DOES INFORMATION IMPACT ACCEPTABILITY AND SUPPORT FOR GREEN POLICIES?

RHETORIC VS. ACTION

RICCARDO CINQUE

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Outline

1) INTRODUCTION AND RESEARCH QUESTION

2) DATA COLLECTION AND SAMPLE

3) METHODOLOGY

4) PRESENTATION OF THE MAIN RESULTS AND LIMITATIONS

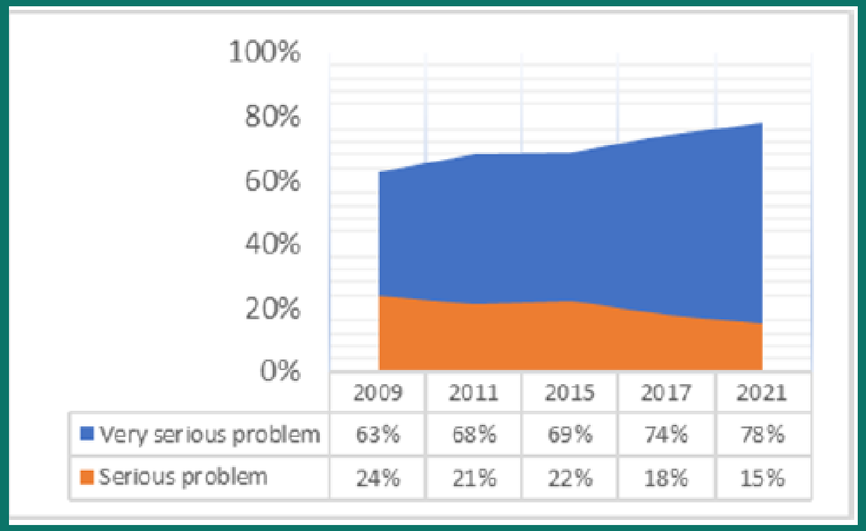
5) FINAL CONCLUSIONS

Introduction

GREEN POLICIES: MAIN ACCEPTABILITY CHALLENGES

- Costs today while benefits only in future times: (a) generation gap (b) conflicting interests
- Uncertainty of cost to benefit ratio
- Externalities: hard evaluation of benefits
- “Just one in a million” ratio

THEREFORE, HOW CAN WE INCREASE SUPPORT FOR THE INTRODUCTION OF GREEN POLICIES EVEN WITH THE PRESENCE OF THE ABOVE-MENTIONED ISSUES?



	2009	2011	2015	2017	2021
Very serious problem	63%	68%	69%	74%	78%
Serious problem	24%	21%	22%	18%	15%

RESEARCH QUESTION(S):

(i) Does information impact the support and acceptability of those green policies that directly weigh on taxpayers’ pockets?

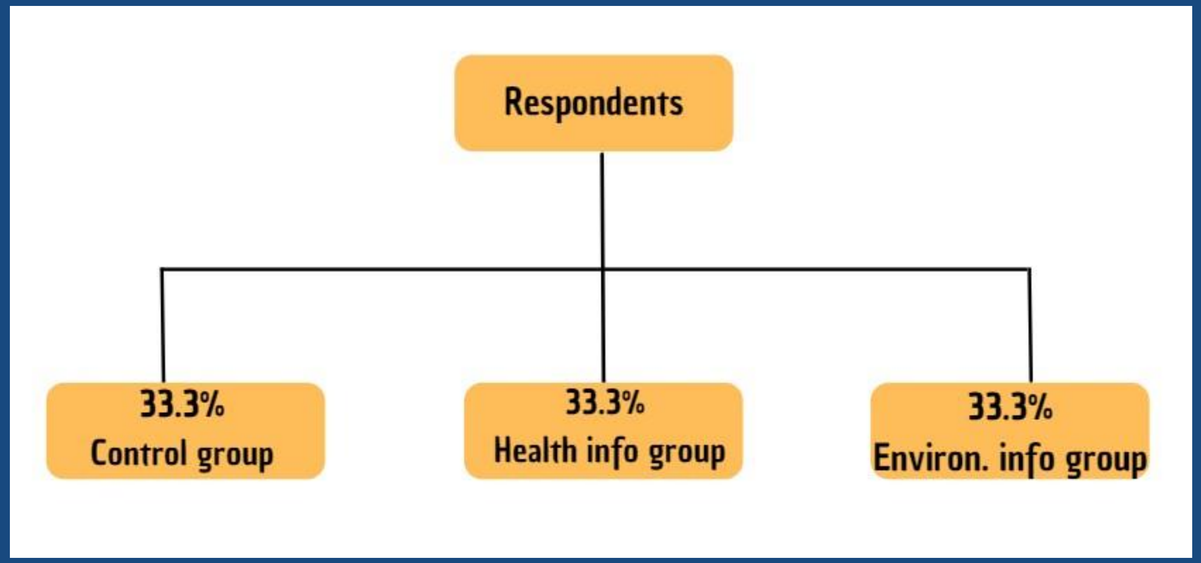
(ii) What type of policies will it impact the most?

