
UNDERSTANDING PUBLIC AND EXPERT PERSPECTIVES ON SOLAR RADIATION MODIFICATION

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Two studies

***The Strategic and
Governance
Implications of SRM:
Perspectives from
Delegates of
International Climate
Negotiations***

Env. Res. Letters
2024



***The Role of Time and
Risk Preferences on
Support for SRM***

*Preliminary
results*



Study 1: Methods

- Survey of conference of the parties (COP) delegates
- Sample drawn from list of participants from COP 26 (Glasgow) and COP 27 (Sharm el-Sheikh) – 871 participated, 622 completed (Qualtrics)
- 4 parts to survey: **knowledge and support of SAI** (research; deployment in a climate emergency); **negotiation** (support for including SAI in UNFCCC); **anticipated responses** (to unilateral actions); **respondent background**

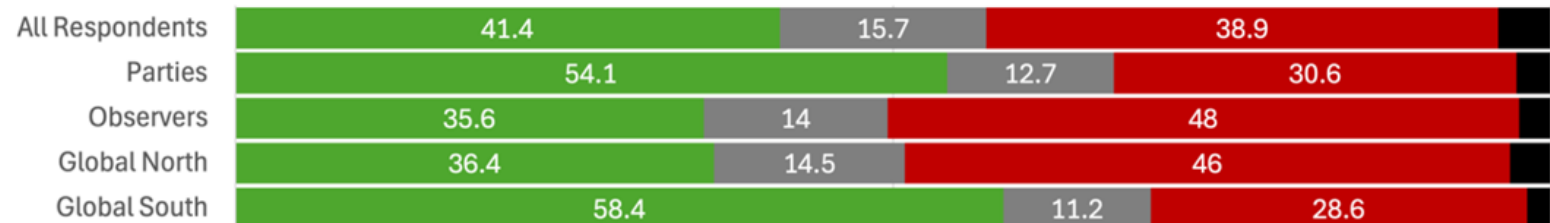
The sample

	Frequency	Percentage
Delegate Role		
Party	157	25.2
Observer	371	59.6
Media	7	1.1
Other	87	14.0
Organization		
International Governmental Org.	53	8.5
National Governmental Org.	140	22.5
University or Research Inst. – Researcher	122	19.6
University or Research Inst. – Student	17	2.7
Private Company	55	8.8
Non-Governmental Org.	38	6.1
Environmental Non-Governmental Org.	132	21.2
Other	65	10.5
UNFCCC Regional Group		
African States	71	11.4
Asia-Pacific States	58	9.3
Eastern European States	26	4.2
Western European States	176	28.3
Latin American & Caribbean States	32	5.1
Other States (Australia, Canada, Iceland, New Zealand, Norway, Switzerland and the United States)	259	41.6

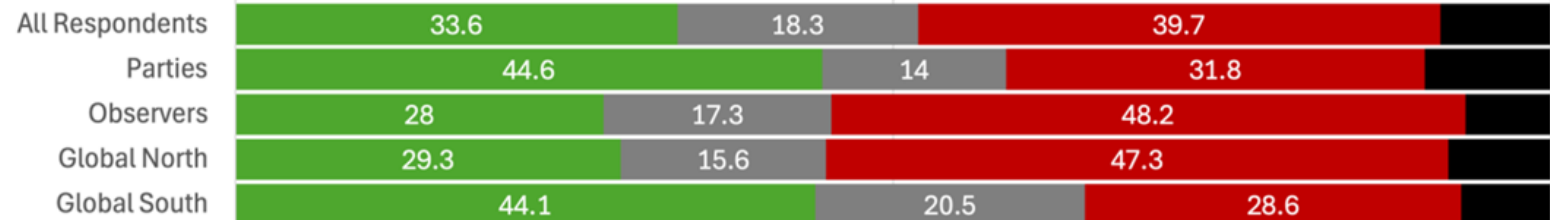
79% of respondents were at least *slightly informed* about SAI

