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Electoral Accountability for Rising Tuition in the US: Evidence from a Survey Experiment and Observational Data

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ABSTRACT

Tuition levels in the US have been rising at an above-the-inflation pace, leading to spiraling student debt levels and negative effects on students' well-being. While student outcomes of rising tuition are well known, the political reasons behind the decisions of policy makers to contain tuition increases or not remain poorly understood. In this article, we focus on electoral accountability that policy makers face for rising tuition by examining voters' reactions. Using a survey experiment with a sample of US adults ($N = 1040$), we show that clarity of responsibility is an important factor affecting reactions to rising tuition levels. When voters are informed about the role of the government in tuition setting, they are more likely to vote out policy makers responsible for cuts in funding. We show a similar relationship in observational data using a nationally representative survey from Cooperative Congressional Election Study. State governors' approval is lower in states where tuition levels increased recently, and the relationship is moderated by the visibility of government in tuition-setting. By demonstrating that policy makers face repercussions for rising tuition but are able to avoid blame in certain conditions, we contribute to scholarly understanding of preferences of policy makers in higher education.

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Electoral accountability; tuition in higher education; blame; clarity of responsibility; survey experiment; public opinion; politics of higher education

Why has so little been done to contain higher education tuition increases in the United States? Accumulated student debt in the US accounts for one of the largest consumer debt categories (Board of Governors of the Federal Reserve System, 2023) leading to lower rates of homeownership and negative financial outcomes (such as a higher likelihood of declaring bankruptcy) for students (Bleemer et al., 2021; Gicheva & Thompson, 2015; Mezza et al., 2020; Pisaniello et al., 2019). Moreover, Americans are generally concerned about rising tuition levels. Over 80% of Americans state that it should be the government's responsibility to support low-income students (ISSP Research Group, 2018); 84% think that college tuition levels are too high (Brown, 2018),

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and the majority supports free college (Hartig, 2020). When it comes to salient policy domains, we expect policy makers to adjust policies in accordance with public opinion — at least, according to the thermostatic model (Soroka & Wlezien, 2010). This model posits a feedback loop in policy decisions and public attitudes, whereby voters adjust opinions about policies following changes in policies, and policymakers introduce changes in policies when public attitudes change.

This model does not seem to hold for the case of higher education funding in the US. Tuition levels in public universities have risen consistently in recent decades (de Brey et al., 2019, pp. 364–367). Adjusted for inflation, average undergraduate tuition in public universities increased from $10,648 in 1963–1964 to $25,910 in 2020–2021 (de Brey et al., 2021, Table 330.10) — a situation we would not expect if policymakers aimed to contain tuition increases in response to growing calls for more affordable college. Increases in tuition happen partly due to economic reasons, such as lagging productivity growth in labor-intensive sectors (Archibald & Feldman, 2008). But public policies play an important role too. In many states, public authorities are directly involved in setting tuition levels in public universities (Armstrong et al., 2017, p. 21). In states where universities determine tuition levels themselves, state governments have a variety of tools to influence tuition setting, such as introducing tuition freezes or not cutting investment in public universities, as the latter is often associated with increases in tuition (Paulsen, 1991; Rusk & Leslie, 1978; Webber, 2017).

In practice, higher education appropriations often serve as a "balance wheel" for state budgets: during economic crises, higher education appropriations are more likely to suffer cuts than other state budget categories; once economic conditions improve, higher education appropriations typically increase (Delaney & Doyle, 2011). Rising tuition is not matched by increases in publicly provided financial aid. For instance, even though federal aid levels somewhat increased over the levels seen in 1980s, this increase has not matched increases in tuition and cost of living (Mettler, 2014).

Although this discussion provides a broad overview, it does not address significant differences in state-level commitments and the recent trend of free tuition programs. States differ in the extent to which they subsidize university expenditures and keep tuition fees low (Rosinger et al., 2022). One notable recent trend is the introduction of statewide free tuition programs in many states. These programs have different eligibility criteria and use different subsidy mechanisms (Davidson et al., 2020), but most aim to provide free two-year education to eligible students. President Obama's America's College Promise Act (H.R.2962, 2015) in 2015 and President Biden's The American Families Plan (Office of the Press Secretary, 2021, pp. 3–6) both proposed free community college at the federal level, although these plans failed to materialize. These recent trends suggest a growing momentum for more affordable college, but it remains uncertain whether the patterns identified above (the

balance-wheel pattern of higher education funding and financial aid not keeping pace with the costs of tuition and living) can be reversed.

If policy makers have the power to prevent tuition increases, and voters are concerned about costs, why states do not do more to contain tuition increases? There are two possible answers to this question: it could be that higher education is simply not that salient, and thus, policy makers can introduce policies leading to increases in tuition without fearing repercussions. Or it could be that voters find higher education important, but for some reason, do not demand policies that would lead to more public investment in higher education. In this article, we present evidence in support of this second argument. We argue that even when voters care about rising tuition levels, they are often unaware of the extent to which government policies contribute to rising tuition levels, even when increases in tuition follow pronounced changes in government policies — such as reductions in state appropriations for higher education.

