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LSE GROUPS takes place during the final fortnight of the LSE summer term. Undergraduate students are placed in small groups; these are cross-year, interdisciplinary, and group members do not know one another in advance. Each group must then devise its own research question, and carry out every stage of a small-scale research project in less than two weeks.

LSE GROUPS is part of the LSE commitment to students learning through enquiry, and developing the skills for knowledge creation.

The overall theme of LSE GROUPS 2022 was *Resilience and the 'New Normal'*.

This paper was submitted on the final Thursday afternoon of the project. Students then presented their work at a conference, on the closing Friday.

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No New Normal: A Quantitative Study of the Resilience of Support for Climate Policy Among London Students in the Face Of Rising Living Costs.

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1.Abstract

Existing research has shown that during periods of economic downturn, support for climate policies tends to waver. However, recent research by the IMF found that overall support for climate policies increased since the COVID-19 pandemic, suggesting the previously found relationship did not hold. In this paper, we aim to investigate if this new research is evidence of a 'new normal' where support for climate change policies is resilient in the face of economic downturns. We pose the research question: How resilient is student support for climate change policy in the face of the cost-of-living crisis? We use 82 observations from surveying London students on three climate-inflation trade off policies and use a linear regression to explore whether support for climate policies is related to the cost-of-living crisis; the UK's first independently identifiable economic downturn in the post-pandemic period. From this we conditionally find that support for two of these policies did waver in the face of the cost-of-living crisis, while support for one policy increased. This implies that the findings of the IMF may not be generalised to future economic downturns. This investigation brings value to policy makers by providing grounds to anticipate public support for climate policies during future economic downturns.

Keywords: Resilience, policy support, climate change, economic downturn, COVID-19

2. Introduction

Crises seldom respect temporal bounds, thus populations are often faced with a multitude of crises of different scales simultaneously. Despite the recent crises of COVID-19 and cost-of-living, climate change remains the greatest threat to humanity (UNSC, 2021). This research first discusses how resilient student support is for climate change policy during periods of economic downturn, highlighting the previous literature which led to the formulation of our research question. The paper then presents the methodology: a survey and linear regression model. We go onto analysing and discussing results from 82 observations of university students in London, concluding that, for students affected by the cost-of-living crisis, support for climate policies fell relative to the students not affected by the cost-of-living crisis; with the exception of policy relating to the legalisation of fracking.

In this paper, ‘support’ is defined as the extent to which respondents agree with policies that involve a trade-off between inflation and climate change. ‘Resilience of support’ is defined as the robustness of this support, despite the economic impact of increasing living costs.

2.1. Motivations

Past research has shown a lack of resilience in support for climate policy and action in times of economic downturn (Benegal and Scruggs, 2012; Kachi et al., 2015; Kahn, 2011; Meyer, 2021; Shum, 2012). However, in the wake of the COVID-19 pandemic and its economic fallout, Mohommad and Pugacheva (2022) found that public concern and support for climate action increased. Mohommad and Pugacheva (2022) investigate how this

impacted the actions of the population, claiming it led to "opening up space for policy makers… to implement bolder climate policies." Given this assumption, there is a suggested reversal of the pattern found in pre-pandemic research. This paper investigates whether or not we are experiencing a 'new normal', wherein support for climate policy is now resilient to economic shocks. In order to understand how this recent cost-of-living crisis has affected the support for climate policies we looked among university students in London. We focus our research on university students as youths will come to represent the key stakeholders on a governmental, judicial and corporate decision-making level for an environmentally friendly future. Hence, the analysis conducted through our research helps to understand whether the students' economic anxiety has directly translated to a tangible change in support for climate policies.

2.2 Choice of subject of investigation

On 24 February 2022, England officially entered the 'living with Covid plan' representing the official entrance into a post-pandemic society; the cost-of-living crisis closely followed. Given the faced paced events of such crises occurring, there has been little time for academics to conduct sufficient investigations into how the COVID-19 pandemic has affected the public's willingness to counter economic downturn by compromising climate policies.

