Content Moderation and Migration in Social Media: Evidence from Musk's Twitter Acquisition

Iván Rendo (TSE)

IO Workshop

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- Increased interest in **online** hateful/extreme/**unsafe content**:
    - E.g. spread of jihadism, bullying, food disorders…
    - Jiménez-Durán (2022) links online hate to **offline violence**
        - ➡ EU Response: **Digital Services Act** (DSA)

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- Different complementary views on content moderation:
  - "Old Internet" - Duch-Brown's perspective:

    ➡ **Constant unsafe content** across time BUT today **good and bad people together**
  - Lefouili & Madio (2022): migration = ↓ impact and enforcement costs
  - Anti Defamation League (ADL) viral video: trading-off **moderation** in Twitter and **migration** to other (hateful, small) environments

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+ **Empirical evidence** through Musk's acquisition of Twitter

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- **Endogenous composition** ~ migration
  - Users' trade-off: network size, quality vs (un)safe content
  - Platform's trade-off: participation vs unsafe content

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2. **Policy:**
    - **Incentives misalignment** between platform & regulator (min unsafe content)
    - Imposing a **minimal** content moderation intensity (policy):
        i. W Large network effects: always **superfluous**
        ii. w Mid to small network effects: can be **useful**

Roadmap

I. Theoretical Model
   - Characterization of the Equilibrium
   - Optimal Regulation

II. Empirical Evidence

THEORY

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= average unsafety of content in platform j

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Rk: I abstract of modelling the utility from creation of content

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…platform (2) just exists with $K_2 = 1$

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3. Agents derive the corresponding payoffs from the composition of the social network

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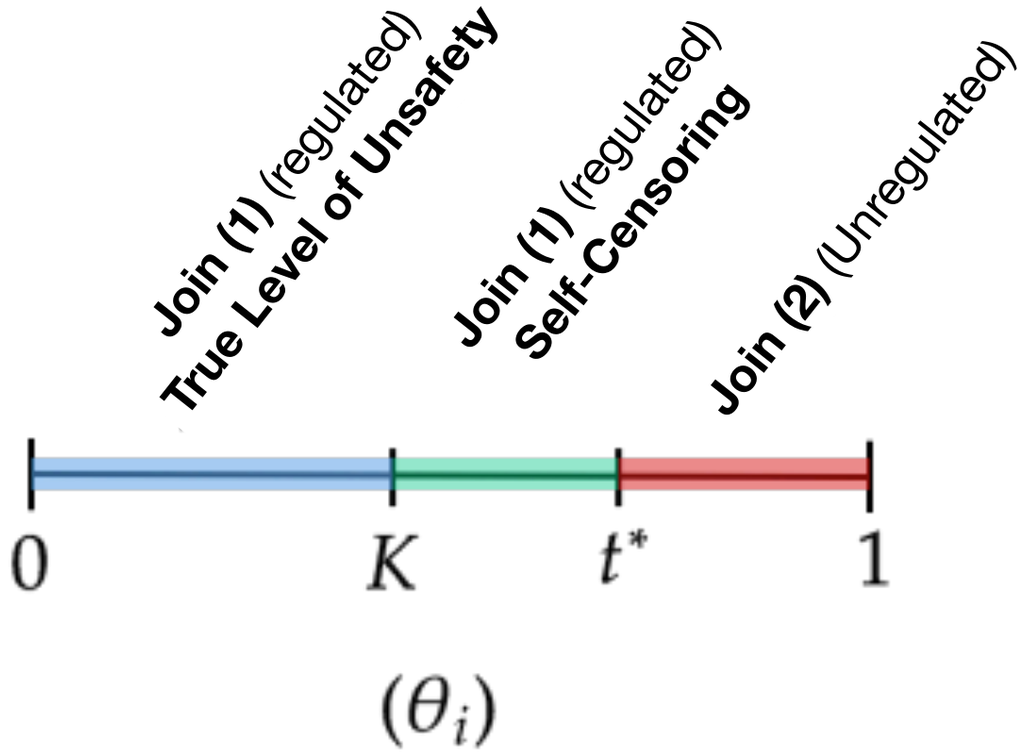

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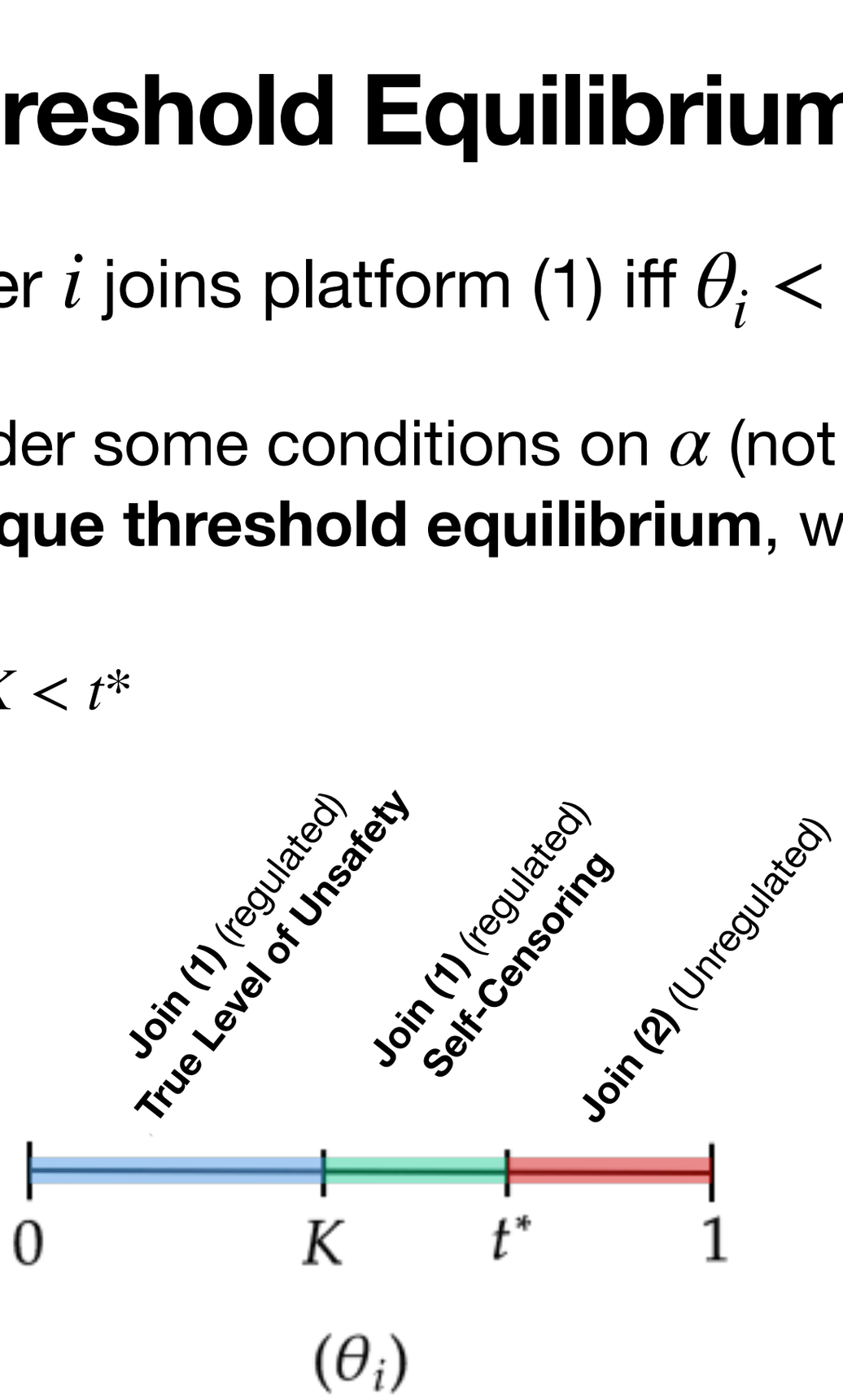