Data Collection and Sample (1/2)

(A) SURVEY:

- Qualtrics Software – 28th April/22nd May 2022
- Two versions: Italian (IT) and Portuguese (PT)
- 1664 total respondents: 1264 IT sample | 400 PT sample
- Infographics

(B) RANDOMIZED CONTROLLED TRIAL (RCT):



Data Collection and Sample (2/2)

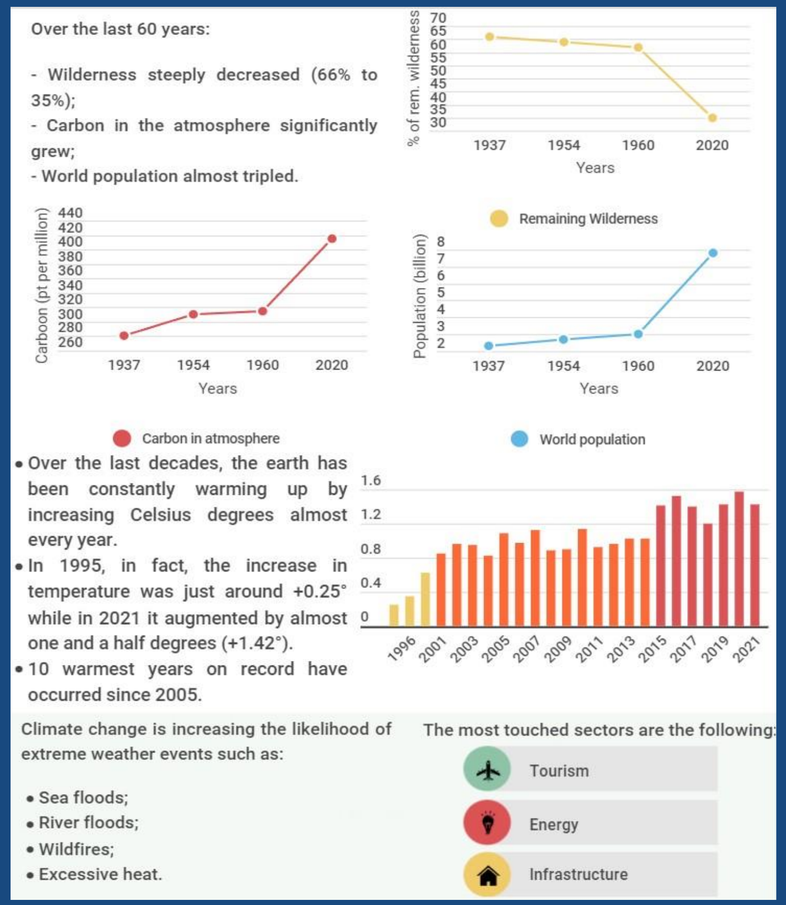
(C) TREATMENTS

- Control group: no treatment
- Health information group: treatment based on the effects of climate change on human health
- Environment information group: treatment concerning the impact of climate change on the environment