Support for SAI

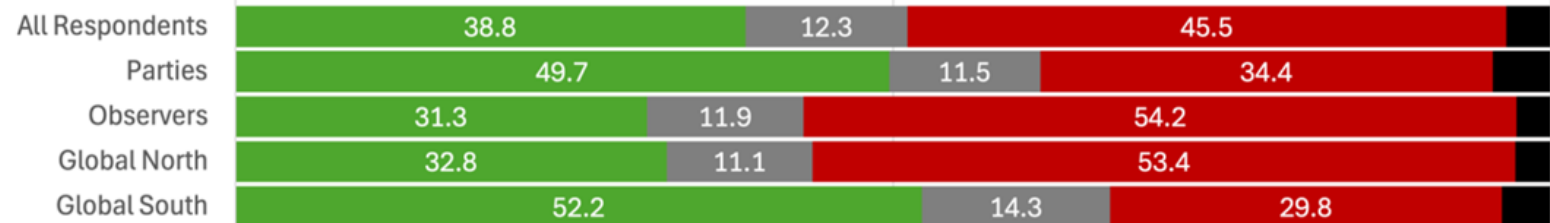
Funding Research & Development



Deployment in Emergency

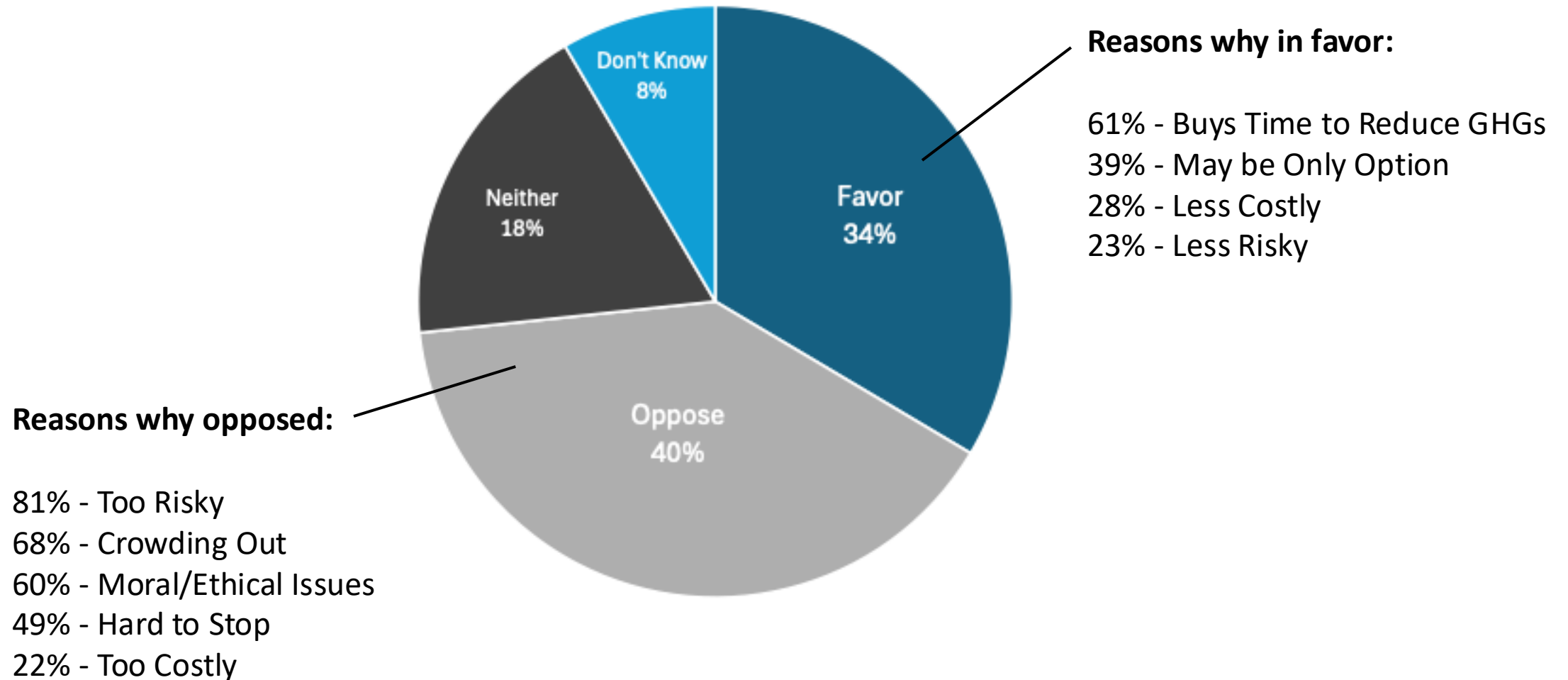