2.3 Key findings

In other words, when people are faced with the trade-off between minimising living cost or implementing climate policies, they are more likely to prioritise minimising living costs in the case of both the coal-mine and TfL. However, when regarding the fracking policy, their support for climate policies increased. According to our observations it can be

suggested that there is a decrease in climate policy support in the event of economic shock; we assume that this finding relates to the majority of students in London as 85% of students surveyed were affected by the cost-of-living crisis.

3. Literature review

There is an established body of literature that has found a negative relationship between economic downturns and support for climate change policies. However, research regarding sentiment and support for climate policies during and after the COVID-19 pandemic is found to have increased support for climate policies. Given the economic downturn caused by the COVID-19 pandemic, this suggests that support for climate policies may have become more resilient.

Benegal and Scruggs (2012) find, using over 40 years of environmental policy public opinion data, that economic insecurity is the main driver behind changing climate opinions. Moreover, they suggest that other factors such as weather and the political environment cannot explain the 'suddenness' of changes in opinions. Meyer (2021) follows a panel of US individuals, post the 2008 Great Recession, finding that economic downturns increase climate scepticism among members of the labour force. Thus, Meyer shows that support for climate change policies is seen to depend on labour market conditions.

Additionally, Shum (2012) found that the variation of quarterly GDP growth rates affected climate change sentiments, implying that short-term economic downturns caused a fall in climate concern. Thus, Shum's conclusion provides salience to pessimism surrounding the passing of climate change policies during recessions. Similarly, Khan and Kotchen (2011) study the relationship between the business cycle and public concern about climate change, using unemployment rates to measure the business cycle. They find that higher

unemployment rates are associated with a reduction in support for policies designed to address climate change.

However, there are notable studies that refute the findings of this established wisdom. Kachi et al. (2015), for instance, carried out surveys in the US and Germany, finding that the perceptions of an individual's economic circumstances have no significant effect on their policy support. Additionally, Kenny (2019) studied data from the World Values Survey from before and after the Great Recession and found no evidence that the Great Recession influenced how individual wealth related to the prioritisation of climate policy.

Mohommad and Pugacheva (2022) find, using a survey sample of 14,500 individuals, that the experience of the COVID-19 pandemic increased the support of the population. Support in this survey was analysed as how their individual behaviours changed to favour climate positive actions. From this, they conclude that there is an opportunity for policy makers to utilise the experience of COVID-19 to pass climate policies. This, however, conflicts with the established wisdom of the literature mentioned hitherto, as it suggests support increased during the economic downturn experienced during the COVID-19 pandemic.

This research paper aims to build on Mohommad and Pugacheva's (2022) research by investigating the resilience of support for climate policies. Hence, we endeavour to determine if their findings translate to direct political support for policies, as opposed to just individual actions, and whether or not their suggested opportunity for policy makers is still present in the context of a post-pandemic economic downturn.

4. Research question and hypothesis

We pose the question: How resilient is student support for climate change policy in the face of the cost-of-living crisis? We hypothesise that said resilience is stable enough that, in the case of the cost-of-living crisis, support for climate policies will not diminish among students. Hence, There will be no relationship between the cost-of-living crisis and support for climate policy.

5. Sample and Methodology

5.1. Survey

To explore the relationship between economic downturn and the cost-of-living crisis to see resilience of support for climate policies, deliberation occured for how best to obtain this data to see change, that too among students. Bereft of data specifically relating to London students' support to climate policy with a focus on the impact of the current cost-of-living crisis, we decided to conduct a survey to gather this information to attempt to observe the change in support pre-cost-of-living crisis and now during. As we had not surveyed our respondents' prior to the cost-of-living on the same questions we had to question in the survey what a context without the cost-of-living crisis would translate to in policy preferences. With no cost-of-living crisis could be used as a model for the situation pre-cost-of-living crisis and this was used to make a distinction between 'before' (no cost-of-living crisis) and during (with a cost-of-living crisis).