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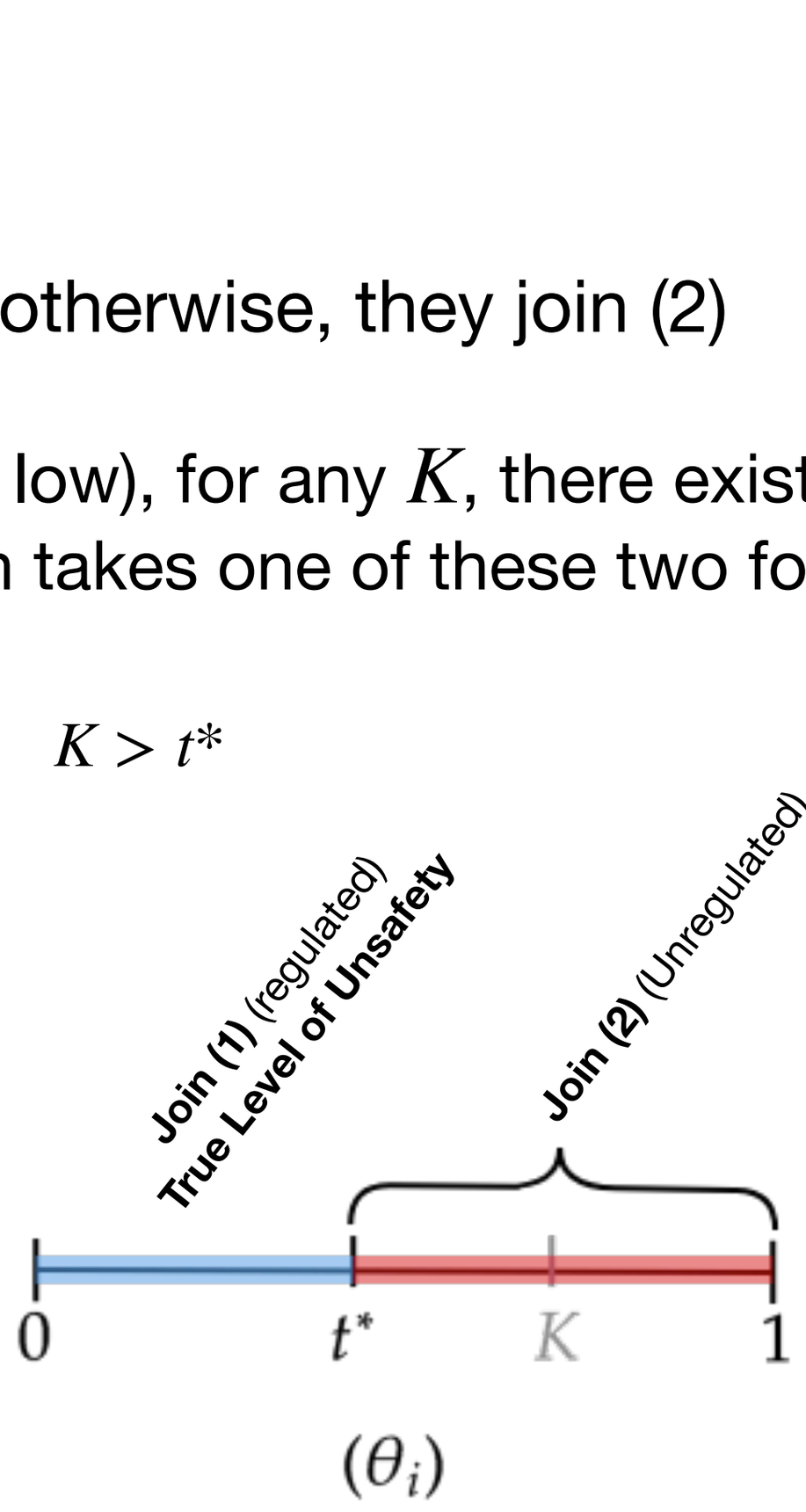

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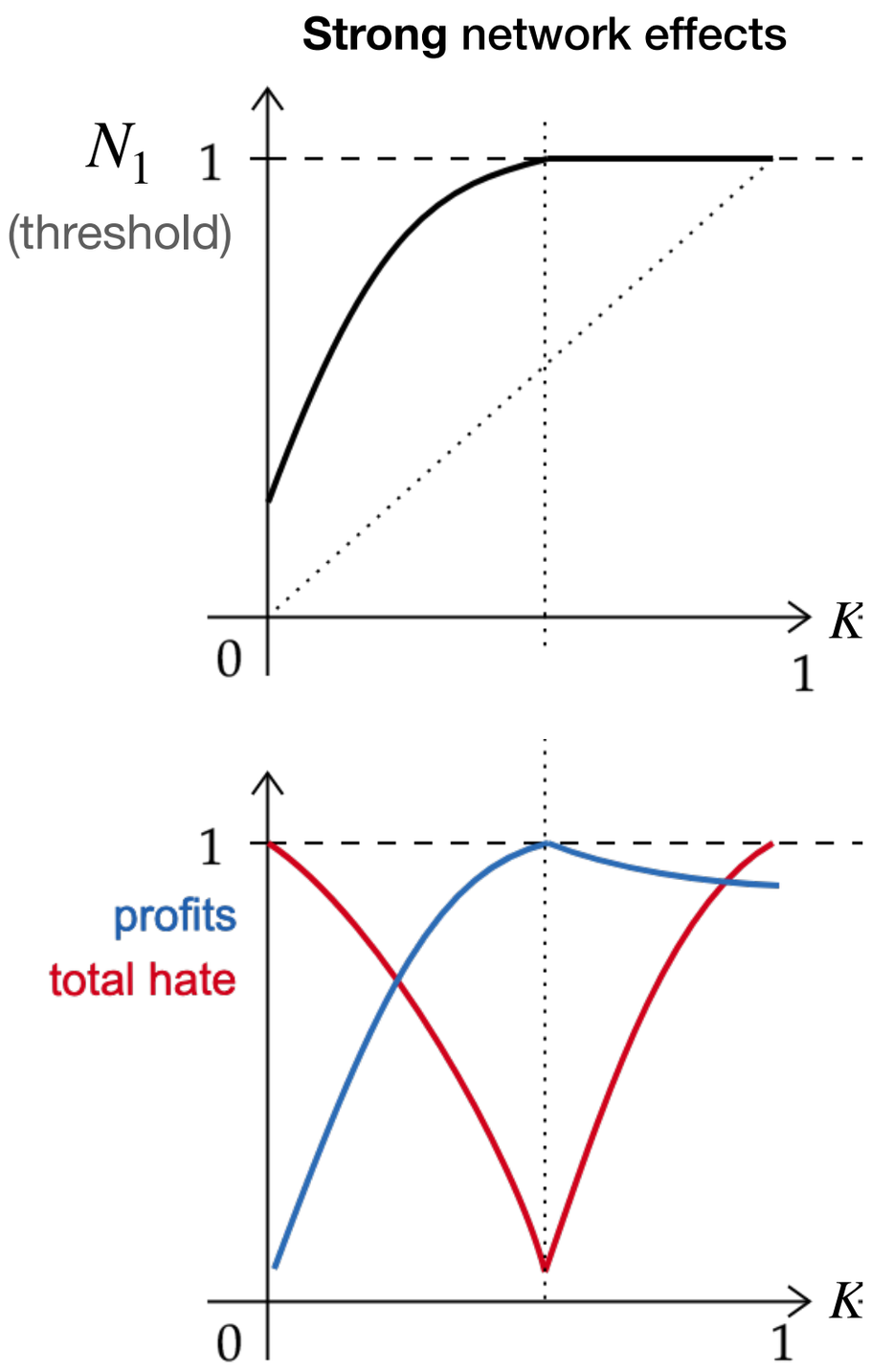
Characterization of the Equilibrium



