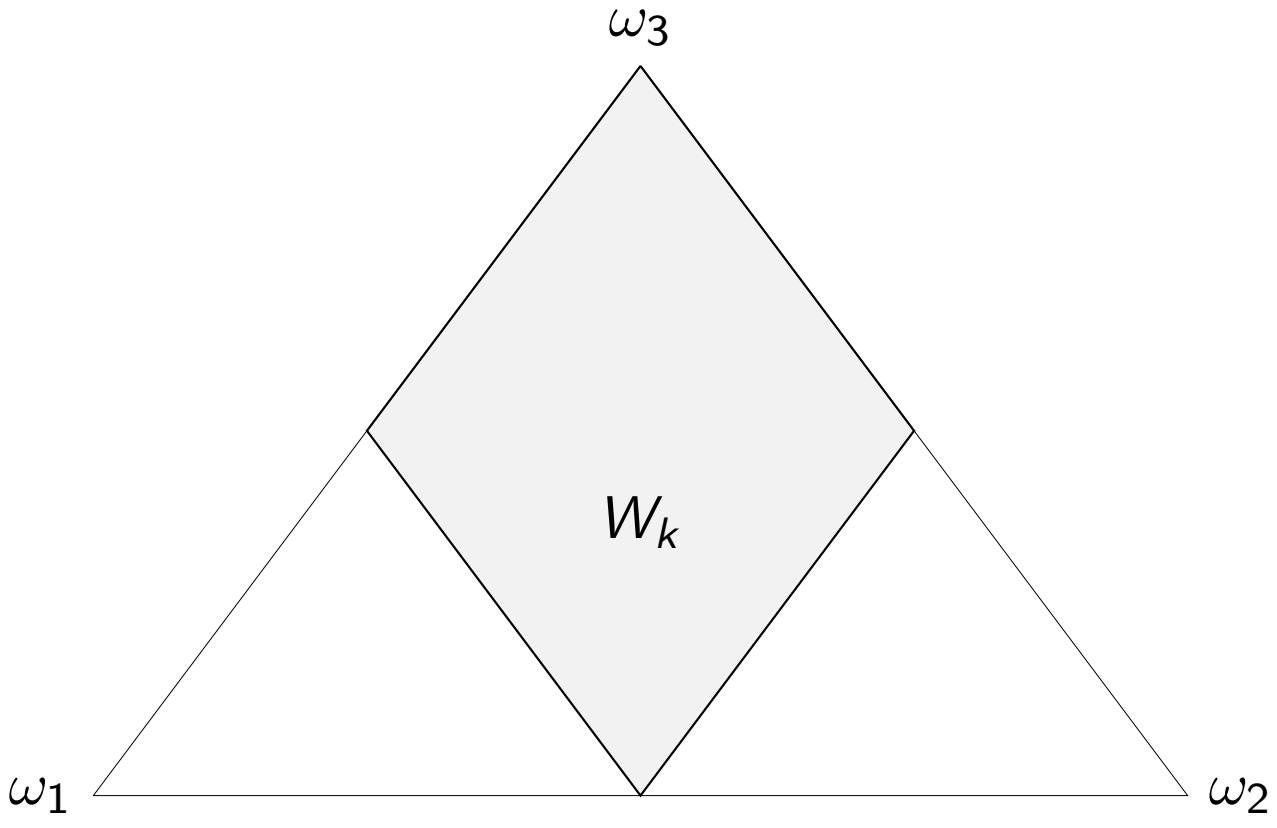
S cannot deviate if ω_4 – lie is detected