An online survey was conducted using Microsoft Forms, applying the likert scale to gather quantitative data from London based students. We recruited respondents by distributing the survey in our internal social networks due to the limited time frame. The

survey was conducted in accordance with the ethics requirements and steps were followed to ensure the protection of the respondents' privacy; the survey began with informing them on the survey's nature and purpose. For instance, the survey stated the answers are anonymous, that the data would be deleted after finishing the project, and asked for consent to use the data - we believe this is vital to get honest reliable answers as no researcher and viewer will know who has and has not responded. The phrase cost-of-living crisis was strategically not written within the survey to not influence the respondent to give a more negative response.

We asked the respondents about their support for three different climate policies (stated below) given that there is a rising living cost and if there was not a rising living cost. Having these two questions makes up for the fact that our data collection is not longitudinal as it is an option for measuring a change from before an economic downturn to during one.

Opening a coal mine:

We inform respondents that the opening of a coal mine is suggested to reduce energy costs. This is assumed to be financially beneficial for the average consumer but detrimental to the environment.

TfL:

We inform respondents that a hike in the price of TfL fares is suggested to assist TfL in achieving their 2030 zero-carbon goal which is beneficial for the environment. This is assumed to be financially detrimental to the average consumer.

Legalising fracking:

We inform respondents that lifting the ban on fracking is suggested to reduce energy costs. This is assumed to be financially beneficial for the average consumer but detrimental to the environment.

Also, we control for some demographic data including gender, student status, level of study and type of programme. To what extent are they affected by the current cost-of-living crisis scale from strongly disagree to strongly agree.

5.2 Variables

Based on our 82 observations collected from the survey, our independent variable "Affected" represents whether people are affected by the cost-of-living crisis which is binary. We code the data "agree, somewhat agree, strongly agree" into 1, which represents that students are affected by the cost-of-living crisis; "disagree, somewhat disagree, strongly disagree" into 0, which represents that students are not affected by the cost-of-living crisis. Then we create our

independent variable, which is a dummy variable taking two values: Affected_0 and Affected_1. Table 5.1 shows that 85% of our sample London students are affected by the cost-of-living crisis.

Figure 5.1 - Summary of Affected_0 and Affected_1

Variable	Obs	Mean	Std. dev.	Min	Max
Affected_0	82	.1463415	.3556233	0	1
Affected_1	82	.8536585	.3556233	0	1

We run six regression models in total: two separate regression models for each policy with the same independent variable “Affected”. Our dependent variables are the support for each of the three climate policies given there is a rising living cost and the support for climate policies given there is no rising living cost, measured on a scale from 1-10.
We also have some control variables gender, student status, level of study, programme.

5.3. The regression model

We utilise several linear regression models to examine the correlation between the cost-of-living crisis and the support for the implementation of climate change policies. We then run the two separate regression models for each policy with the reference group in our regression models is **Affected_0 .,** comparing their coefficients to find whether there is an increase or decrease in support towards climate change policy.

$$Y_i = \alpha_i + \beta_i X + \gamma Var_{con} + \epsilon_i$$

i: with/without the rising living cost

α_i : intercept of the support for climate change policy

Y_i : dependent variable; the support for climate change policy before/after rising living cost

β_i: the coefficient for independent variable X, represents how will Y change given X changes

X: independent binary variable; **Affected_1**

γ : coefficient for control variables

Var_{con}: control variables include gender, level of study, student status, programme

ϵ_i: error term

Hypotheses:

$H_{0:} \beta_{(i.A;\ i.B;\ ii.A\ ;\ ii.B\ ;\ iii.A\ ;\ iii.B)} = 0$

$H_A: \beta_{(i.A;\ i.B;\ ii.A\ ;\ ii.B\ ;\ iii.A;\ iii.B)} \neq 0$

6. Results, Analysis & Limitations

6.1 Results

	Context A: No Living Costs Crisis			Context B: Living Costs Crisis		
	regression coefficient	p-value	significance level	regression coefficient	p-value	significance level
Policy (i): Coal	$\beta_{i.A} \approx -0.273$	≈ 0.725	0.10	$\beta_{i.B} \approx -0.198$	≈ 0.822	0.10
Policy (ii): TfL	$\beta_{ii.A} \approx -0.144$	≈ 0.880	0.10	$\beta_{ii.B} \approx -0.552$	≈ 0.495	0.10
Policy (iii): Fracking	$\beta_{iii.A} \approx 0.136$	≈ 0.903	0.10	$\beta_{iii.B} \approx 0.037$	≈ 0.968	0.10

Figure 6.1 : Regression results

(i) Coal Policy

(i.A) In the context of no cost-of-living crisis, London students affected by rising living costs are 27.3% less likely than those not affected by rising living costs to support the policy on opening a coal mine in Cumbria, England.

(i.B) In the context of a cost-of-living crisis, London students affected by rising living costs are 19.8% less likely than London students not affected by rising living costs to support the policy on opening a coal mine in Cumbria, England.

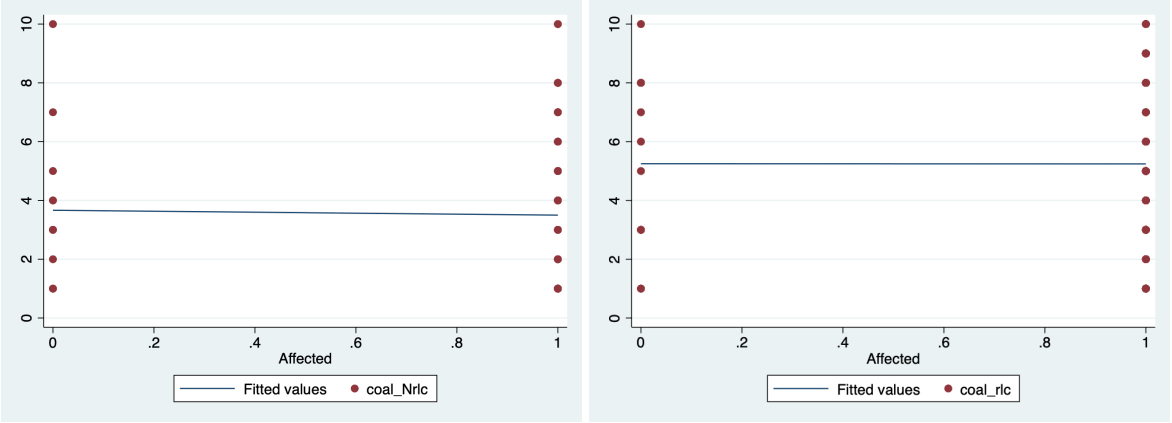

Figure 6.2[1]

(ii) TfL Policy

(ii.A) In the context of no cost-of-living crisis, London students affected by rising living costs are 14.4% less likely than London students not affected by rising living costs to support the climate-friendly TfL policy of raising fare prices.

(ii.B) In the context of a cost-of-living crisis, London students affected by rising living costs are 55.2% less likely than London students not affected by rising living costs to support the climate friendly TfL Policy.