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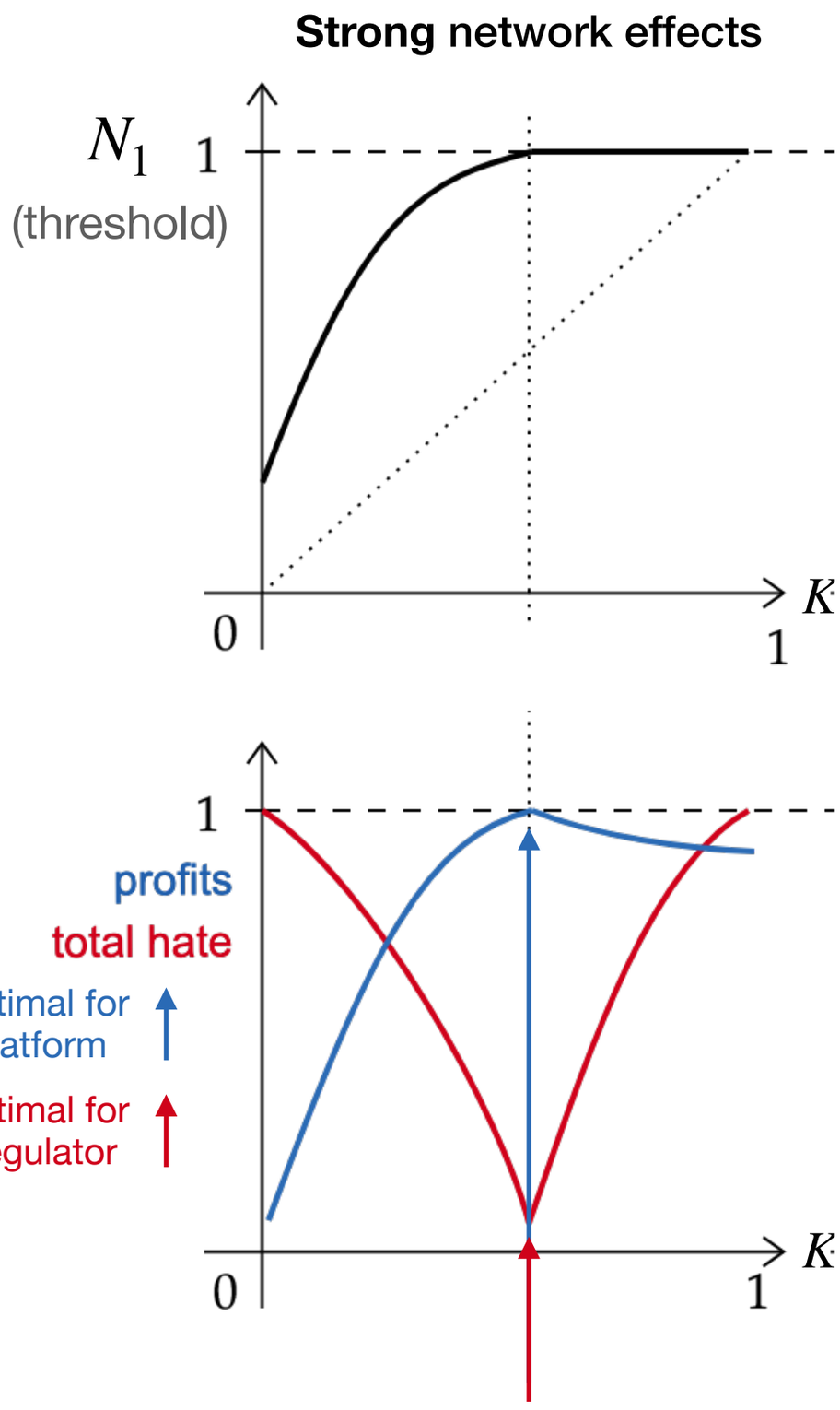

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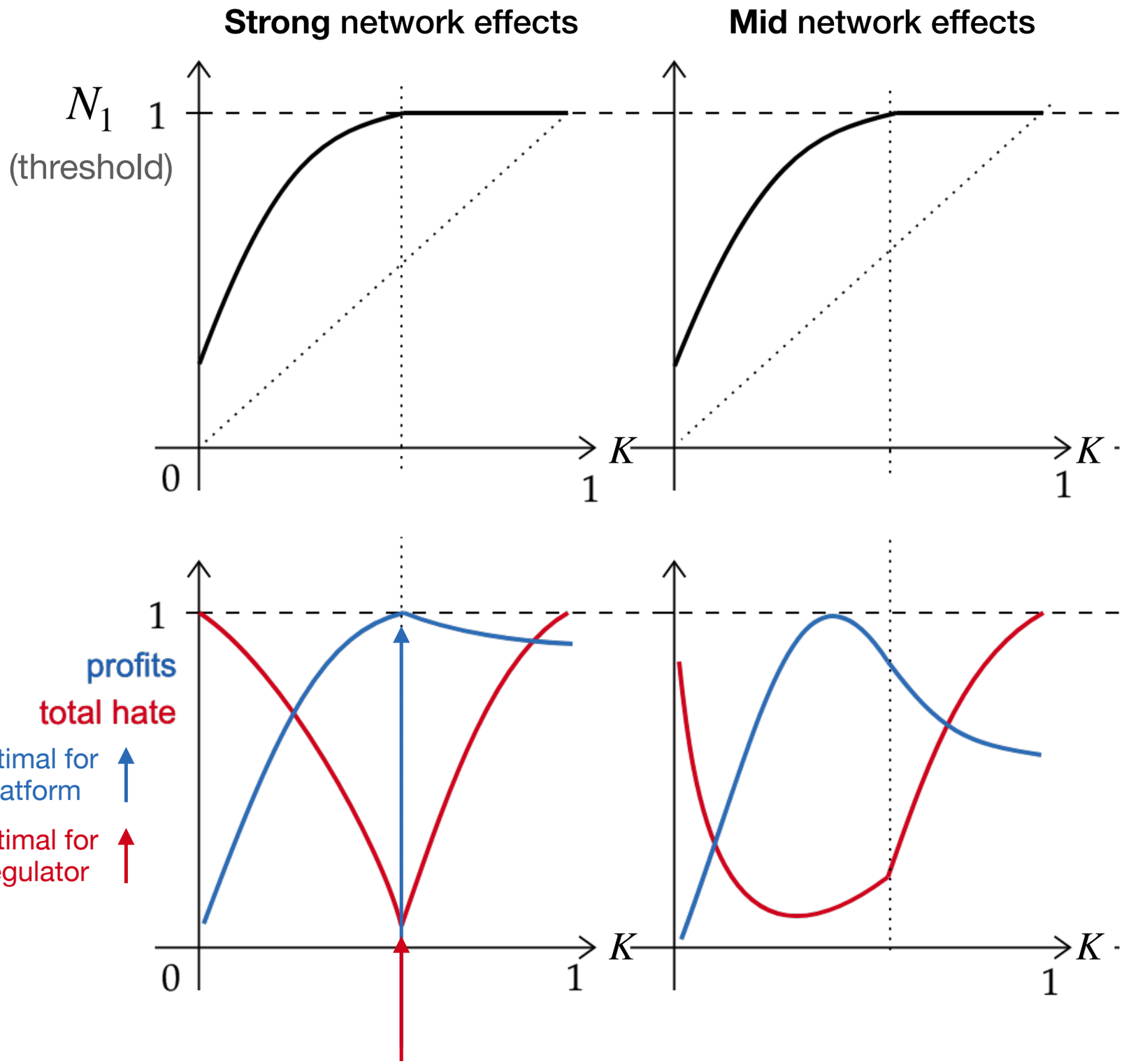