Sender-optimal disclosure



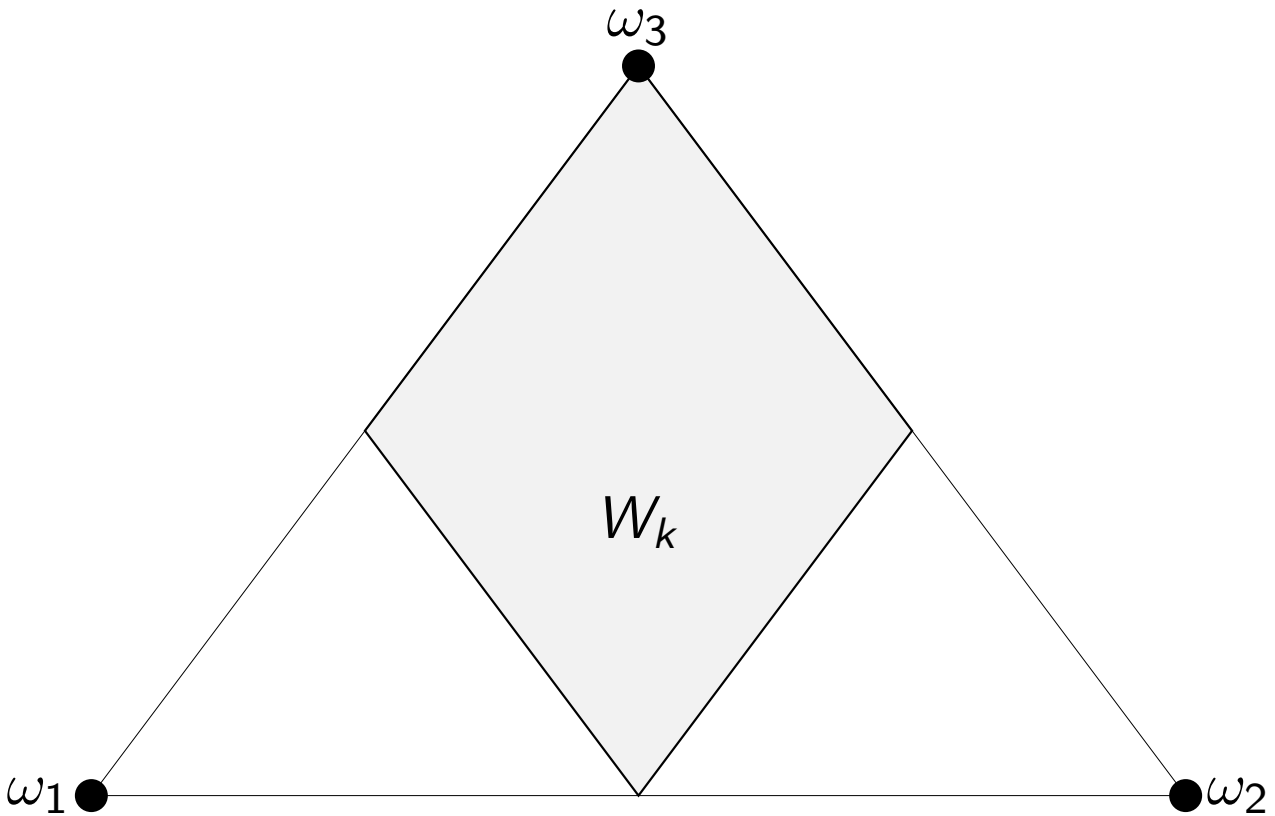
Similar exercise if $G = (\{1\})$ or $G = (\{2\})$