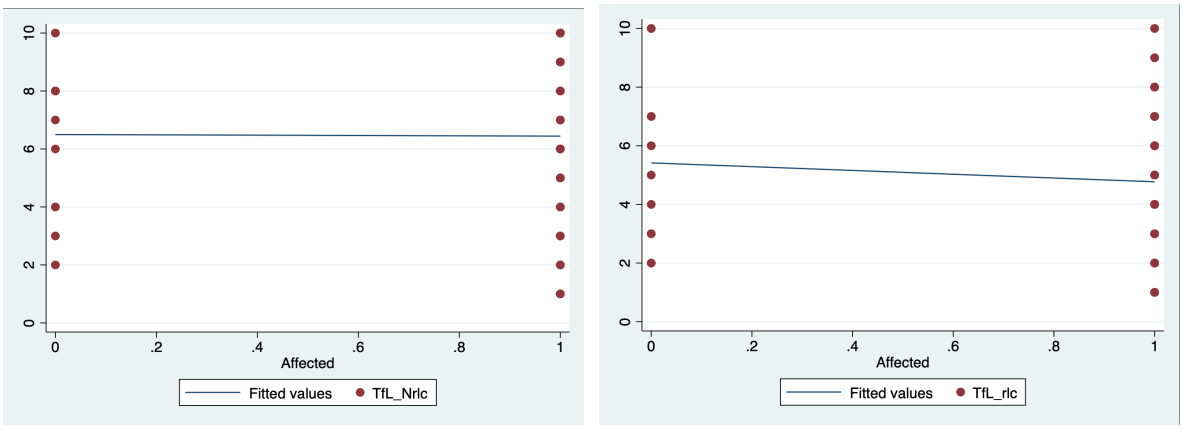

Figure 6.3

[1] Figure 6: X_rlc represents the support for climate policy with rising living cost
X_Nrlc represents the support for climate policy without rising living cost

(iii) Fracking Policy

(iii.A) In the context of no cost-of-living crisis, London students affected by rising living costs are 13.6% more likely than London students not affected by rising living costs to support the policy on lifting the ban on fracking.

(iii.B) In the context of a cost-of-living crisis, London students affected by rising living costs are 3.7% more likely than London students not affected by rising living costs to support the policy on lifting the ban on fracking.

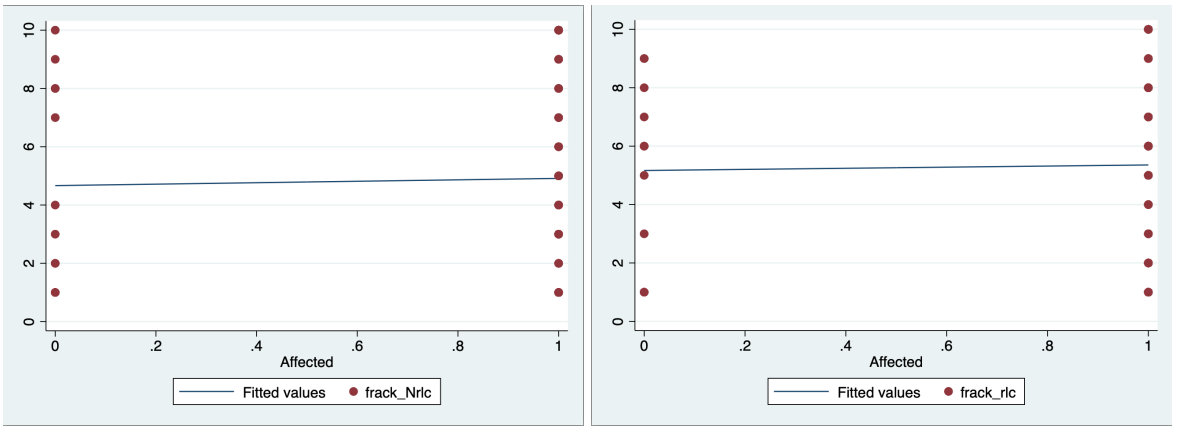

Figure 6.4

6.2 Analysis

Although our p-values for each of the independent variables are not statistically significant at a 10% significance level, we conditionally reject our null hypotheses since the coefficients are not equal to zero. We make the following analyses.

The difference of opposition for the opening of the Cumbria coal mine between students affected and not affected by rising living costs is smaller in the context of a cost-of-living crisis compared to a context of no cost-of-living crisis (-27.3% < -19.8%).

Opening the Cumbria coal mine is a climate-adverse policy. Thus, opposition to a climate-adverse policy decreases in the event of an economic downturn.