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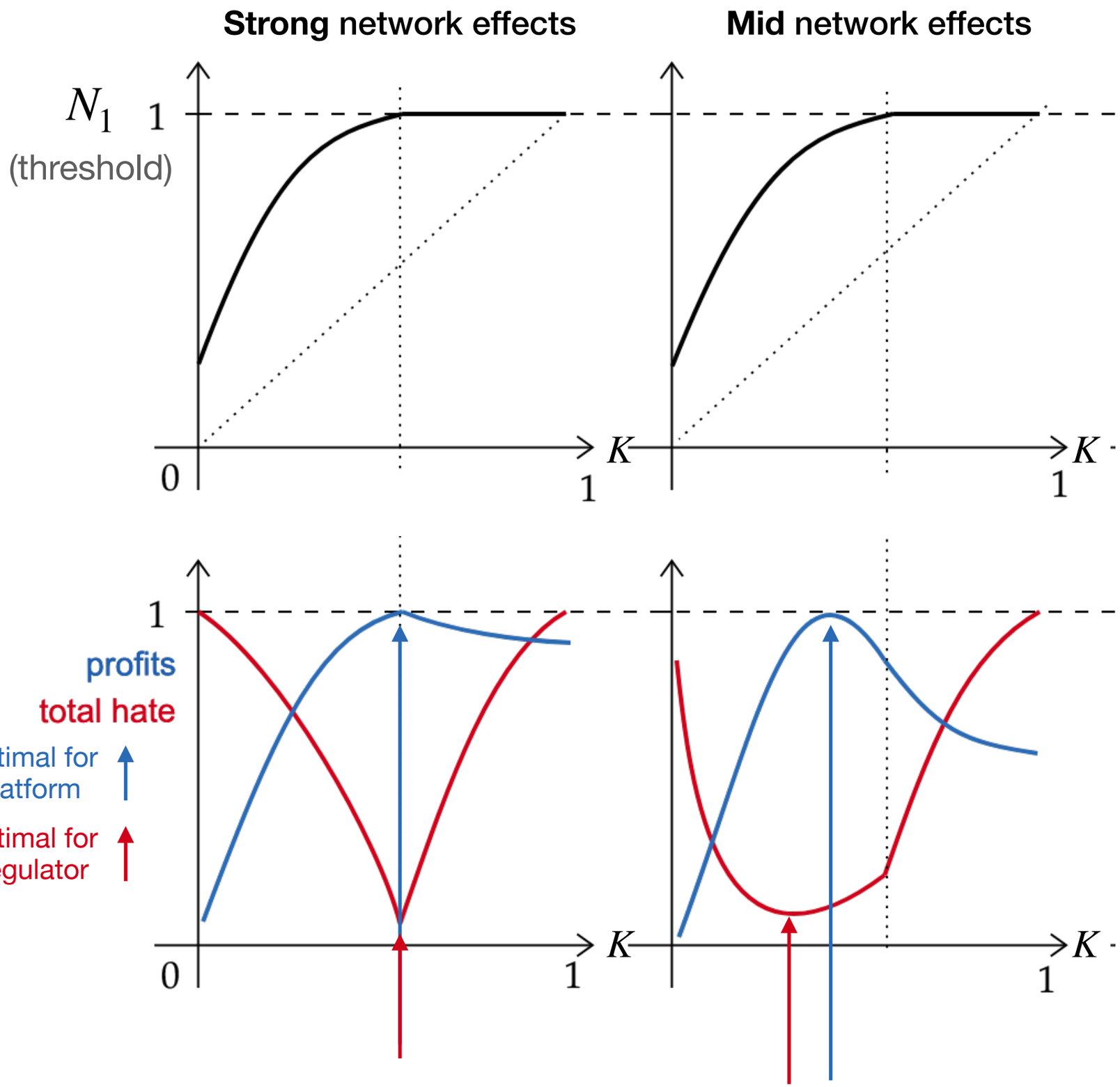

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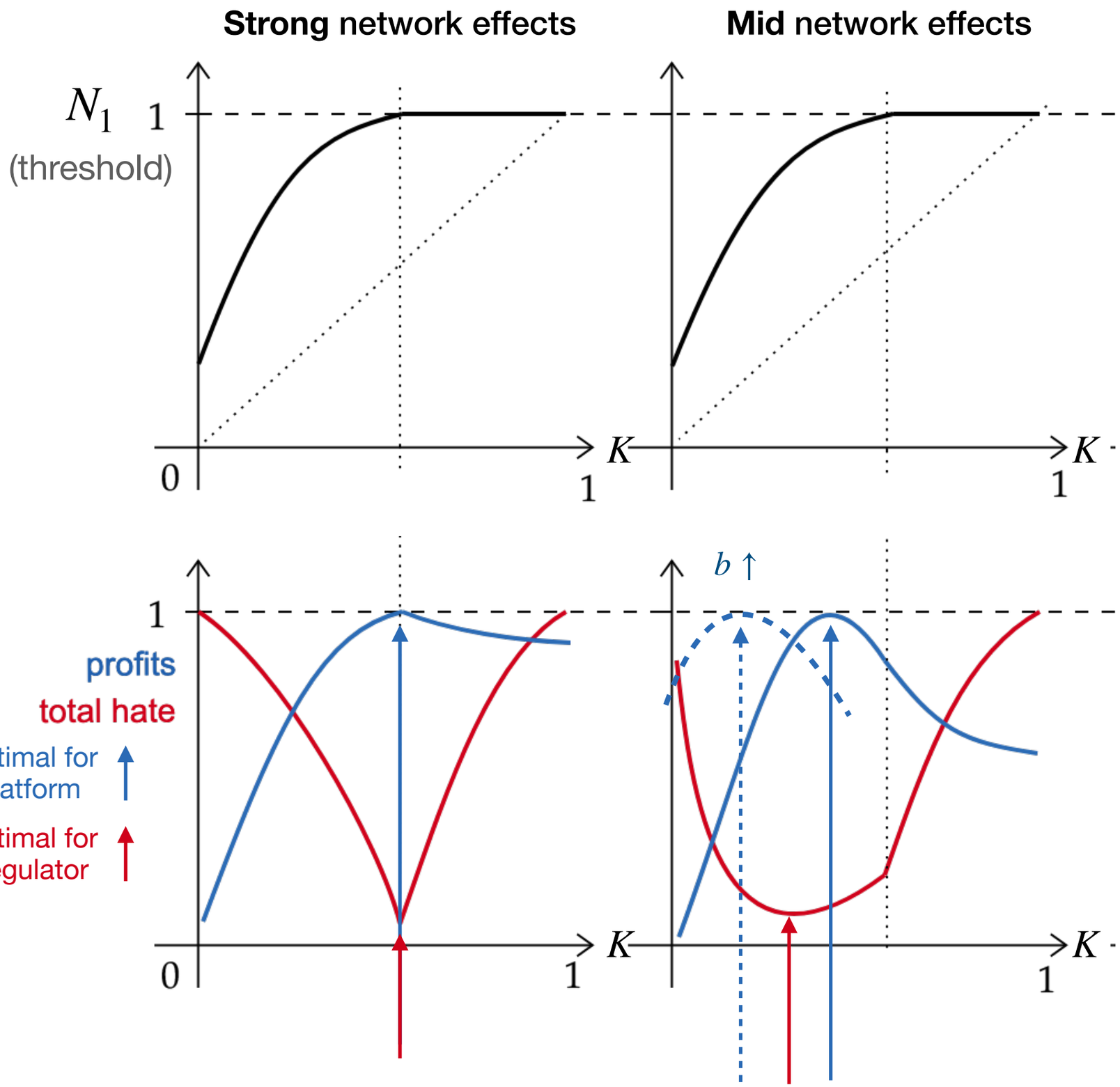