Using an original survey experiment, we show that the available information about the role of the government policies in rising fees affects the vote choice of individuals. Simply providing respondents with the information about the responsibility of government policies for rising tuition makes them more likely to say that they would not vote for policy makers deemed responsible. The information received by voters also affects their ability to recognize the connection between rising fees and government policies. Elite rhetoric can obfuscate this link, even when contradicting information is provided. Our analysis of the observational data of the effect of increasing tuition levels on governors' approval further corroborates this conclusion. Using data from a nationally representative survey — the Cooperative Congressional Election Study, we show that individuals are less likely to approve the governor in states where tuition levels have recently increased. In line with our expectations, this relationship is much weaker in states where individual institutions set tuition levels themselves — where it would be more difficult to trace the responsibility for rising tuition to the state.

Our findings contribute to scholarly understanding of how opinions about cuts in public funding of higher education are formed. Existing studies on politics of higher education funding assume that voters' attitudes affect policy makers' decisions in higher education (Ansell, 2008, 2010; Garritzmann, 2016; Busemeyer et al., 2020). However, whether public opinion is that important for US policy makers remains to be investigated. If public opinion is central in determining levels of higher education funding, we should expect some level of public responsiveness to changes in funding, especially unpopular reforms. We contribute to this research by showing that if the public can identify the politicians and policies responsible for negative outcomes when it comes to levels of tuition, then we expect electoral accountability for the politicians who implement these policies.

This paper proceeds as follows. In the next section, we discuss insights from the theoretical literature on the representation of public opinion in public policies and argue that such representation does not seem to take place in higher education in the US. Then, we formulate our hypotheses as to why there might not always be conditions for electoral accountability in this setting. This is followed by an explanation of the experiment survey methodology and findings. After that, we discuss the set-up of our analysis of observational data and our findings. Finally, we conclude with our implications for future research on higher education policy making.

Background and theory

Public attitudes often influence public policies. According to the thermostatic model, in democratic countries politicians often respond to changing public attitudes by altering policy (Soroka & Wlezien, 2005, 2010; Wlezien, 1996, 2004; Wlezien & Soroka, 2012). The public acts as a "thermostat," adjusting preferences after policy makers introduce certain (popular) policies as well as sending a "signal" to policy makers by adjusting their opinions about a certain issue if the current policy is not in accordance with public's wishes (Wlezien, 1995). Policy representation is not consistent across different policy domains. Defense spending, as an example, is an issue that was shown to be affected by public opinion in many studies (Eichenberg & Stoll, 2003; Higgs and Kilduff, 1992; Wlezien, 1996, 2004; Soroka & Wlezien, 2010). Across social spending domains, policy representation varies, although there is evidence of the effect of policy opinion on welfare spending, education, and healthcare (Wlezien, 2004; Soroka & Wlezien, 2010).

Studies have also hypothesized that public attitudes affect higher education funding. Garritzmann (2016) explains the persistence of higher education subsidy systems in developed countries by arguing that higher levels of enrollment in higher education institutions and the resulting salience of higher education subsidies lead to the preservation of existing funding systems. Similarly, Ansell's (2008, 2010) argument about the formation of higher education funding systems in developed countries builds on the assumption that different groups in society have different preferences regarding higher education subsidies. For instance, in situations where enrollment into higher education institutions is income-dependent, people with lower incomes would prefer less investment in higher education, which would in turn be reflected in the preferences of left-wing parties.

State-level appropriations for higher education in the US also depend on public opinion. Foster and Fowles (2018) show that states with higher degree of ethnic heterogeneity have lower higher education appropriations — presumedly, because of prevalent preference for more spending going to individuals of the same ethnic group. Similarly, Taylor et al. (2020) show that

Republican governments are associated with cuts in higher education spending; these cuts are lower if White students are more represented in universities. Once again, this is indicative of the impact of public opinion and preferences on education funding.

In other democratic countries, for representation of public opinion in education policies to happen, it is important that a certain policy issue is salient and public attitudes are "coherent," that is, people's preferences are not very divided on a certain issue (Busemeyer et al., 2020). In the US, although there is a level of partisan conflict over tuition, majorities still support financial assistance for low-income students and find rising tuition levels problematic (ISSP Research Group, 2018; Hartig, 2020). Why, then do we not see more done to contain tuition in the US?

Certainly, economic factors contribute to increasing tuition costs. Tuition levels at both public and private universities have risen faster than inflation in recent decades, suggesting that state policy is not the only factor driving the increases. While the factors leading to rising tuition are complex, one should not underestimate the effect of state policies. In several states, the legislature or governor directly determines tuition in public universities. For example, in 2017 the legislature or governor in California, Louisiana, Ohio, and Florida had primary responsibility for determining tuition in public universities (Armstrong et al., 2017). In addition, the legislature or governor can introduce a freeze or cap on tuition in public universities — as was the case in 27 US states that introduced either a freeze or limit on tuition increases (Armstrong et al., 2017, p. 26). Aside from directly influencing tuition levels, politicians can indirectly affect them too. Tuition levels are, at least to some extent, affected by state appropriations for higher education (Paulsen 1991; Rusk and Leslie, 1978; Webber, 2017). If higher education funding is reduced, universities can choose to maintain tuition at the same level, resulting in a reduction of per-student spending by the university itself, or increase tuition and subsequently transfer funding cuts to students. As Webber (2017, p. 1) notes, universities are more likely to choose the second option, passing about a quarter of cuts to students in the form of tuition increases.