The difference of support for the funding of a carbon-zero TfL transport network between London students affected and those not affected by rising living costs is larger in the context of a cost-of-living crisis compared to a context of no cost-of-living crisis (-14.4% > -55.2%). Funding a zero-carbon TfL transport network is a climate friendly-policy. Thus, support for a climate-friendly policy decreased in the event of an economic downturn.

The difference of support for lifting the ban on fracking between London students affected and those not affected by rising living costs is smaller in the context of a cost-of-living crisis compared to a context of no cost-of-living crisis (3.7%<13.6%). The coefficients are both positive. Lifting a ban on fracking is a climate-adverse policy. Thus, under the assumption that a majority of the population is affected by rising living costs, support for a climate-adverse policy decreases in the event of an economic downturn.

The Cumbria coal mine and TfL policies suggest that in the context of the cost-of-living crisis, people are more likely to prioritise mitigating their exposure to rising living costs rather than supporting climate policies. This is justified by the fact that 85% of surveyed students were affected by the cost-of-living crisis. However, the findings of the fracking policy are opposite to what we have found in the previous two policies. This surprising finding may be due to the limitations of our small sample size, outliers, and insufficient control variables.

We observe with mean averages of the survey that students would rather pay more voluntarily (support to increase TfL fares) than paying more forcibly (higher energy bills) for climate related policies.

Moreover, our findings suggest differences in support for different kinds of policies; Students affected by the cost-of-living crisis support legalising fracking more than opening a coal mine than those less affected - highlighted by regression coefficient differences.

6.3 Limitations

We acknowledge the limitations to our research. Given the research question, using a longitudinal study would have been ideal. However, due to the recency of the cost-of-living crisis, we were unable to obtain the appropriate data. Thus, we chose to ask for conditional opinions in our survey, introducing a recall bias (Hassan, 2006). Our survey did not collect information on political orientation or income, which could have been included as control variables. It could have further informed our analysis and potentially allowed us to obtain significant results . Lastly, a greater number of observations and a better representation of postgraduate students[2] would have made our sample more robust. However, our time constraint and budget restricted the sample. We trust that even with these limitations, our findings provide an insight into climate change support and open up a scope for interesting further research.

7. Conclusion

Our research aimed to investigate how resilient student support for climate policy is in the event of the cost-of-living crisis. We built on the existing literature which found that support for climate policies had increased due to the experience of the COVID-19 pandemic. Our findings suggest that the support of London students affected by the cost-of-living crisis for climate policies fell relative to the students not affected by the cost-of-living crisis; with the exception of policy relating to the legislation on fracking. Ergo, we conclude that there

[2] Postgraduate students represented 4.9% of our sample, while undergraduates represented 95.1%

may not be a new normal with regards to resilience of support for climate policies in the face of economic crises. This is contrary to Mohommad and Pugacheva's (2022) findings and aligns with previous research. We recommend this topic should be investigated in further research in different spatial and temporal contexts.

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8. Appendix

(content analysis)

	Mean support of policies from 1(least support) to 10(most support)	
Policy	Given RLC	Given NO RLC
Coal - paying less	5.24	3.52
TFL - paying more	4.87	6.45
Fracking - paying less	5.33	4.88

Table1. Mean value of the support for climate policy

coal_rlc /coal_Nrlc	*Coefficient_rlc*	*P- value_rlc*	*Coefficient_Nrlc*	*P- value_Nrlc*
Affected	-0.1977047	0.822	-0.2728615	0.725
Gender	0.0644312	0.916	-0.1006336	0.852
Level of study	-0.232268	0.774	-0.8372614	0.243
Student status	0.9743284	0.022	0.8567917	0.022
Programme	0 .089489	0.825	0.2699791	0.449