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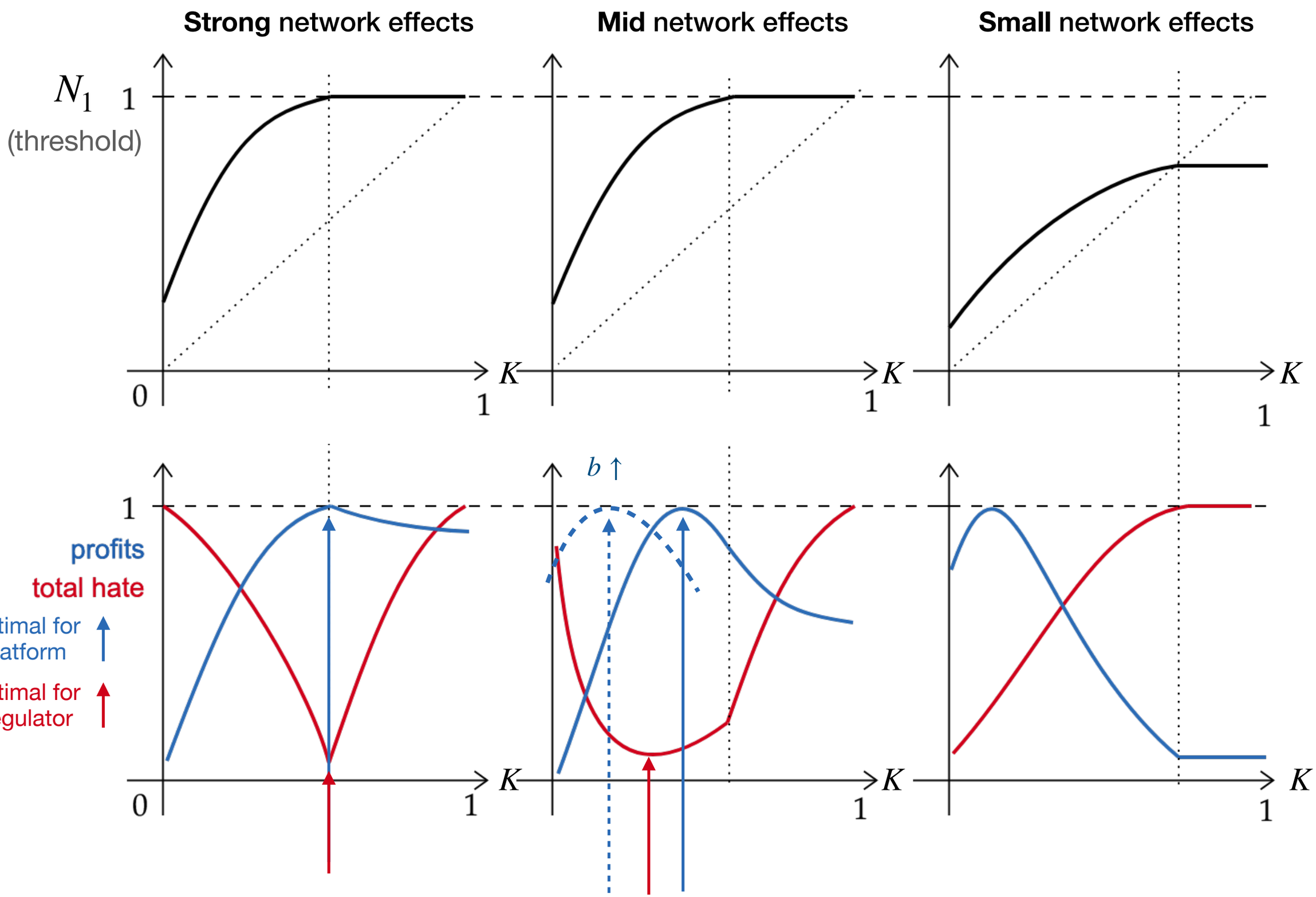

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Characterization of the Equilibrium

Strong network effects

Mid network effects

Small network effects

N_1 1
(threshold)

0 K 1

profits
total hate

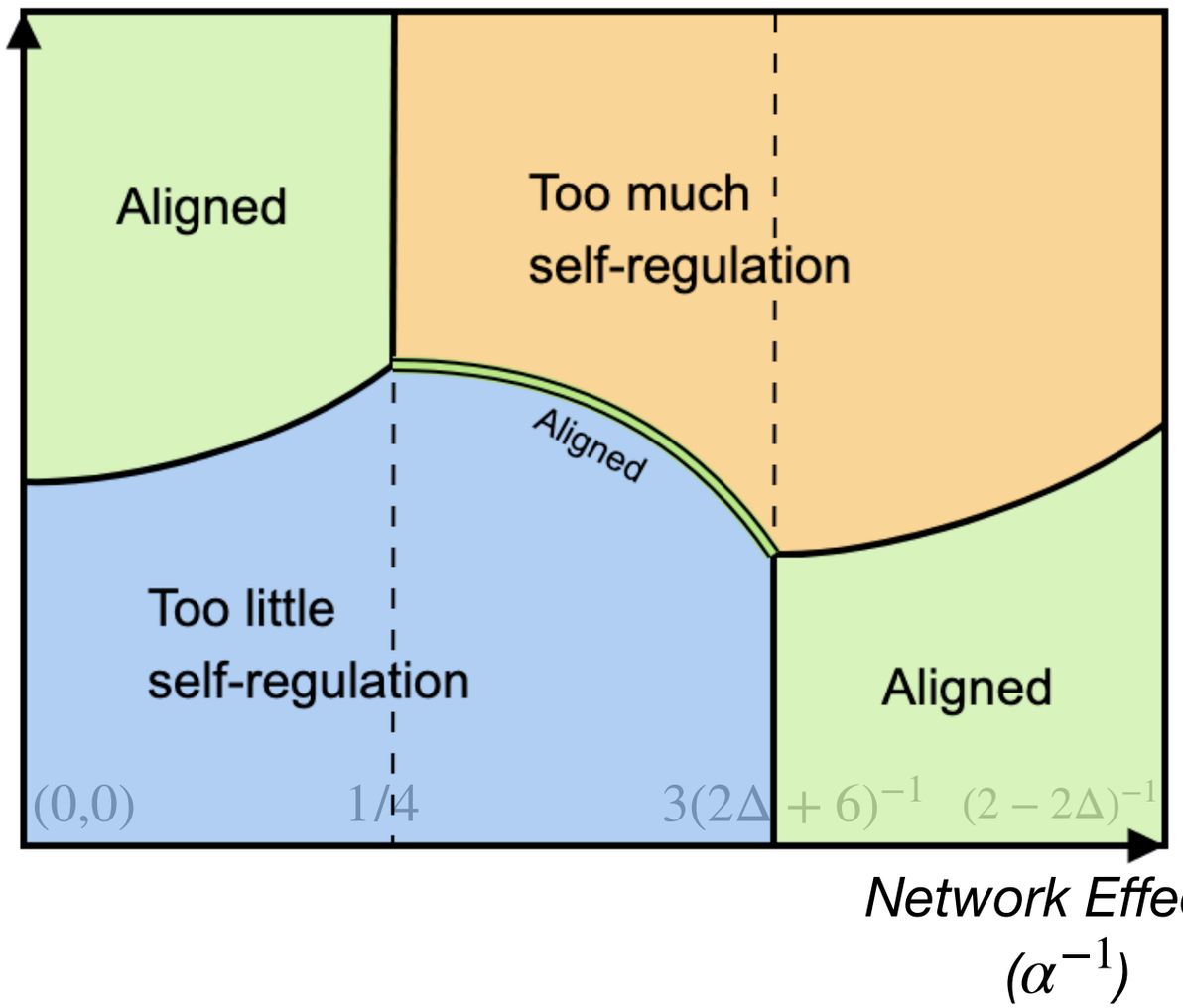
Optimal for Platform

Optimal for Regulator

$b \uparrow$

Policy (to min unsafe content)