Sender-optimal disclosure



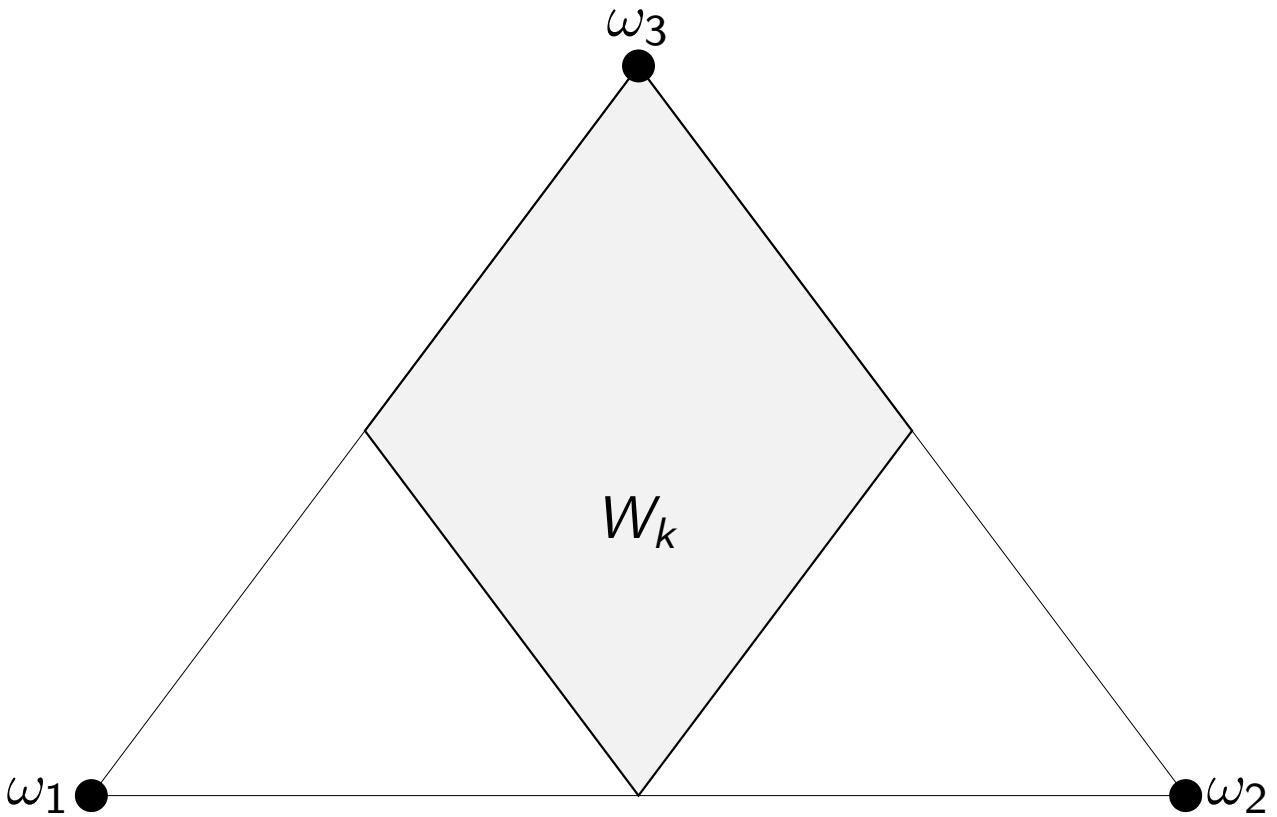
Consider full disclosure $G = (\{1, 2\})$

Sender-optimal disclosure



Fully informative beliefs