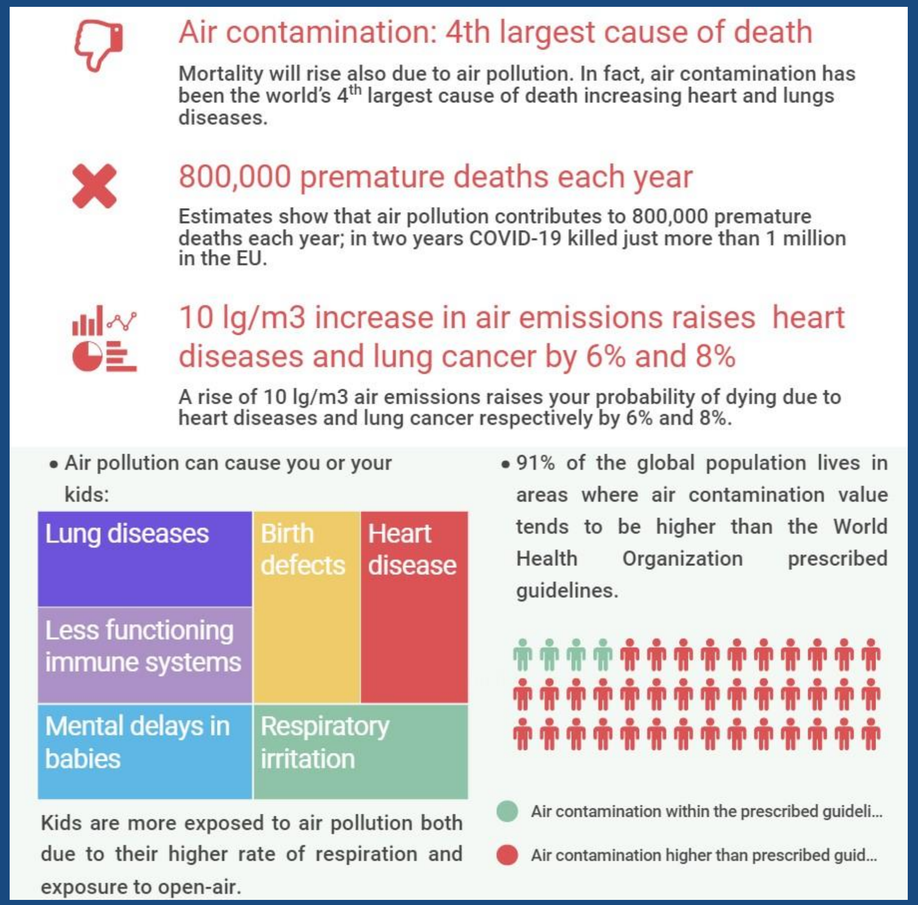
This approach enabled us to understand:

1. Whether investing money in information campaigns can ensure support for an actual transition
2. On which type of policies information campaigns can have a greater impact
3. What type of information will have a more relevant impact on respondents
4. If the infographic can be an effective format for the presentation of information

ENVIRONMENTAL TREATMENT



HEALTH TREATMENT



Methodology

ECONOMETRIC MODELS:

(I) OLS MODEL

$$y_i = \beta_0 + \beta_1 T + \beta_j controls_i + \epsilon_i$$

- y_i dep. variable
- T dummy variable: no treatment (0), treatment (1)
- $Controls_i$: age, political preference, gender, education level, having kids, concern for the environment and belief on whether the government is doing enough to face the environmental problem

Two approaches:

(a) CONTINOUS dep. variable model: general support

(b) BINARY dep. variable model: % of increase supporters

(II) INTERACTION OLS MODEL

$$y_i = \beta_0 + \beta_1 T + \beta_2 Z + \beta_3 * T * Z + \epsilon_i$$

- y_i dep. variable
- T dummy variable: no treatment (0), treatment (1)
- Z interacting variable (social class, education, having kids)

GOAL: did treatments had different impacts on respondents with different specific characteristics?