Advertisers aversion to unsafe content (b)



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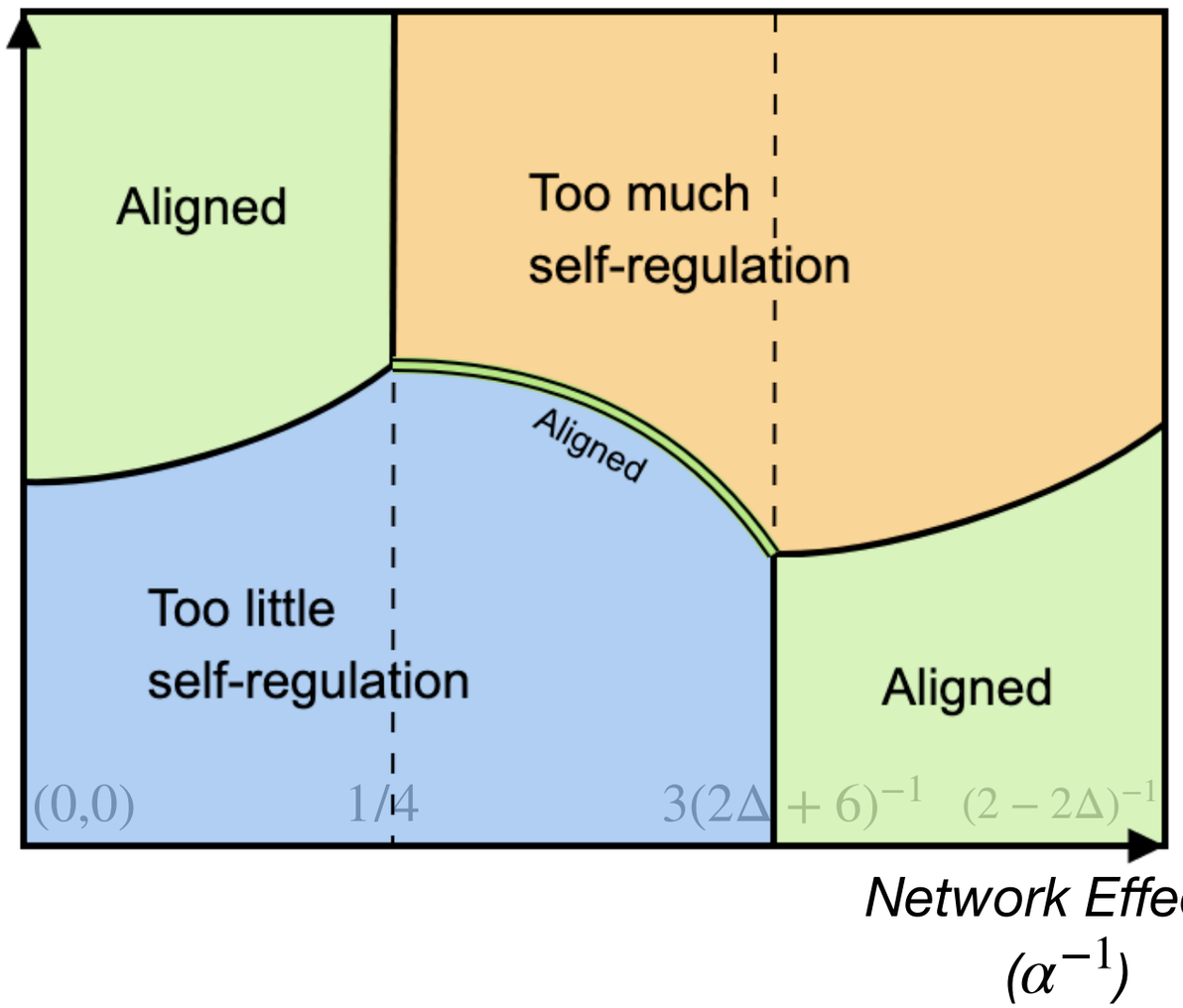

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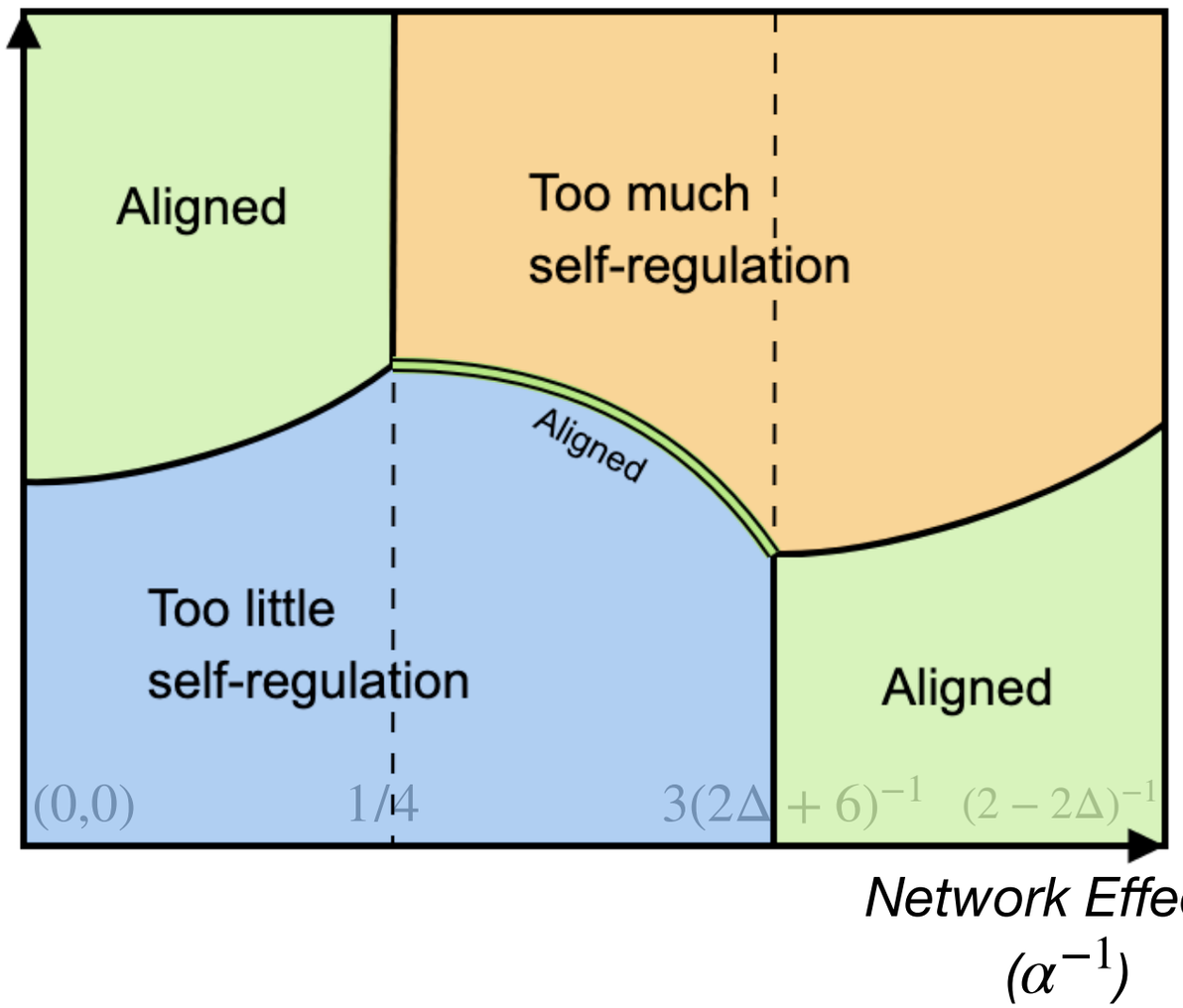