Sender-optimal disclosure



Proposal only passes if ω_3

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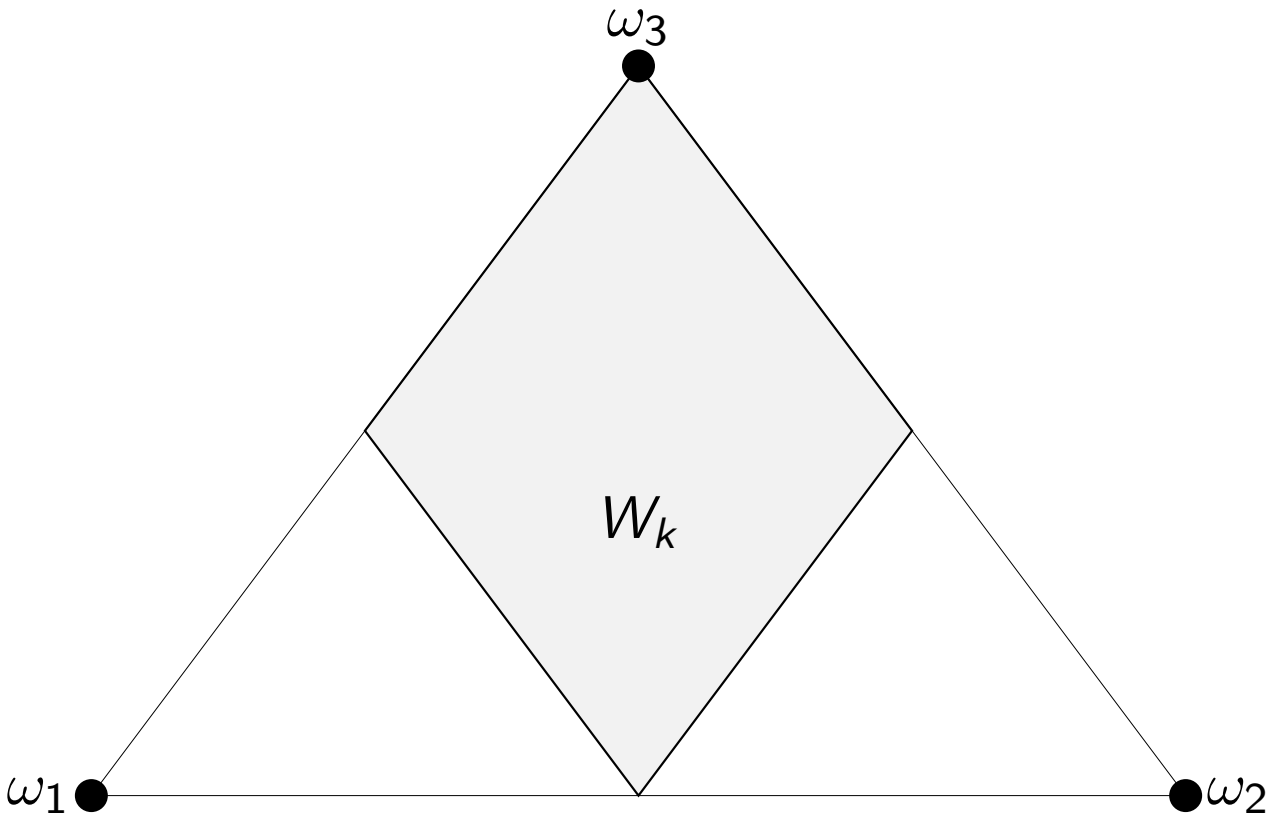