Include in Negotiations



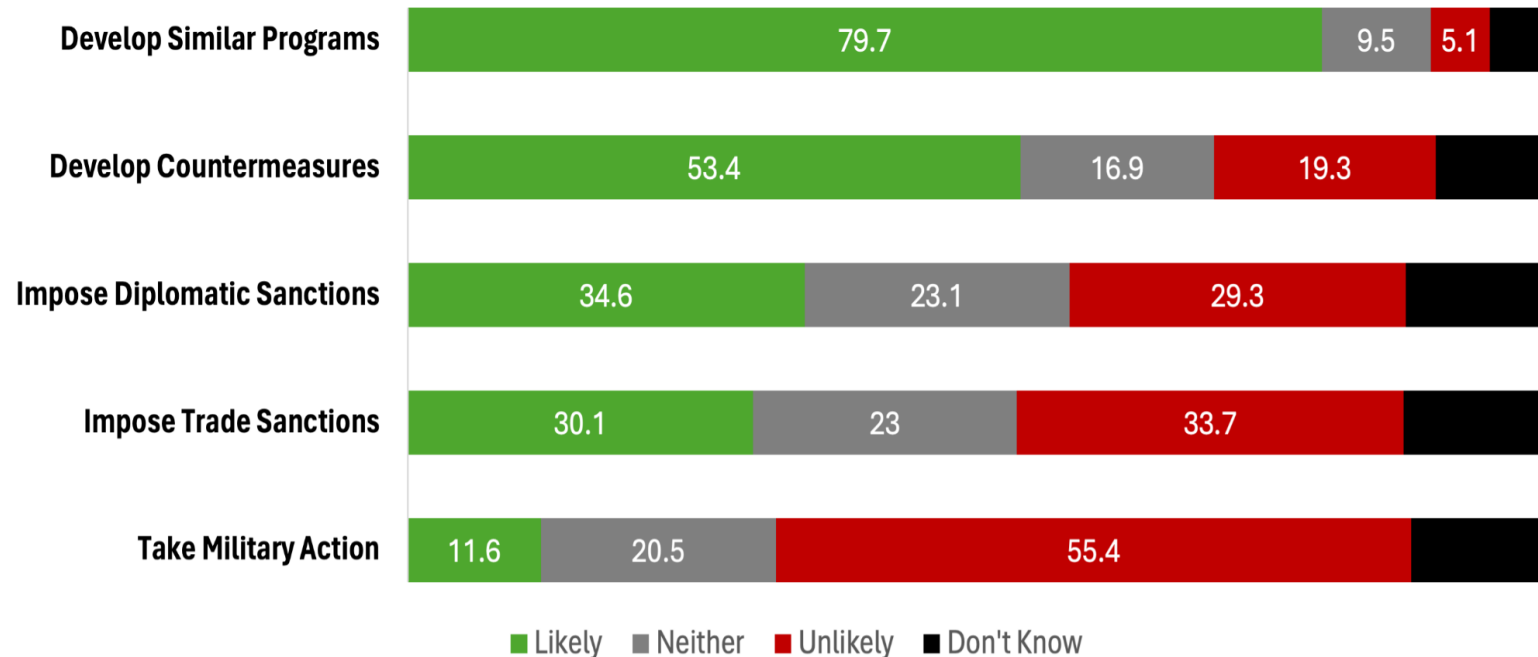
■ Agree/Favor ■ Neither ■ Disagree/Oppose ■ Don't Know