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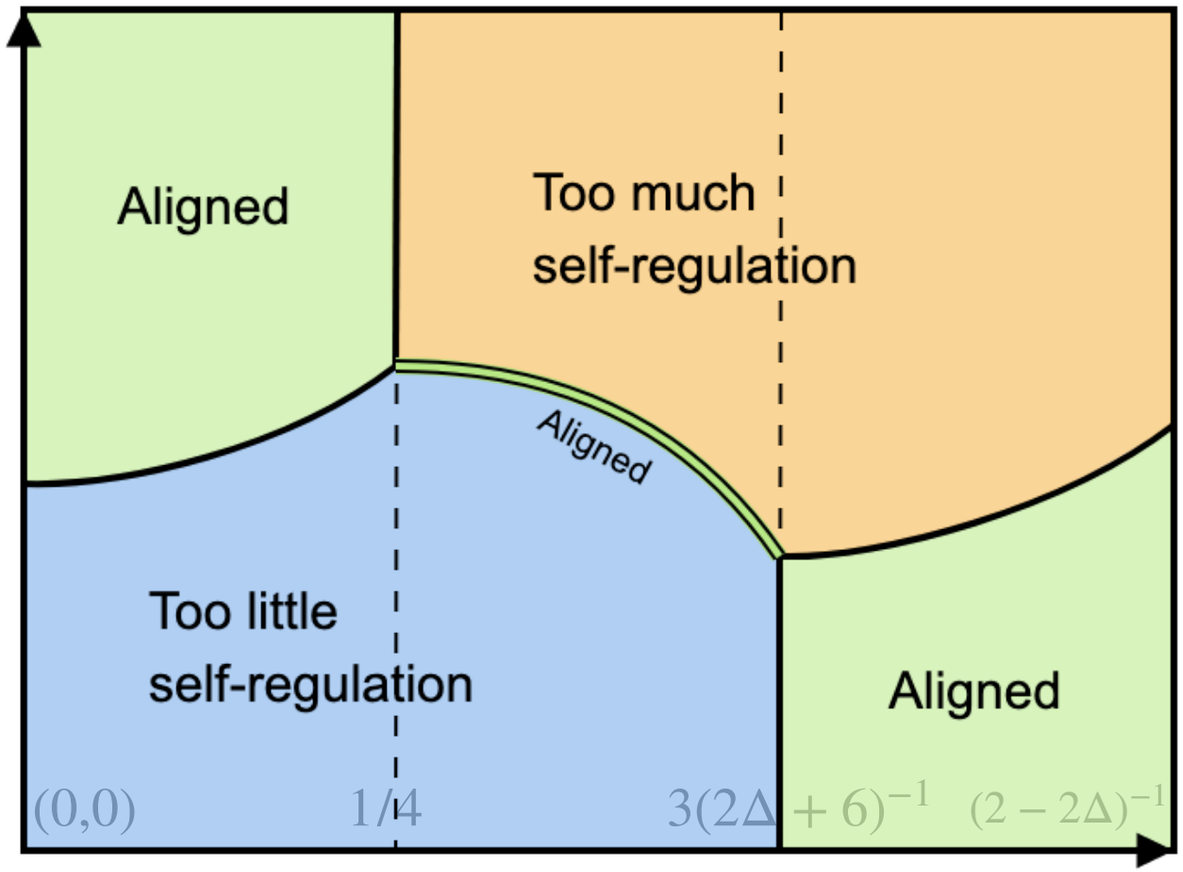

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Orange Area: the policy wouldn't bind as the minimum content imposed is higher than the optimal for the platform

(We saw this in the DSA)

EMPIRICS

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12 million tweets around the invasion of Ukraine

- Checked if created by a "**Telegram User**"
- Computed "**toxicity**" levels of a sample of >100k

of them using a *extremely* good Google API (*Perspective*)

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- Computed "**toxicity**" levels of a sample of >100k

of them using a *extremely* good Google API (*Perspective*)

Example

In terms of *toxicity*:

"You are great hahaha" > "You are great"

"Son of a bitch" > "Son of a bitch hahaha"

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“Diff-in-diff” 1 month before and after Musk’s acquisition

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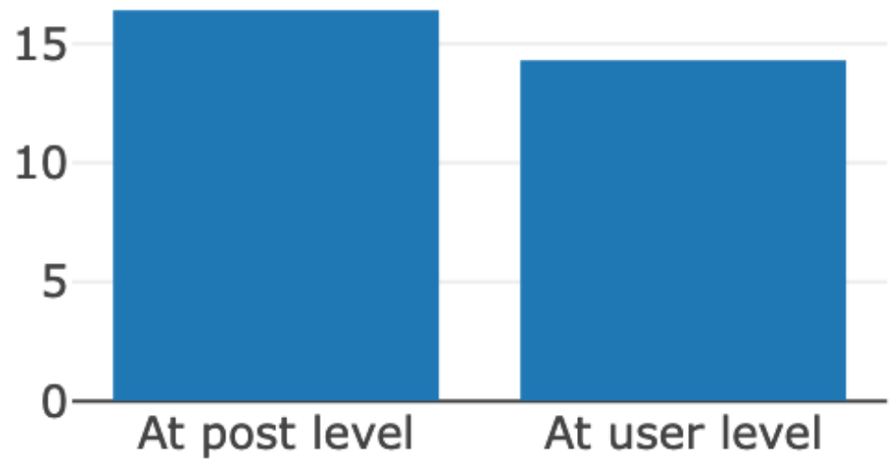

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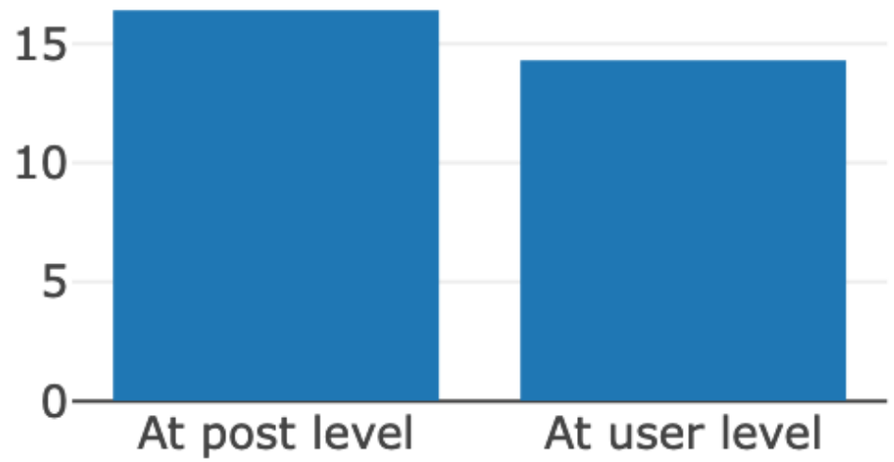

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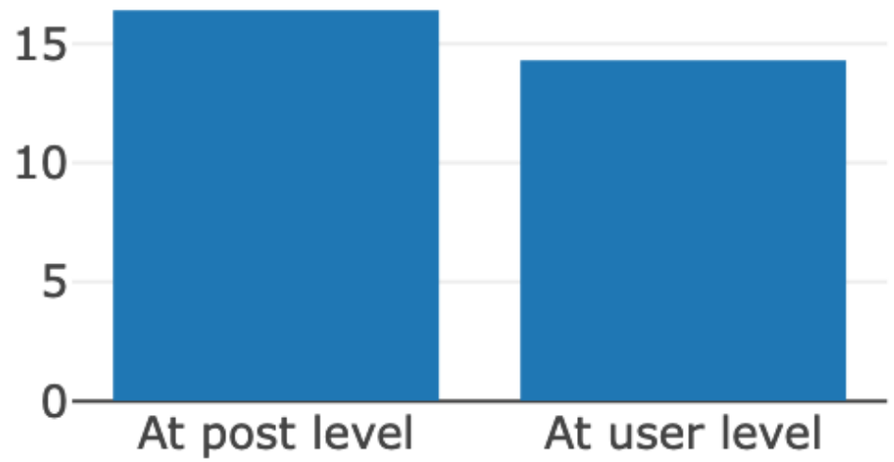