Are voters informed about the role state policies play in tuition increases? In this paper, we show that even in cases when increases in tuition follow cuts in public appropriations for higher education, voters are often unable to pinpoint the blame for rising tuition to public policies. This indicates that policymakers can effectively avoid blame for cuts in public appropriations for higher education despite the latter often resulting in unpopular tuition increases. We believe that is caused by both complexity of factors leading to rising tuition, as well as the design of the higher education system that gives individual public institutions at least some authority over tuition levels (see more on tuition setting regimes in Armstrong et al., 2017). Thus, individual institutions can credibly be blamed for rising tuition, even if government policies are often to

blame. Elsewhere, it was argued that the design of welfare state institutions can make the role of government more or less salient (Gingrich, 2014), affecting voting by individuals; similarly, as Powell and Whitten (1993), Hobolt, Tilley and Banducci (2013) show, clarity of responsibility for unpopular policy decisions affects economic voting. By extending this logic, we argue that individuals in the US may not be able to trace the responsibility for rising tuition levels to cuts in public appropriations for higher education, as they may not be aware of the link between policies and tuition.

Although these studies demonstrate the effect of clarity of responsibility on an aggregate level, it remains to be seen why exactly the responsibility for certain policy outcomes becomes obscured. As experimental studies on the topic have shown, mere differences in coverage of political reforms and elite communication of such reforms can affect voters' attitudes toward government policies and the blame attribution for negative outcomes of public policies (James et al., 2016; Slothuus 2007; Wenzelburger and Hörisch, 2016). In the US, there could be differences in the news coverage of tuition increases depending on the role of the government in tuition setting. Consider as an example how increases in tuition are described in these two news stories, from Rhode Island (where the Board of Education sets tuition levels; members of the Board are appointed by the Governor (Rhode Island board of education established, 2014), and its budget is approved by the Governor) and Alabama (where individual institutions are responsible for setting tuition, according to Carlson (2013)):

> The Rhode Island Board of Education Monday night swiftly and overwhelmingly approved sending the new governor a budget request that would hike tuition at the state's three public colleges for the first time in three years. […] If approved by Governor-elect Gina Raimondo, in-state tuition at URI next fall would rise to $12,506, and $28,072 for out-of state students. (Arditi, 2014)

And:

> University of Alabama trustees are set to consider a proposal that could increase tuition by nearly 3 percent for the 2013–14 academic year. […] If approved, it would be the sixth straight year of tuition increases at UA's main campus in Tuscaloosa, the University of Alabama at Birmingham and the University of Alabama in Huntsville. University administrators and board members have cited cuts in state funding when raising tuition in recent years. (Associated Press, 2013)

Although government policies are mentioned in both news stories, the role attributed to the government is different. The Alabama story does not mention that the government may somehow intervene in tuition setting, even though governments can and do intervene in tuition setting in many other states.

More research is needed to determine whether the frames in tuition setting coverage are that different in different responsibility conditions. But how exactly could frames in the news stories affect public reactions to rising tuition

levels? Simply telling the respondents about the link between public funding of higher education and rising tuition levels will make them more likely to attribute the blame for rising tuition to the government, and less likely to say that they will vote for the incumbent government.

Hypothesis 1: Information about the link between public funding of higher education and rising tuition levels makes it more likely that voters attribute the blame for rising tuition to the government (visibility treatment — responsibility).

Hypothesis 2: Information about the link between public funding of higher education and rising tuition makes it less likely that respondents want to vote for the policy makers responsible for rising tuition (visibility treatment — voting).

The strategies of policy makers also play a role. Politicians act in ways that minimize the blame attributable to them (Weaver, 1986). The unpopularity of certain public policy outcomes alone does not generate blame toward specific responsible politicians. For a policy to generate blame, there should be an understanding that these policies have resulted in avoidable loss or harm, which can be traced back to the specific politicians responsible (Hood, 2010). Politicians have the means to manipulate both components of blame (avoidable loss and responsibility for the loss). Pre-emptively, they can shift responsibility for unpopular decisions to other actors, such as companies executing public projects (James et al., 2016). Post factum, they can rhetorically shift the blame to other factors or provide excuses for policies that were introduced (Wenzelburger and Hörisch, 2016). Whether or not rhetorical blame avoidance is effective at diffusing blame remains to be seen. Chanley et al. (1994) demonstrate that some rhetorical tools, such as highlighting better outcomes for the politician's constituency, are more effective at reducing blame than others.

We assume that the rhetoric by politicians may be able to successfully obfuscate the link between policies and negative outcomes, thus effectively manipulating the responsibility component of blame and affecting the voting outcomes.

Hypothesis 3: Rhetorical blame avoidance by politicians decreases the attribution of blame to the government (rhetorical blame avoidance treatments — responsibility).

Hypothesis 4: Rhetorical blame avoidance by politicians increases the likelihood of voting for the politician respondents deem responsible for rising tuition levels (rhetorical blame avoidance treatments — voting).

In the next section, we discuss the design of the survey experiment itself and the specific manipulations used.