Reasoning



Anticipated responses

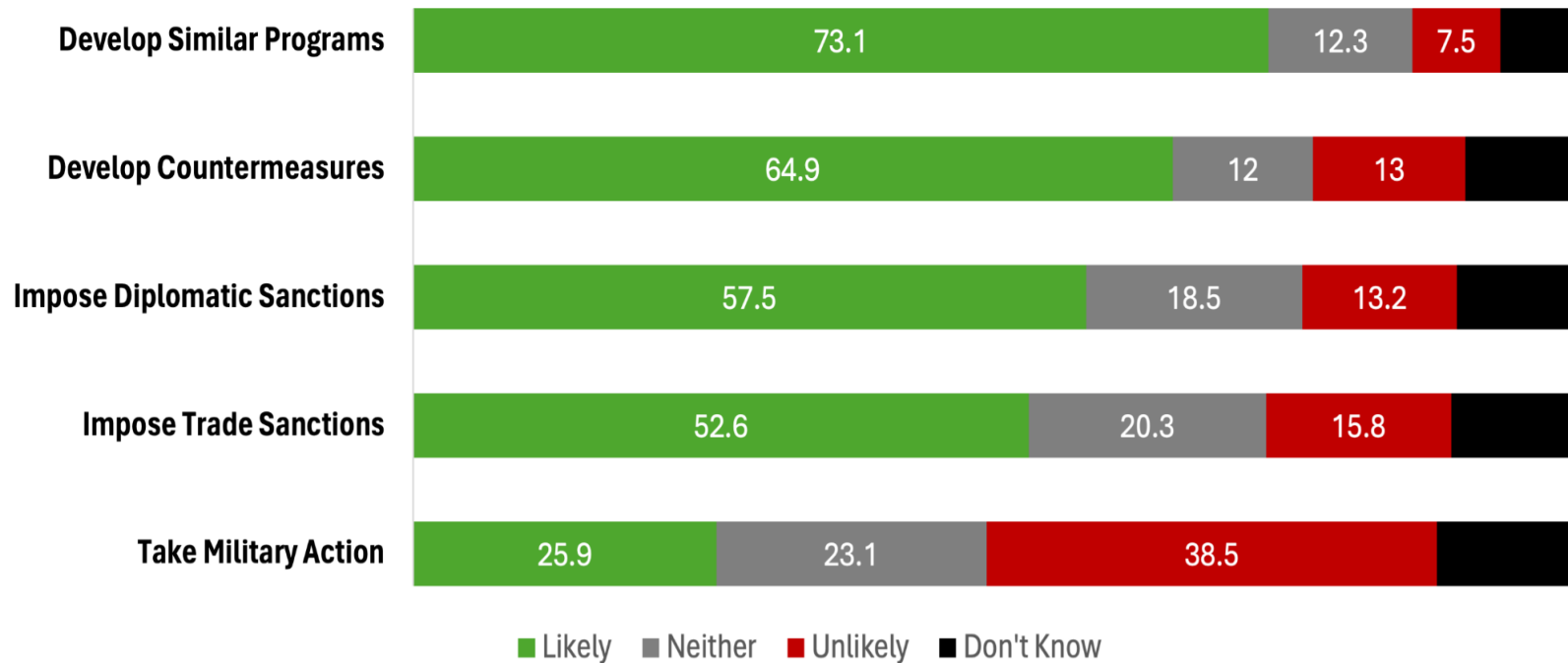
If a country unilaterally starts to develop the [capacity](#) to deploy SAI



- **Parties** are [less likely](#) than observers to anticipate diplomatic sanctions
- Delegates from **Gov. Organizations** are [less likely](#) to anticipate trade sanctions