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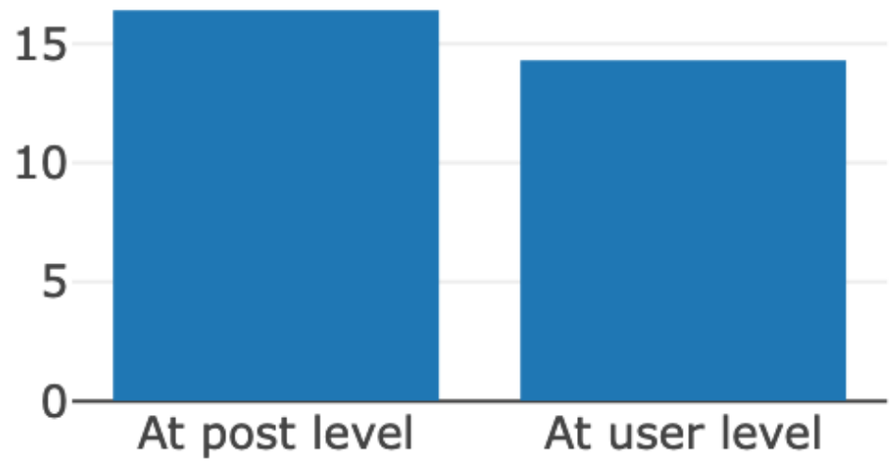

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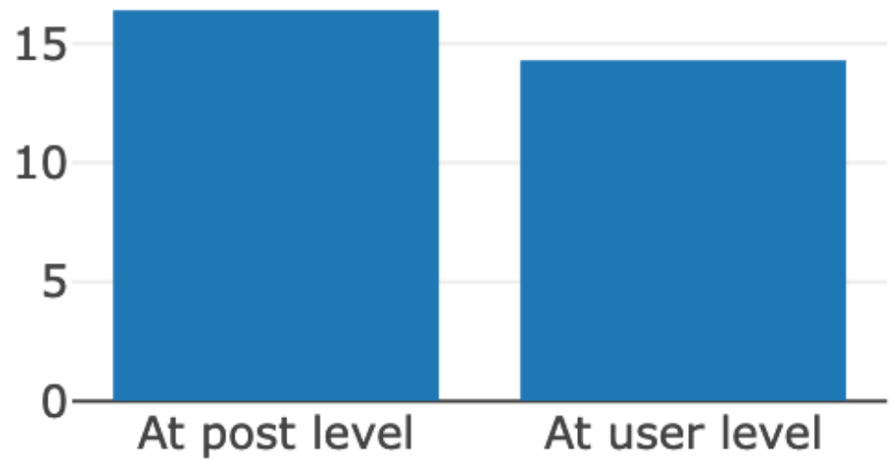

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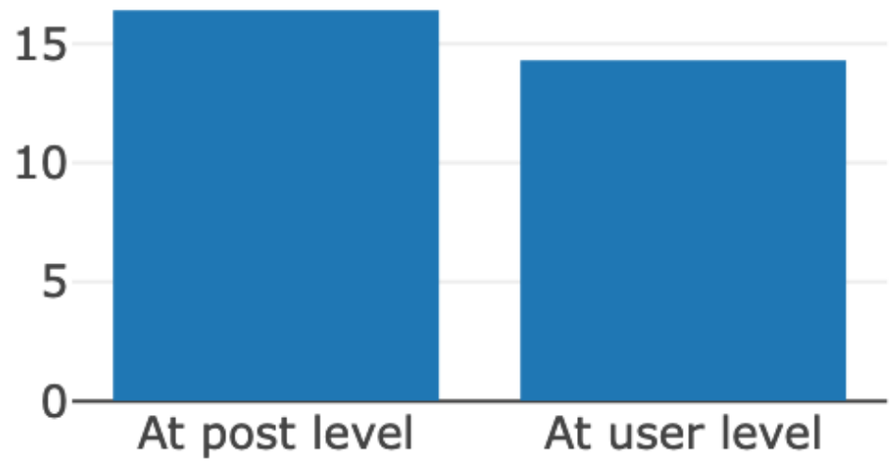

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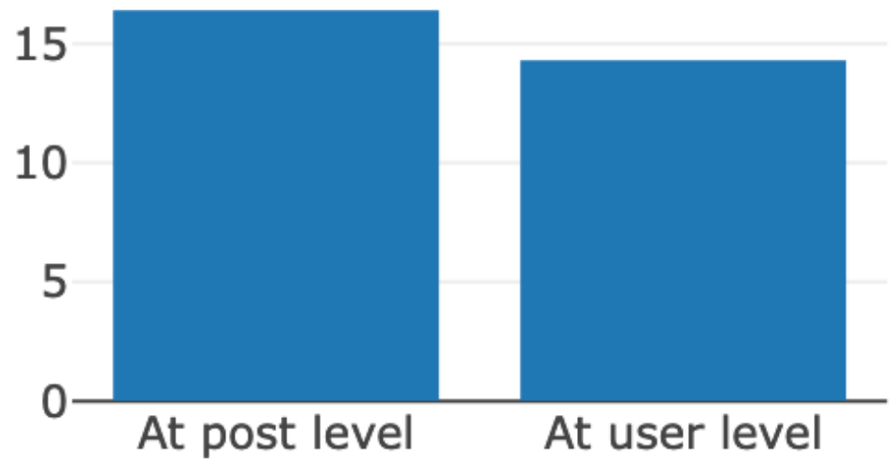

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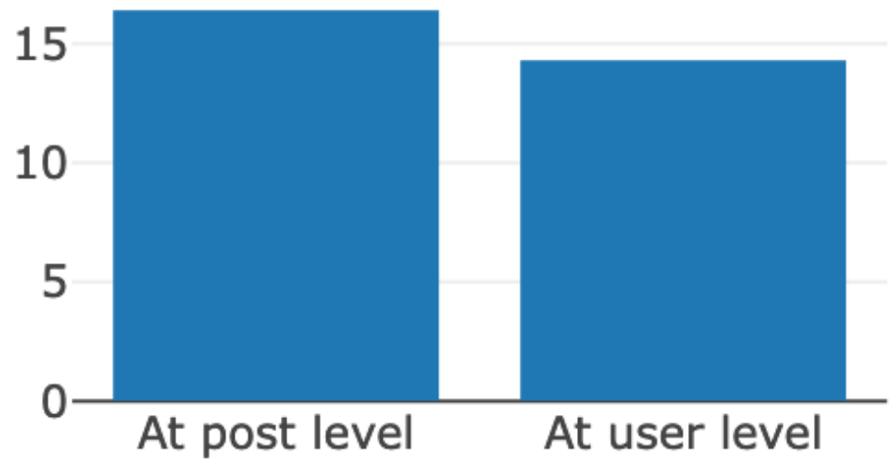

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- **Match (some) users from Telegram to Twitter**

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Most Importantly: **Merry Christmas !**

Appendix

Literature

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Empirical Side

- Jiménez Durán (2022), Jiménez Durán, Müller & Schwarz (2022)
- *Some CS Literature:* Schmitz, Muric, et al. (2022 and 2023)

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    - but could end up “throwing to the lions” to “median” users