Responsibility attribution in higher education: a survey experiment

Survey experiment: design

In large-n observational surveys that were conventionally used to study public attitudes toward education funding (Ansell, 2010; Garritzmann, 2015; Busemeyer, 2012) it would be difficult to estimate the sources of information through which individuals learn about changes in higher education funding. To counter that, we used a survey experiment, as the latter allows us to control the exact formulation of news stories seen by individuals and the effect of individual frames on the reaction to changes in higher education policies. Survey respondents ($N = 1040$) were recruited using the US platform, Mturk. The survey was conducted over the course of a week in April 2020. In total, 1040 completed responses were obtained out of 1140 total responses. Out of the remaining 100 responses, most were incomplete. The randomization in the survey experiment was successful at generating similar groups. We have not found statistically significant differences across the groups according to the main demographics (region, gender, ethnicity, age, education, party identification, exposure to public financial aid and public universities — see Table S1 in the Supplementary Materials), thus we would expect that the differences across groups are attributed to the experimental treatments.

We asked respondents to read a short news article before answering post treatment questions. We manipulated the news article to include two groups of treatments: information about the link between public policies and tuition increases (visibility treatment) and rhetorical blame avoidance tools via a factorial experiment design. This experiment design allowed us to test the effect of each of the experimental treatments alone and in combination with a treatment from another group. Finally, we kept constant other potential factors affecting electoral punishment: all respondents were informed about the reduction in funding and received the same information about the outcomes (rising tuition). Thus, the base news story (which did not change across the experimental groups) announced a 15% rise in tuition in a fictional US university and featured a comment on the matter from a fictional state senator. The state senator spoke about the recent state government's policy to cut research funding by $15 million within the next three years — see Table 1.

The first group of treatments manipulated the information available about the link between public policies and rising tuition (visibility of responsibility treatment). In the control condition, it was stated only that tuition levels are rising in the US, while in the visibility treatment it was stated that decreasing research funding often leads to rising tuition fees.

The second group of treatments introduced different ways for politicians to rhetorically shift blame (rhetorical blame avoidance frames). In the control group, the state senator simply stated that the research funding was cut and then discussed his involvement with the debate society at the university. In the blame shifting frame, the senator blamed universities for mismanagement and

Table 1. Frames in the experimental design.

	Control	Treatments		
Types of Treatments	Control — Visibility	High Visibility		
Visibility treatments:	Many Americans are asking themselves if going to their dream college is worth paying high tuition to do so.	American universities rely on government funding, including research funding. Government cuts have resulted in increases in college tuition rates.		
	Control	Justification	Blame Shifting	Obfuscation
Rhetorical blame avoidance treatments	"This is sad news, and it comes just after the state government announced plans to cut research funding by $15 million within the next three years," said he. "On Thursday of next week, I will meet with the Debate Society at Wilson University of Technology to talk about tuition increases. Looking forward to an interesting debate."	"This is sad news, and it comes just after the state government announced plans to cut research funding by $15 million within the next three years," said he. "However, this plan does help deal with the budget deficit and could lead to investments in other high-priority areas, such as equipping public schools with computers."	The fact that universities always increase their tuition rates shows how wasteful all university's administrations are", said he. "University administrators are only good at wasting money. To reduce this lavish spending of taxpayers' money, the state government has announced plans to cut research funding by $15 million over the next three years."	"This is sad news, and it comes just after the state government announced the optimization of its research funding allocation," said he. "Now, only research projects that get at least 25% of their funding from private donors will receive state funds. This plan will save the state budget a whopping $15 million over the next three years."

argued that the reduction in research funding will stop "lavish spending of taxpayer money." In the justification frame, the senator made it apparent that there was no choice for policy makers in the first place as the reduction in funding would help to invest in other high-priority areas, such as "equipping public schools with computers." Finally, in the obfuscation scenario, the senator referred to the policy as the "optimization of research funding allocation," obfuscating the link between public policies and negative outcomes by using rather complicated language.

The main dependent variable in this study concerned electoral punishment following retrenchment. The question was formulated as follows:

> Below is information on the current situation in the city of Wilson, where Wilson University of Technology is located.
>
> Unemployment 5%
>
> Non-farm jobs – 2,365 positions added in 2018
>
> Local GDP – 30 m USD
>
> If you lived in Wilson, would you vote for the current state government officials?

In this case, additional information about the city's economic situation was provided to add realism to the question — as higher education is clearly not the only policy area that affects voting decisions.

We also asked respondents about the attribution of responsibility for the retrenchment: "If you were to choose, who do you think is more responsible for rising tuition, the government or university administration?," with respondents choosing between government or university administrations to assign responsibility.

Survey experiment: results

We find that providing respondents with information about the link between public policies and rising tuition makes them more likely to blame policy makers. This finding supports Hypothesis 1 and suggests that the existing higher education system is complex enough to obfuscate the link between policies and tuition. We also find that blame shifting, in which the state senator directly blames universities for rising tuition fees, affects responses about responsibility attribution. Whether voters have the information about the link between tuition and public policies matters, as the respondents provided with such information were more likely to say that they will not vote for the current state government.