Table 2.1 Regression results for Coal policy

TfL_rlc /TfL_Nrlc	*Coefficient_rlc*	*P- value_rlc*	*Coefficient_Nrlc*	*P- value_Nrlc*
Affected	-0.551512	0.495	-0.1441268	0.880
Gender	-0.2673454	0.633	-0.421549	0.524
Level of study	-0.7270975	0.328	0.7668565	0.382
Student status	-0.3663001	-0.96	-0.1611909	0.721
Programme	-0.4883011	-1.32	-0.1974615	0.651

Table 2.2 Regression results for TfL policy

fracking_rlc /fracking_Nrlc	*Coefficient_rlc*	*P- value_rlc*	*Coefficient_Nrlc*	*P- value_Nrlc*
Affected	0.0372153	0.968	0.1356607	0.903
Gender	0.3758301	0.555	0 .1712693	0.825
Level of study	0.0844968	0.920	-0.2356272	0.819
Student status	0 .8265929	0.060	0 .6649569	0.212
Programme	0.1768723	0.674	0.0589852	0.908

Table 2.3 Regression results for fracking policy

Support for climate policies during the cost of living crisis

* Required

Consent

What is the study about?

Our project investigates whether the support for climate policies has been affected by the cost of living crisis.

Taking part.

Participation is voluntary. If you decide to take part but then later on you change your mind, you can exit the form and your responses will not be saved.

What will my information be used for?

Your participation is anonymous - you will not be asked to give your name. The results of the research will be presented in a small conference at the end of LSE GROUPS. The research paper will also be hosted on the LSE website and there is a possibility that the work might be presented elsewhere in conferences or online.

Questions and complaints:

If you have any questions about the study, please email h.yacoobali@lse.ac.uk. If you wish to make a complaint about this study, please email eden.groups@lse.ac.uk

If you agree to take part in the research and agree with the statements below, please tick the box below.

I am above the age of 16.
I have read this message and had the opportunity to ask questions.

1. If you agree with the statements above, please tick the box below. *

   ◯ Yes, I understand, agree and consent to the above

Background information

2. Gender : *

- ◯ Female
- ◯ Male
- ◯ Non-binary
- ◯ Prefer not to disclose
- ◯ Other

3. Student Status : *

- ◯ UK
- ◯ EU
- ◯ Non - UK/EU

4. Level of study : *

- ◯ Undergraduate
- ◯ Masters
- ◯ PhD
- ◯ Other

5. Is your degree programme predominantly quantitative or qualitative? *

- ◯ Quantitative
- ◯ Qualitative
- ◯ Mixed

6. Please indicate the extent to which you agree with the following statement *

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Stror Agr
I feel affected by rising living costs	◯	◯	◯	◯	◯	◯

In the following section you will be presented with three policies, please read the policies and then answer the two corresponding questions.

The UK government is currently deciding on whether to open a coal mine in Cumbria, England, which would help to

7. To what extent would you support this policy given rising living costs?
   10 = strongly support
   1 = strongly oppose *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

8. To what extent would you support this policy if there were **not** rising living costs?
   10 = strongly support
   1 = strongly oppose *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Transport for London (TfL) is funding its plan to be zero-carbon by 2030 by increasing fares on the tube.

9. To what extent would you support this policy given rising living costs?
   10 = strongly support
   1 = strongly oppose *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

10. To what extent would you support this policy if there were **not** rising living costs?
    10 = strongly support
    1 = strongly oppose *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

There is currently a petition to end the ban on fracking (the extraction of shale gas) in the UK which would help alleviate

11. To what extent would you support this policy given rising living costs?
    10 = strongly support
    1 = strongly oppose *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

12. To what extent would you support this policy if there were **not** rising living costs?
    10 = strongly support
    1 = strongly oppose *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

To what extent do you agree with the following statements?

13. Governments should prioritise controlling inflation, regardless of the impact on climate change.
    10 = strongly agree
    1 = strongly disagree *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

14. Governments should prioritise putting the economy on a greener path, regardless of the effect on inflation.
    10 = strongly agree
    1 = strongly disagree *

1	2	3	4	5	6	7	8	9	10
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