Anticipated responses

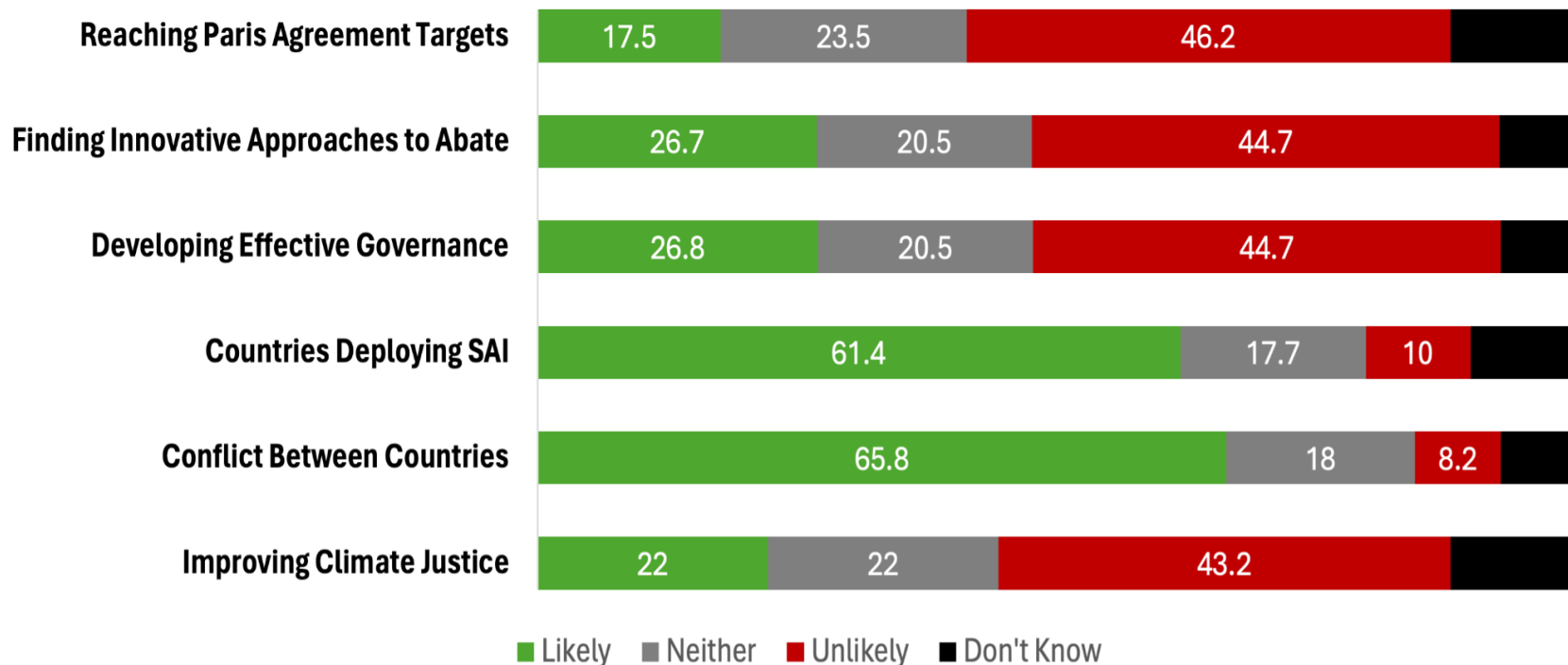
If a country unilaterally immediately starts to [deploy](#) SAI



- **Global North** [more likely](#) to anticipate diplomatic sanctions
- **Parties** are [less likely](#) than observers to anticipate others developing similar programs

Anticipated responses

If SAI is formally **included in climate negotiations**



- **Global North** **less likely** to think it will help meet Paris targets or lead to innovative approaches to abatement
- **Global North** **more likely** to think it will lead to deployment and conflict
- Delegates from **Gov. organizations** **more likely** to think it will help meet Paris targets, and **less likely** to think it will lead to deployment

Study 2: The Role of Time and Risk Preferences on Support for SRM

- Strategies for managing climate change differ substantially with respect to time and risk profiles
- **Mitigation** – future benefits, less uncertainty
- **SAI** – immediate benefits, more uncertainty
- We explore how individual time and risk preferences shape people's support for climate action, particularly stratospheric aerosol injection (SAI)