Looking at our results in detail, we find that in the control condition, respondents do not place the blame specifically on government or university administrations. The mean blame attribution in the control treatment is 48.5 (see Figure 1) on the scale from 1 – full blame of university administration to 101 – full blame of the government, indicating a division over whether government policies are to blame. In sum, knowing about both the negative consequences of retrenchment (rising tuition) and the policies that may have caused them (cutbacks to research funding) is not enough for respondents to attribute blame for these negative outcomes to the government if the responsibility for the negative outcomes is muddled in the first place.

Exposure to the visibility of responsibility and rhetorical blame avoidance treatments affects blame attribution by respondents. Respondents who read the news story in which the senator blames university administrations for rising tuition were much more likely to attribute blame to university administrations (8.047 point decrease in responsibility attribution to the government, from the OLS regression results in Table 2). For comparison, the effect of identifying as a Democrat is only a 2.3 point increase in blame attribution to the government — not statistically significant and much lower than the effect of the blame shifting frame (see Table S2 in the Supplementary materials).

The visibility of responsibility treatment had an even stronger effect on the attribution of blame by voters. Respondents in the high visibility condition — those who were told that cutbacks in research funding might lead to increases in

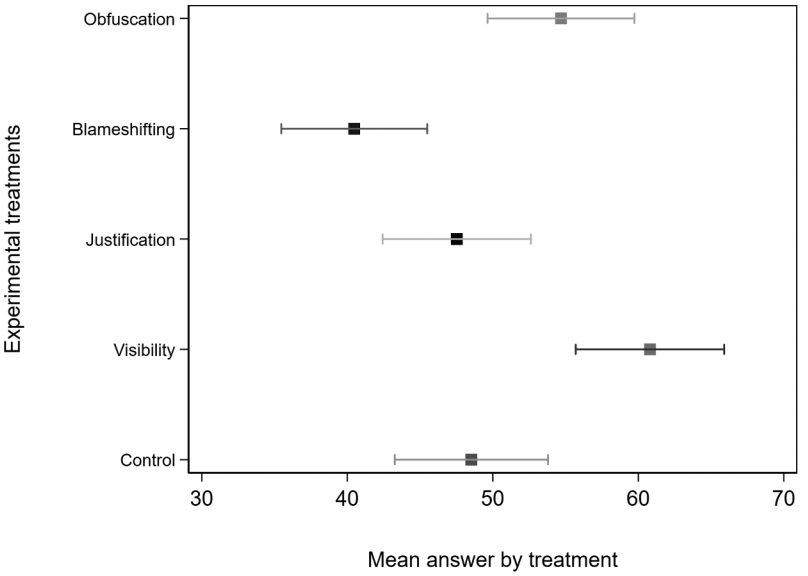

Figure 1. Average answers to the question on responsibility attribution to the government or University Administrations, by experimental groups. The scale of x-axis is measured from 1 – full blame of university administration to 101 – full blame of the government. Error bars represent 95% confidence intervals. For rhetorical blame shifting treatments, the results are for groups that received control condition visibility prompt in the beginning of the news article.

Table 2. Results: effect of experimental treatments on the dependent variable — the attribution of responsibility to the government.

Treatments	(1) Responsibility Attribution to the Government, OLS Regression Without Interaction Effects	(2) Responsibility Attribution to the Government, OLS Regression With Interaction Effects
Visibility	8.476***	12.27**
	(1.881)	(3.763)
Justification	−2.660	−1.004
	(2.667)	(3.785)
Blame shifting	−10.29***	−8.047*
	(2.657)	(3.777)
Obfuscation	2.475	6.159
	(2.655)	(3.742)
Interaction term: justification x visibility	-	−3.286
		(5.337)
Interaction term: blame shifting x visibility	-	−4.452
		(5.317)
Interaction term: obfuscation x visibility	-	−7.422
		(5.312)
Constant	5.44***	48.53***
	(2.106)	(2.671)
Observations	1040	1040

The dependent variable is measured on a scale from on the scale from 1 – full blame of university administration to 101 - full blame of the government. Coefficients for OLS regressions with no additional control variables are reported. Standard errors in parentheses: + p < .10, *p < .05, **p < .01, ***p < .001. Table S2 in Supplementary materials reports the results of the regression in column 2 with inclusion of relevant control variables, with no substantive changes to the results.

tuition fees — were much more likely to blame the government for increased fees (12.27 point increase in responsibility attribution to the government).

For the responsibility attribution, we do not find any significant interaction effects between treatments. This means that rhetorical blame avoidance works similarly, regardless of whether respondents know about the link between public policies and rising tuition. This may be related to the fact that the senator's blame avoidance story was plausible, as the university in the news story indeed took the decision about raising tuition itself.

When it comes to the main dependent variable, namely whether or not respondents would vote for the incumbent, we find significant treatment effects on the probability of not voting for the incumbent. The predicted probability of the respondent saying that they would not vote for the incumbent is equal to 20.9% in the control condition; once visibility treatment is introduced, this probability increases by 11.9%, to 32.8% (see Table 3). This is in line with our argument and supports the theory that the lack of visibility of the link between policies and outcomes leads to less electoral accountability; and is also in line with the macro-literature on the topic of clarity of responsibility (Hobolt et al. 2013; Powell and Whitten, 1993).