- Higher Social Classes vs Middle-Lower Social Classes
- Higher Education vs Not Higher Education
- Having Kids vs Not Having Kids

Main Results (1/3)

(A) DESCRIPTIVE RESULTS

- Similar distribution for most variables between IT and PT
- IT sample politically more skewed to the left , PT sample higher education levels
- Acceptability constant trend: (1) subsidies, (2) mixed and (3) tax
- 17 out of 18 policies either env or health group has higher support scores

Table 7: Italy - Transportation policy results by groups (Source: Author's work)

y	Group	Min-Max	Average (Std Dev)
Transportation Push Policy (Q18a)	Control	1-10	5.71 (2.72)
	Health	1-10	5.90 (2.58)
	Env	1-10	5.66 (2.76)
Transportation Pull Policy (Q18b)	Control	1-10	7.71 (2.14)
	Health	1-10	7.70 (2.01)
	Env	1-10	7.86 (2.05)
Transportation Mixed Policy (Q18c)	Control	1-10	7.01 (2.47)
	Health	1-10	6.90 (2.41)
	Env	1-10	6.81 (2.60)

Table 8: Italy - environmentally friendly goods policy results by groups (Source: Author's work)

y	Group	Min-Max	Average (Std Dev)
Env-Friendly Goods Push Policy (Q19a)	Control	1-10	6.13 (2.85)
	Health	1-10	6.23 (2.77)
	Env	1-10	6.17 (2.90)
Env-Friendly Goods Pull Policy (Q19b)	Control	1-10	7.86 (2.17)
	Health	1-10	8.06 (1.94)
	Env	1-10	8.10 (1.98)
Env-Friendly Goods Mixed Policy (Q19c)	Control	1-10	7.19 (2.61)
	Health	1-10	7.33 (2.30)
	Env	1-10	7.27 (2.49)

Table 9: Italy - Energy and buildings policy results by groups (Source: Author's work)

y	Group	Min-Max	Average (Std Dev)
Energy and Buildings Push Policy (Q20a)	Control	1-10	7.06 (2.59)
	Health	1-10	7.15 (2.38)
	Env	1-10	7.36 (2.48)
Energy and Buildings Pull Policy (Q20b)	Control	1-10	8.29 (2.00)
	Health	1-10	8.43 (1.79)
	Env	1-10	8.54 (1.69)
Energy and Buildings Mixed Policy (Q20c)	Control	1-10	7.83 (2.37)
	Health	1-10	7.92 (2.14)
	Env	1-10	7.95 (2.22)

Table 18: Portugal - Transportation policy results by groups (Source: Author's work)

y	Group	Min-Max	Average (Std Dev)
Transportation Push Policy (Q18a)	Control	1-10	5.53 (2.79)
	Health	1-10	6.15 (2.73)
	Env	1-10	5.77 (2.92)
Transportation Pull Policy (Q18b)	Control	1-10	7.53 (2.25)
	Health	1-10	7.69 (2.39)
	Env	1-10	7.51 (2.32)
Transportation Mixed Policy (Q18c)	Control	1-10	6.95 (2.59)
	Health	1-10	6.96 (2.56)
	Env	1-10	6.83 (2.65)

Table 19: Portugal - Env-friendly goods policy results by groups (Source: Author's work)

y	Group	Min-Max	Average (Std Dev)
Env-Friendly Goods Push Policy (Q19a)	Control	1-10	5.53 (2.85)
	Health	1-10	5.80 (2.88)
	Env	1-10	5.70 (2.88)
Env-Friendly Goods Pull Policy (Q19b)	Control	1-10	6.94 (2.44)
	Health	1-10	7.50 (2.14)
	Env	1-10	7.15 (2.32)
Env-Friendly Goods Mixed Policy (Q19c)	Control	1-10	6.60 (2.53)
	Health	1-10	6.99 (2.61)
	Env	1-10	6.58 (2.60)