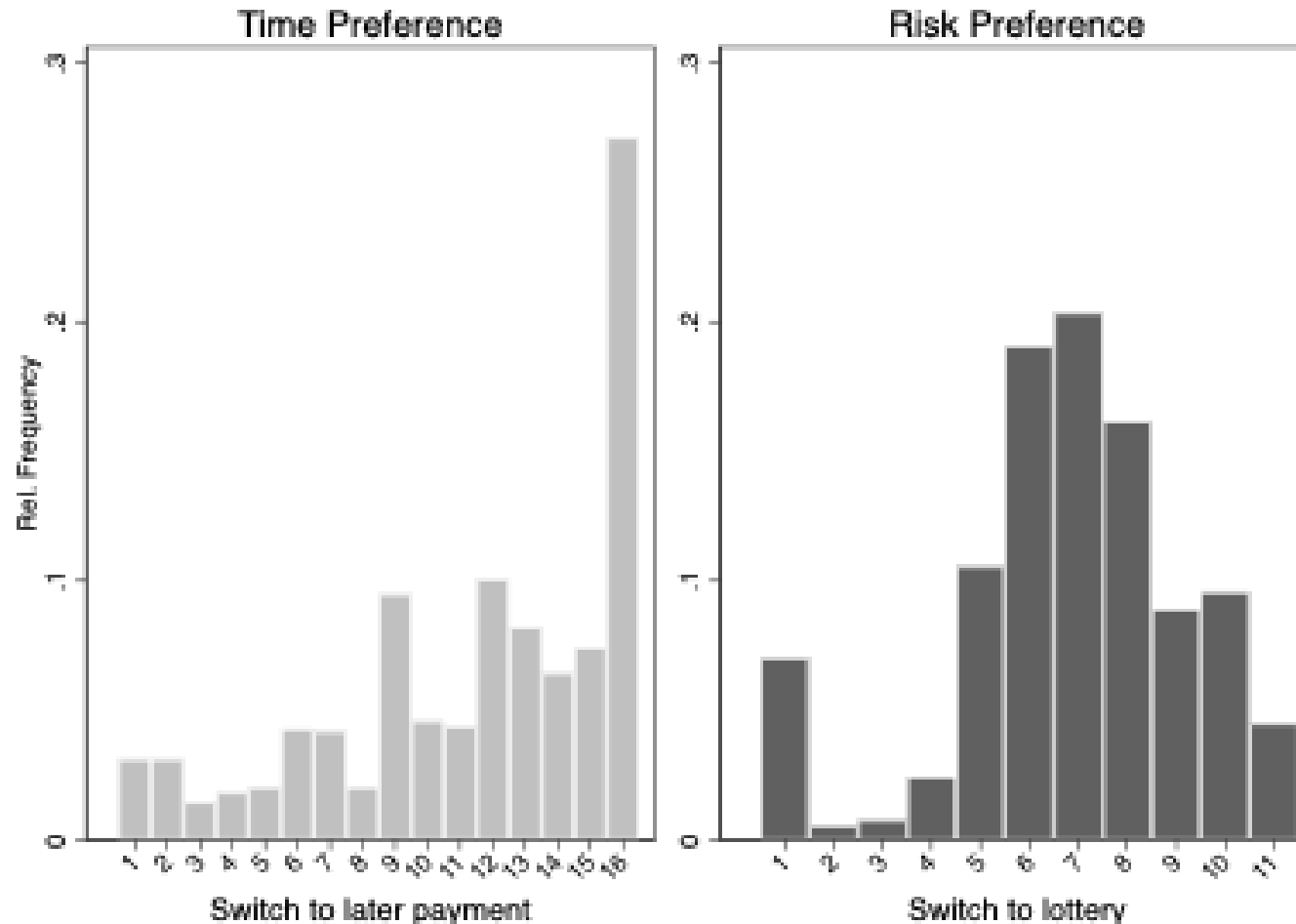


Methods

- Sample of US residents (n = 1,022) – via Prolific, representative based on age, gender, ethnicity
- Survey components:
 - Elicit **discount rate** (choose between \$ in 1 month or \$+x in 5 months)
 - Elicit **risk preference** (choose between fixed payment or lottery)
 - Climate change concern
 - Understanding about SAI
 - Support for
 - **Emissions-focused action** (carbon tax, emissions standards, funding the transition away from fossil fuels, US participation in the Paris Agreement)
 - **SAI** (increase R&D funding, deployment in an emergency)

Time and Risk

Strong present bias: Median respondent needs 5% monthly interest to prefer later payment