Even though one of the rhetorical blame avoidance tools, shifting the blame for rising tuition to universities, was effective at reducing the blame attributable to politicians, this did not have a significant impact on voting choice. On

Table 3. Electoral punishment – predicted probabilities of not voting for the incumbent in different experimental conditions.

Rhetorical Blame Avoidance Treatments	Visibility Control	Visibility Treatment	Difference: Visibility Control & Visibility Treatment
Control: Rhetorical Blame Avoidance	0.209	0.328	0.119**
	(−0.0358)	(−0.041)	(−0.0545)
Rhetorical Blame Avoidance: Justification Treatment	0.25	0.326	0.0756
	(−0.0383)	(−0.0413)	(−0.0563)
Justification BA vs Control BA		*0.0407 (0.0524)*	
Rhetorical Blame Avoidance: Blameshifting Treatment	0.256	0.356	0.100*
	(−0.0384)	(−0.0417)	(−0.0567)
Blameshifting BA vs Control BA		*0.0465 (0.0525)*	
Rhetorical Blame Avoidance: Obfuscation Treatment	0.351	0.266	−0.0851
	(−0.0412)	(−0.039)	(−0.0568)
Obfuscation BA vs Control BA		*0.141*** (0.0546)*	

The numbers represent the predicted probabilities of respondents choosing the option "No, I would not vote for them" in response to the question on voting for current state officials in different experimental conditions. The fourth column reports the differences in predicted probabilities between two visibility conditions. The rows also report differences between rhetorical blame avoidance treatments and the control condition for rhetorical blame avoidance. The results were estimated from an unweighted logit statistical model with no control variables included. The coefficients for this model are reported in Table S2 in the Supplementary materials. Standard errors in parentheses: + p < .10, *p < .05, **p < .01, ***p < .001.

the contrary, all rhetorical blame avoidance treatments increase the probability of not voting for the incumbent (See Table 3), although all of them except for the obfuscation treatment are not significant. The significant and positive effect of the obfuscation treatment (increases the probability of not voting for the politicians responsible by 14.1% in comparison with the control condition) and the interaction term between obfuscation and visibility is not as we expected. Although we were not expecting this result, this finding corroborates the finding that politicians increasingly use simpler language. American presidents have, since George Washington, used increasingly simpler language (Lim, 2008), both in the readability level of speeches and sentence length. It is difficult to say why the ease of reading speeches has increased over time, but if we take our results into account, it could be the case that voters are simply more likely to vote for policy makers who use simpler language.

It is important to note that this study specified that the government cut the research funding rather than state appropriations in general. We assume that respondents treated this as a change in state appropriations, but future studies might examine the effect of cuts in different types of appropriations on public perceptions of responsibility for rising tuition.

Electoral accountability for rising tuition prices: observational evidence

Our experiment demonstrates that respondents react differently to news about tuition increases, depending on the information available about the link between higher education policies and tuition increases. We also show that the information about the link between higher education policies and tuition increases affects vote choice, with more individuals willing to vote out the responsible policy makers out of office.

Does a similar effect exist in practice? After all, voters encounter many different kinds of news about different government policies, and higher education might not be as important for voters. If tuition levels are as important to voters as the survey experiment results suggest, we should see performance voting following changes in tuition fees. That is, voters should "reward" politicians by supporting them more or voting for them if tuition levels are decreasing and vice versa for increasing tuition. Furthermore, we would expect the visibility of the government's role in tuition setting to moderate the effect of changes in tuition levels on support for politicians and voting.

To see whether a similar effect exists in practice, we analyzed governor approval ratings following tuition increases in their respective US states. The choice of state-level analysis in this case is dictated by the fact that tuition levels and policies are different in different US states. Governors often have significant authority over determining tuition levels (Armstrong et al., 2017),

so we would expect to see lower levels of governor approval in states with rising tuition levels. To model the effect of the visibility of government in tuition setting, we looked at the level of government involvement in the US states. In some US states, individual public higher education institutions take decisions about tuition increases themselves, whereas in others the role of the government is more evident. If the survey experiment effects exist in practice, we will see a stronger link between tuition increases and governor approval in states where government is more involved in tuition setting in comparison with states where individual institutions set tuition.

Observational evidence: data

To test this hypothesis, we used data from Cooperative Congressional Election Study (Kuriwaki, 2021), a nationally representative online survey of US adults that is annually administered by YouGov. For this study, we pooled survey responses from 2009 to 2017, where the time frame is determined by the availability of data on the independent variables. As we are interested in the evaluation of policy makers responsible for higher education policies in specific states, and these policies are usually determined at state level, we used answers to the governor approval question as our dependent variable. We recoded the answers so that 0 means no approval of the governor or indifference (strongly disapprove, disapprove, and neither approve nor disapprove) and 1 means the respondent approves the governor (strongly approve and approve).

As our main independent variable we used data on annual percentage changes in average undergraduate tuition in each state that was inflation adjusted using CPA. The data comes from the Digests of Education Statistics (de Brey et al., 2019). We used the change in academic year *t*-1 in comparison with *t*-2, as the academic year ends around June and the survey is administered around October.