Table 20: Portugal - Energy and buildings policy results by groups (Source: Author's work)

y	Group	Min-Max	Average (Std Dev)
Energy and Buildings Push Policy (Q20a)	Control	1-10	6.10 (2.58)
	Health	1-10	6.47 (2.46)
	Env	1-10	6.08 (2.74)
Energy and Buildings Pull Policy (Q20b)	Control	1-10	7.66 (2.20)
	Health	1-10	8.00 (2.08)
	Env	1-10	7.41 (2.28)
Energy and Buildings Mixed Policy (Q20c)	Control	1-10	7.32 (2.31)
	Health	1-10	7.52 (2.37)
	Env	1-10	6.98 (2.63)

Table 24: Italy - Regressions' results continuous dependent variable - With covariates (Source: Author's work)

y	Treatment	Coefficient (p-value)
Transportation Push Policy (Q18a)	Health	0.19 (0.341)
	Env	-0.04 (0.840)
Transportation Pull Policy (Q18b)	Health	0.10 (0.466)
	Env	0.25 (0.090)
Transportation Mixed Policy (Q18c)	Health	-0.09 (0.622)
	Env	-0.12 (0.514)
Env-Friendly Goods Push Policy (Q19a)	Health	0.09 (0.650)
	Env	0.08 (0.681)
Env-Friendly Goods Pull Policy (Q19b)	Health	0.27 (0.066)
	Env	0.34 (0.025)
Env-Friendly Goods Mixed Policy (Q19c)	Health	0.16 (0.347)
	Env	0.09 (0.628)
Energy and Buildings Push Policy (Q20a)	Health	0.20 (0.229)
	Env	0.39 (0.027)
Energy and Buildings Pull Policy (Q20b)	Health	0.27 (0.040)
	Env	0.30 (0.021)
Energy and Buildings Mixed Policy (Q20c)	Health	0.13 (0.415)
	Env	0.13 (0.427)

Main Results (2/3)

(B) ECONOMETRIC MODEL RESULTS

Continuous model:

- IT: general positive effect on almost all pull policies for both treatments
- PT: general positive effect on all push policies. For env-good polices both push and pull – health treatment

Table 30: Portugal - Regressions' results continuous dependent variable - With covariates (Source: Author's work)

y	Treatment	Coefficient (p-value)
Transportation Push Policy (Q18a)	Health	0.85 (0.018)
	Env	0.37 (0.276)
Transportation Pull Policy (Q18b)	Health	0.47 (0.131)
	Env	0.27 (0.340)
Transportation Mixed Policy (Q18c)	Health	-0.03 (0.932)
	Env	-0.09 (0.791)
Env-Friendly Goods Push Policy (Q19a)	Health	0.64 (0.089)
	Env	0.35 (0.319)
Env-Friendly Goods Pull Policy (Q19b)	Health	0.66 (0.022)
	Env	0.23 (0.410)
Env-Friendly Goods Mixed Policy (Q19c)	Health	0.46 (0.178)
	Env	-0.08 (0.806)
Energy and Buildings Push Policy (Q20a)	Health	0.61 (0.071)
	Env	0.06 (0.849)
Energy and Buildings Pull Policy (Q20b)	Health	0.29 (0.317)
	Env	-0.24 (0.370)
Energy and Buildings Mixed Policy (Q20c)	Health	0.22 (0.480)
	Env	-0.41 (0.177)