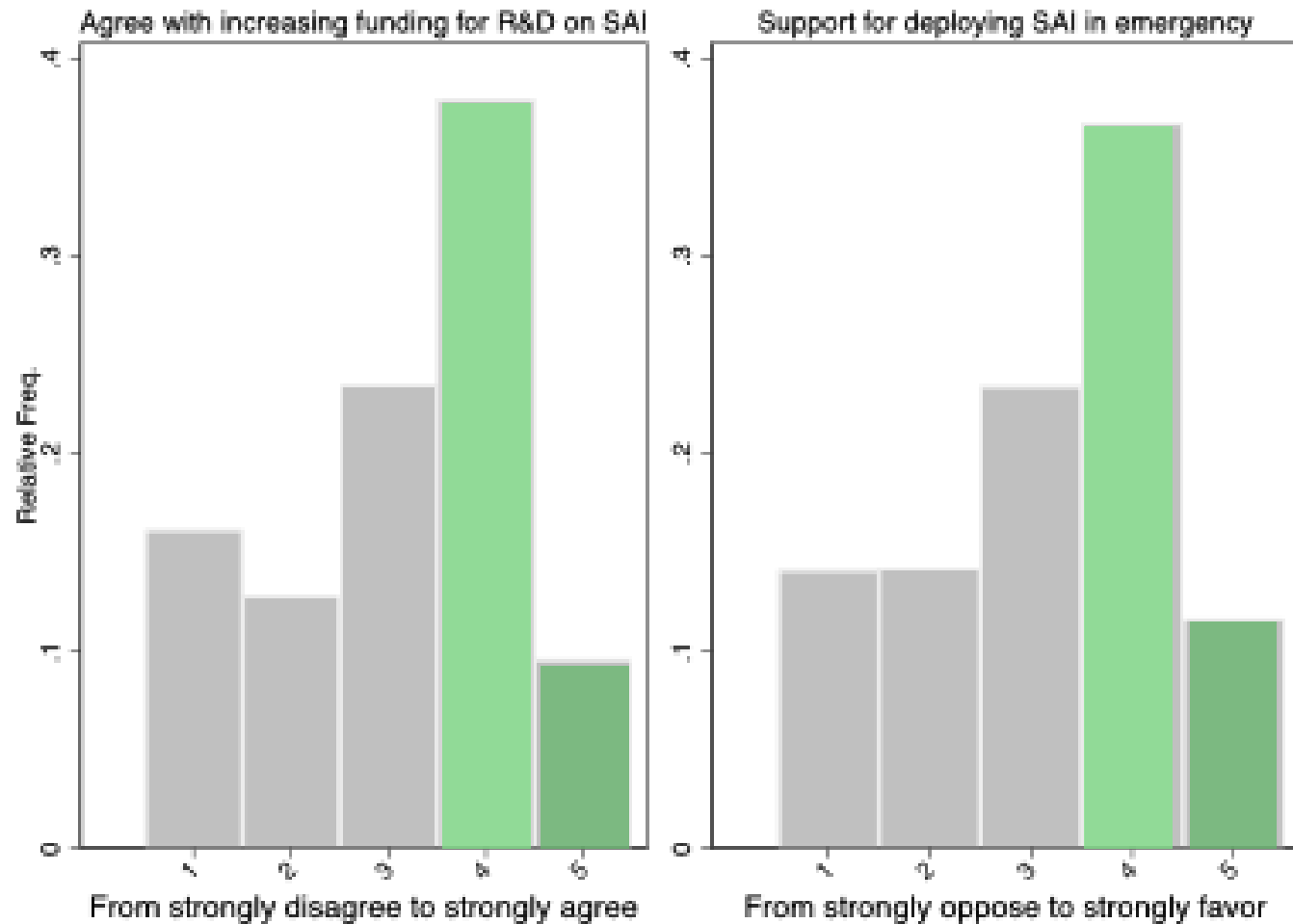


Most respondents are risk averse: A switch point greater than 5 = risk averse

SAI initiatives

- *To what extent do you agree or disagree that governments should increase funding to current **research and development** of stratospheric aerosol injection?*
- *To what extent would you favor or oppose **using stratospheric aerosol injection** in the event of an approaching “**climate emergency**” that is too late to avoid with conventional mitigation techniques?*

SAI support



Results

- **R1:** Individuals with lower risk tolerance are **less** supportive of funding SAI R&D or deploying SAI in a climate emergency.
- **R2:** The more people value present outcomes (higher discount rate), the **more** they support funding SAI R&D or deploying SAI in a climate emergency.
- **R3:** The individual discount rate has **no impact** on how supportive individuals are for climate actions focused on emissions reductions.
- **R4:** Individuals with lower risk tolerance are **more** supportive of some climate policies aimed at reducing emissions (emissions standards and funding the energy transition away from fossil fuels).

Additional findings

- Recent climate-related events (2024 temps) and US policy positions (withdrawal from Paris) lead to an **increase** in support for SAI initiatives (both funding R&D and deploying in a climate emergency)
- Females **less** supportive of SAI initiatives
- Older respondents **less** supportive of SAI initiatives
- More educated **more** supportive of funding research and development
- Conservatives **less** supportive of all four emissions-focused policies, but no impact on SAI support