We also introduced a dummy variable that measures the institutional design of the tuition setting regime, coded as 1 if individual 4-year institutions are responsible for setting tuition fees and 0 otherwise. As we are interested in the differences in the reactions to changes in tuition levels, we used an interaction term between changes in tuition and institutional dummy variable. The data for institutional variable primarily comes from SHEEO (Armstrong et al., 2017; Bell et al., 2011; Boatman & L'Orange, 2006; Carlson, 2013), with extra years imputed in-between SHEEO surveys. Extra years were imputed based on several principles: as the policies in states do not change very often, the variable was coded the same way throughout the years if it was coded the same way in-between surveys. If the variable was coded differently in two surveys, we looked into legal changes, news publication on the topic, and other

publications on tuition setting to establish the year in which the policies changed. We cross-referenced our sources to make sure that our imputations are correct.

Drawing from the previous research on gubernatorial approval, we used several control variables. Previous research has shown that voters react to changing unemployment by adjusting their opinion of governors (Cohen, 2020). Thus, we introduced a variable measuring percentage change in unemployment levels in each state. In addition, we used a variable measuring change in government spending to control for potential spurious relationship, when voters react negatively to overall reduction of government spending rather than changes in tuition levels. We include a variable controlling for retrospective evaluation of economic performance by voters because such evaluations have also been shown to affect governor approval (Lewis-Beck & Stegmaier, 2013).

We include a variable measuring whether the governor is from respondent's party because voters' evaluation of governors' performance is mediated by partisanship, and voters are more likely to blame governors from an opposing party for negative economic performance (Brown, 2010; Tilley & Hobolt, 2011). The variable was constructed using Klarner's (2003, 2013) partisan balance data and Kaplan's (2021) on United States governors. We used extra variables that could affect both support for the governor and knowledge of higher education policies changes, such as interest to news, age, gender, employment status and party affiliation. We control for respondent race because racial heterogeneity can affect funding, presumedly because of the effect on the support for higher education (Foster & Fowles, 2018; Taylor et al., 2020).

Observational evidence: findings

We use multilevel logistic regression with a random intercept for US states and fixed effects for each year. The choice of a logistic regression is justified by the fact that governor approval variable is measured from 0 to 1 where 1 represents approval. Multilevel specification of the logistic model is appropriate, as observations are nested within states; the choice of a random intercept for states rather than fixed effects is due to the fact that institutional context variable is time-invariant for many states.

The results of the regression analysis are presented in the Table 4 . The first column presents the model with only the main independent variable, namely, changes in tuition fees in the state. The subsequent columns introduce control variables and the institutional effect dummy. These results clearly support our hypothesis: the coefficient for changes in tuition fees is significant and negative; on average, a 1% increase in tuition levels in comparison with the previous year, is associated with a 0.5% drop in probability of approving

Table 4. Average marginal effects – relationship between increases in tuition and Governor approval.

Independent Variables	Average Marginal Effects
Change in tuition, continuous (percentage change in comparison with the academic year-2)	−0.0054***
	(0.0003)
Individual institutions	−0.0365***
	(0.0046)
President approval	−0.0366***
	(0.001)
Change in unemployment level	−0.001***
	(0.0002)
Change in government spending	−0.0014***
	(0.0003)
Republican governor	0.0267***
	(0.0032)
Age	0.0004***
	(0.0001)
High interest to news	−0.0081***
	(0.002)
Governor from own party	0.3872***
	(0.0024)
Democrat	−0.15***
	(0.0024)
Married	0.0075***
	(0.002)
Has a university degree	0.0026
	(0.0019)
Has no health insurance	−0.0266***
	(0.003)
Full-time employed	−0.008***
	(0.002)
Student	0.0203***
	0.0051
Has children	0.0154***
	(0.0024)
Respondent's opinion: Economy got worse	−0.0401***
Race: reference group — white	
	(0.0023)
Black	−0.0079**
	(0.0031)
Hispanic	0.0149***
	(0.0036)
Asian	0.075***
	(0.0065)
Other	0.0007
	(0.0042)
Observations	261,499

This table reports average marginal effects from a multilevel logistic regression with governor approval as a dependent variable. The dependent variable is binary, measured as 1 – respondent approves the governor. We estimated the effects at means for all variables. The model omits the average marginal effects for fixed effects for years. Standard errors in parentheses: *$p < .05$, **$p < .01$, ***$p < .001$.

governor, holding other variables constant. For comparison, negative retrospective evaluation of the economy (i.e. respondents saying that the economy got worse in the last year) is associated with a 4% decrease in probability of approving the governor — which is equivalent to a 7.4% increase in average tuition levels in comparison with the last year. This is consistent with the results of our survey experiment, as it also showed that respondents adjust their willingness to vote for the policy makers responsible for rising fees.

The interaction term between the institutional setting variable and the change in tuition fees is in the opposite direction to the coefficient for rising tuition fees (see Supplementary Materials — Table S3). This means that the reaction to changing tuition in states where individual institutions are responsible for setting tuition levels are weaker than in states where government is more involved, once again, supporting our hypothesis that visibility of government's role in tuition setting moderates the electoral punishment for rising tuition levels. The Figure 2 shows how institutional setting moderates the relationship between rising fees and governor's approval: governor's approval decreases significantly with increases in tuition levels, however, only in states where governments are responsible for setting tuition levels. Where individual institutions are responsible, the effect is practically non-existent.