$$V^S = p(\omega_3)$$

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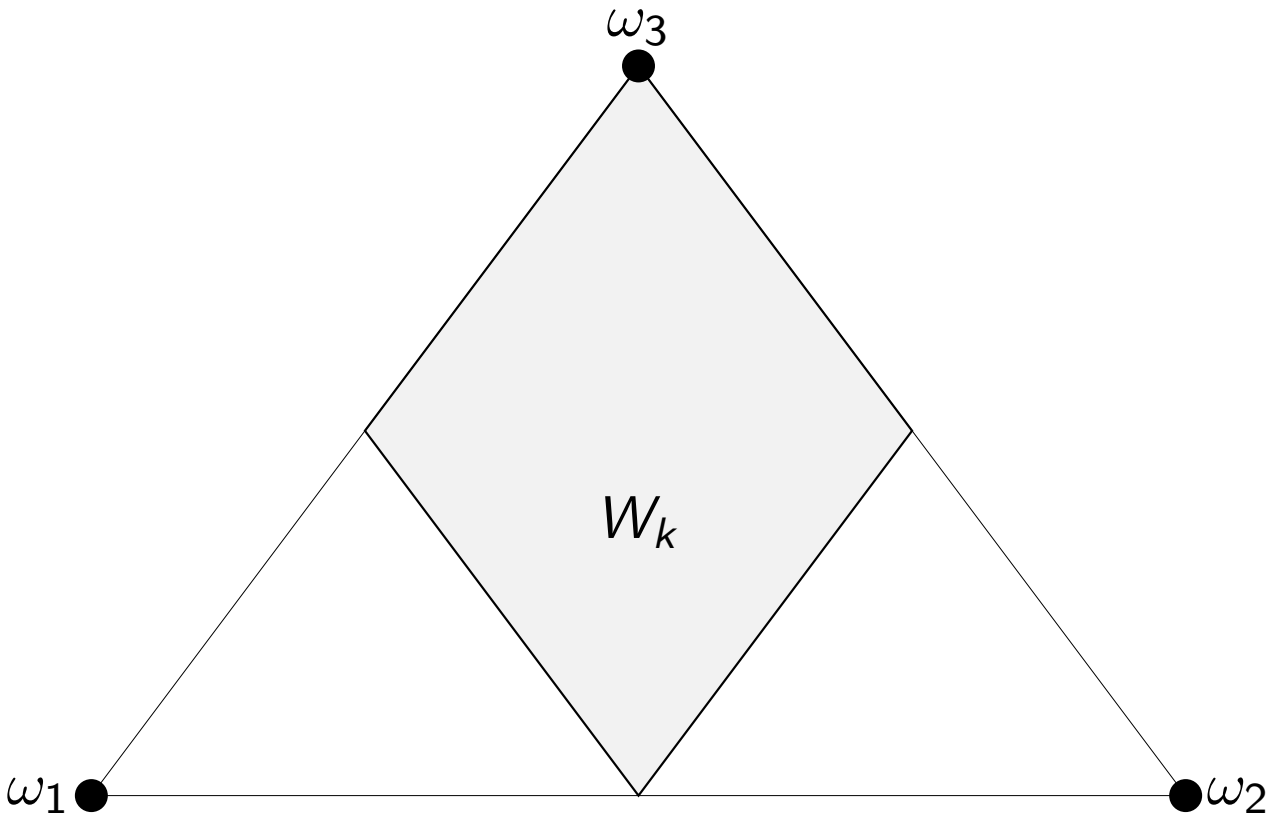
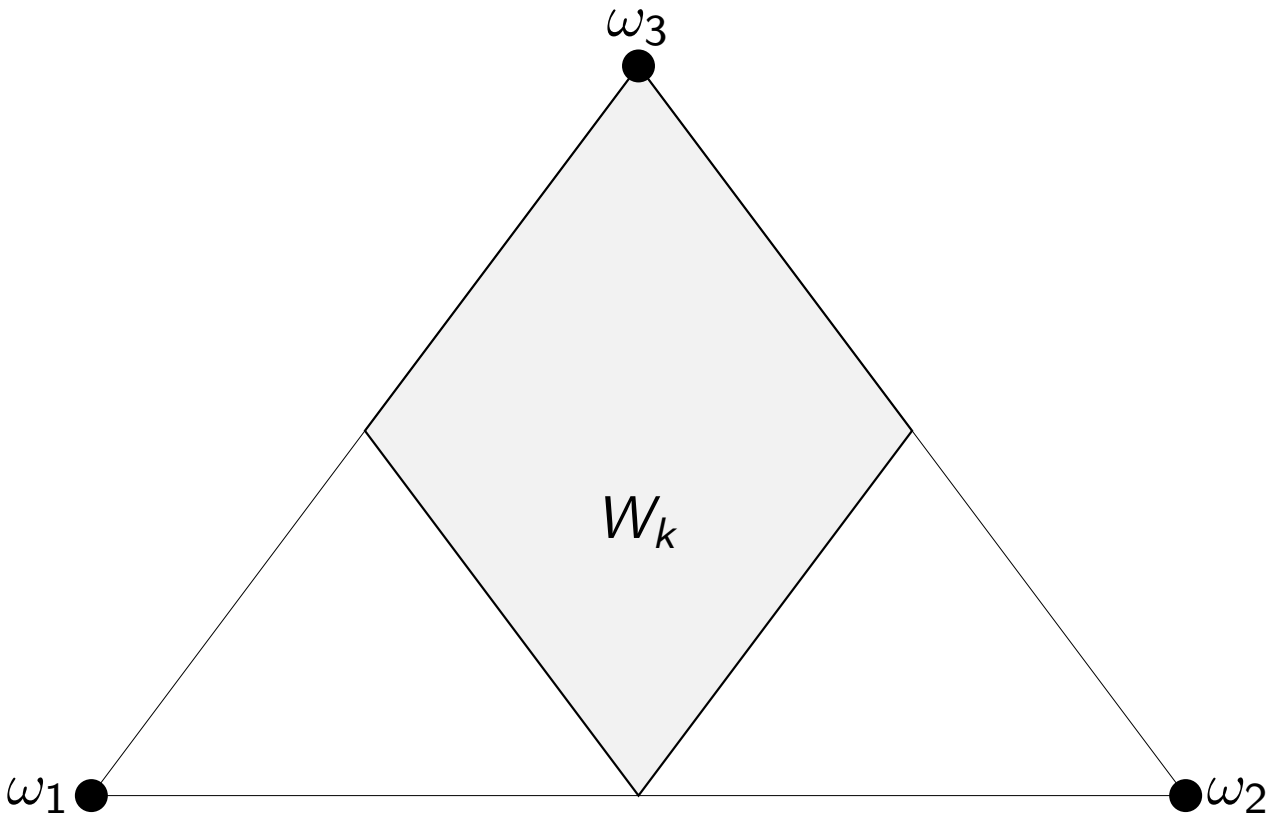