Table 27: Italy - Regressions' results binary dependent variable (1-6 = 0 and 7-10 = 1) - With covariates (Source: Author's work)

y	Treatment	Coefficient (p-value)
Transportation Push Policy (Q18a)	Health	0.03 (0.423)
	Env	0.01 (0.844)
Transportation Pull Policy (Q18b)	Health	-0.01 (0.802)
	Env	0.04 (0.199)
Transportation Mixed Policy (Q18c)	Health	-0.03 (0.336)
	Env	-0.01 (0.874)
Env-Friendly Goods Push Policy (Q19a)	Health	0.01 (0.701)
	Env	0.01 (0.684)
Env-Friendly Goods Pull Policy (Q19b)	Health	0.08 (0.020)
	Env	0.07 (0.013)
Env-Friendly Goods Mixed Policy (Q19c)	Health	0.03 (0.459)
	Env	0.01 (0.673)
Energy and Buildings Push Policy (Q20a)	Health	0.05 (0.154)
	Env	0.07 (0.029)
Energy and Buildings Pull Policy (Q20b)	Health	0.05 (0.046)
	Env	0.07 (0.002)
Energy and Buildings Mixed Policy (Q20c)	Health	0.01 (0.643)
	Env	0.01 (0.613)
General Green Transition	Health	0.07 (0.014)
	Env	0.07 (0.014)
General Green Transition with Tax	Health	0.06 (0.037)
	Env	0.08 (0.005)

Main Results (3/3)

(B) ECONOMETRIC MODEL RESULTS

Binary model:

- ✓ IT: both treatments increase share of supporters up to a range of 5% to 8% - policies with already high baselines
- ✓ PT: health treatment increases support up to 14% for 2/3 policy topics

Interaction model:

IT: stronger impact if the respondents belong to the middle/lower social class (both treatments) transportation push and energy/buildings pull and mixed policies (env treatment), environmentally friendly goods mixed policy and general acceptability considering the introduction of a tax (health treatment).

PT: stronger impact if respondents have higher educational levels (both treatments) and kids (health)
push transportation policy (health treatment) and for the energy/buildings pull policy (both treatments). || transportation push, environmentally friendly goods mixed and energy/buildings pull policies.

Table 33: Portugal - Regressions' results binary dependent variable (1-6 = 0 and 7-10 = 1) - With covariates (Source: Author's work)

y	Treatment	Coefficient (p-value)
Transportation Push Policy (Q18a)	Health	0.14 (0.031)
	Env	0.10 (0.116)
Transportation Pull Policy (Q18b)	Health	0.09 (0.131)
	Env	0.07 (0.236)
Transportation Mixed Policy (Q18c)	Health	0.02 (0.705)
	Env	0.03 (0.656)
Env-Friendly Goods Push Policy (Q19a)	Health	0.14 (0.030)
	Env	0.07 (0.288)
Env-Friendly Goods Pull Policy (Q19b)	Health	0.14 (0.018)
	Env	0.06 (0.351)
Env-Friendly Goods Mixed Policy (Q19c)	Health	0.10 (0.143)
	Env	-0.04 (0.571)
Energy and Buildings Push Policy (Q20a)	Health	0.10 (0.133)
	Env	0.03 (0.694)
Energy and Buildings Pull Policy (Q20b)	Health	-0.02 (0.680)
	Env	-0.04 (0.390)
Energy and Buildings Mixed Policy (Q20c)	Health	0.02 (0.774)
	Env	-0.06 (0.360)
General Green Transition	Health	0.01 (0.883)
	Env	0.01 (0.909)
General Green Transition with Tax	Health	0.04 (0.537)
	Env	-0.02 (0.697)

Limitations

MAIN CAVEATS:

I. Time and resource constraints

II. Complexity of the information

III. Some policies more related with the provided treatment

Future improvements:

- Increase sample size and optimize the randomization process
- Explore effect of information under a different format (ex: short text, videos, images, etc.) or on specific population segments

Final Conclusions

CAN INFORMATION BE A KEY TOOL TO INCREASE GREEN POLICY ACCEPTABILITY?

1. **Information campaigns** can be a **good starting point** to raise green awareness and policy support
2. **The type of policy** that are more affected by the treatments are country specific: pull for IT and push for PT
3. **Health** treatment works for a number of policies in both countries while **Env** only has effect in the IT case
4. **Targeting** information on **specific segments of population** can yield very different treatment impacts (interaction results)

The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard.

Gaylord Nelson

Thank you for your kind attention!