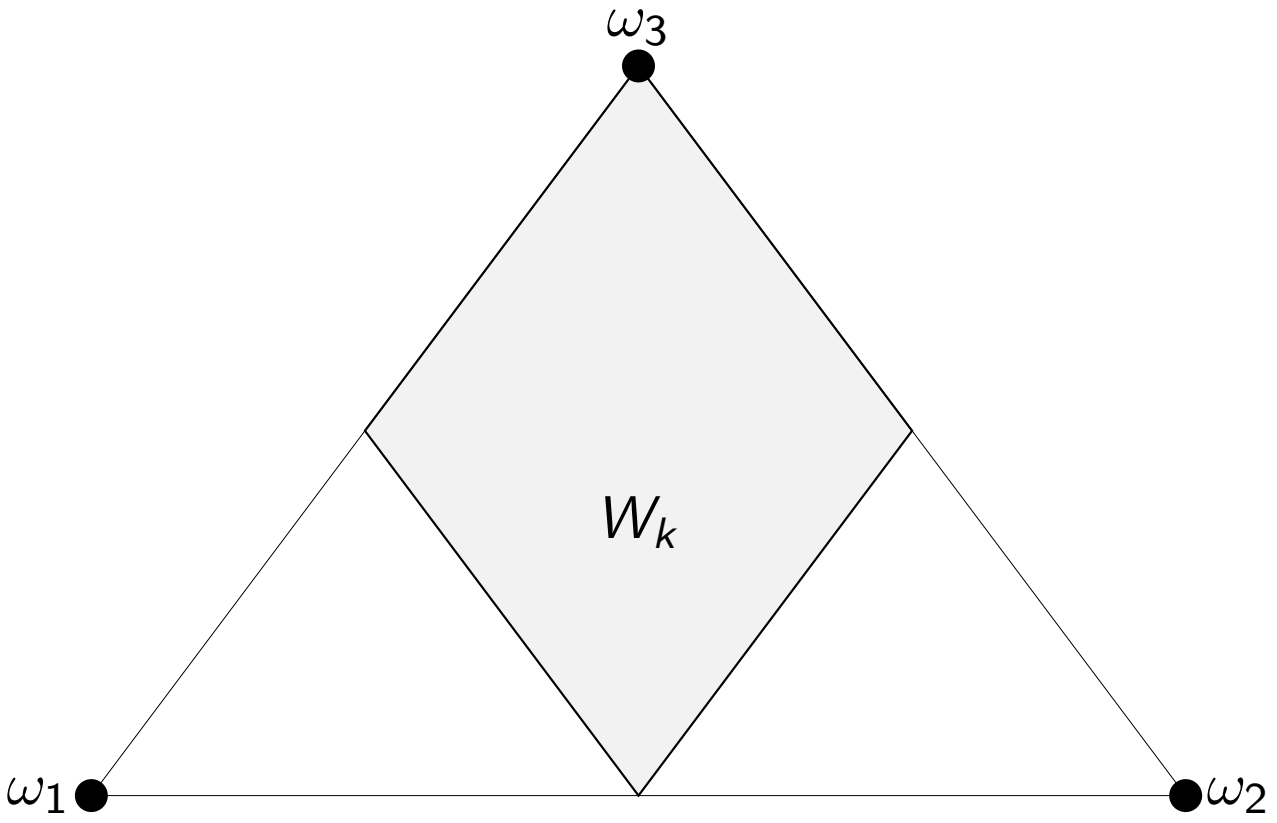
Intermediaries help S do better than full disclosure

Sender-optimal disclosure



But does not work under all prior beliefs

Sender-optimal disclosure



Intermediaries must be able to persuade others

General case

Proposition

Assume $p \notin co(W_k)$.
A sender-optimal PBE selects intermediary-set $G = (g)$ *to maximize the probability that at least one group agrees with* S *under full information*

$$V^S(G) = \sum_{\omega' \in D(G)} p(\omega')$$

subject to a geometric constraint that captures the approval of intermediaries and a k*-majority*

$$r(D(G)) \in co\Big(W_k \cap \big(\cup \Delta D(g)\big)\Big)$$

Conclusion

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Other insights

(i) Combine public and private persuasion

(ii) Ideology and value of connections

(iii) Competition reduces value of connections

(iv) Extension with partially verifiable info & burned money

Thank you!