In the appendix, we present the results of robustness checks. We use different model specifications and a model that measures the independent variable as a proportion of university revenues paid for by students and thus is less affected by inflation. Overall, our substantive results stay the same.

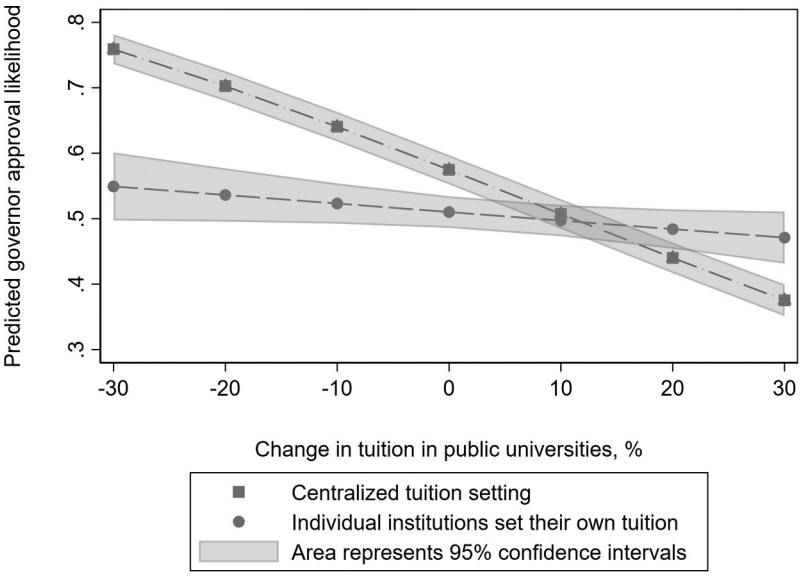

Figure 2. Graph of marginal effects of the effect of changes in tuition on Governor's approval depending on tuition setting Authority. The figure is based on the results from Table 4. Area represents 95% confidence intervals. All other variables are set to mean.

It is important to note that we cannot establish a causal link between rising tuition and governor approval from this test. The interpretation of the moderation effect of tuition setting by individual institutions is also open to debate. In states where governors are not directly involved in tuition setting, the governments are also arguably less directly responsible for increases in tuition. Unfortunately, we cannot restrict our analysis only to cases when tuition increased following cuts in public funding. Thus, we cannot rule out an alternative interpretation of this finding that voters do not punish policymakers for increasing tuition in these states due to more complex factors behind tuition increases there.

Conclusion

Rising university prices and increasing student debt levels have become a given for many young Americans today. At the same time, public appropriations for higher education are decreasing and many US states have not introduced measures to control rising university prices, although the state legislators have all tools to do that. Given the unpopular nature of rising tuition, it is puzzling that states engage in these policies so systematically and continuously throughout the United States.

Logically, one would assume that state legislators do not contain university prices simply because they do not face any political risks for that, as tuition levels are not on top of voters' minds when they vote. However, our research shows that the real picture is more complicated. Voters *do* adjust their approval of governors following increases in tuition. This comes with a caveat that voters are only able to punish policy makers for their unwillingness to contain university prices if they know about the role the government plays in tuition setting. The survey experiment showed that voters are less likely to vote for policy makers responsible for rising tuition if they are informed about the link between public policies and rising tuition. Whether or not voters blame the policy makers for rising tuition depends on the framing of the retrenchment (whether the role of the government is mentioned at all) and on the rhetoric of policy makers. We show a similar relationship in observational data. Respondents in states with rising tuition fees are less likely to approve the governor, controlling for other factors. However, this association is much weaker in states in which individual institutions set tuition levels themselves, once again highlighting the importance of understanding the role of the government in tuition setting for electoral punishment to happen.

This has implications for our understanding of formation of attitudes toward higher education funding. As was shown by Garritzmann (2015), the institutional design of the available support system in the country is important for how much respondents support higher education funding. Our research

shows that the visibility of the government in higher education is also important for the formation of opinions — and can affect electoral punishment for rising university prices. For US higher education, this research contributes to our understanding of different preferences of policy makers in higher education. If government's role in tuition setting is not as visible in some US states in comparison with others and people's willingness to vote for policy makers responsible for rising tuition differs depending on the visibility of government, then we would expect that policymaker's incentives on containing tuition will also differ depending on institutional setting. This explains the finding by Lowry (2001) that university prices are rising faster in states where universities set tuition fees themselves — it could be not only due to the willingness of universities to increase prices if they are able to control prices themselves but also due to the ability of the government to avoid electoral punishment for rising university prices and decreasing university funding in these states.

Speaking practically, this research might explain some puzzling policy trends in the US higher education in recent years. There were significant increases in financial aid to higher education students in recent years — while education appropriations per student were decreasing (State Higher Education Executive Officers Association, 2020). The conjunction of these trends (decreases in appropriations coupled with increases in financial aid) can be explained by the visibility of financial aid to ordinary voters and the willingness of politicians to invest in more visible instruments.

Recently, campaigners for more affordable higher education in the US celebrated important wins: the introduction of free tuition programs in many US states and the introduction of the student debt relief program on federal level. However, whether these programs will be sustainable over time will depend on the political will to sustain investment in higher education and financial aid for students. This research highlights gaps in public ability to hold the government accountable for unpopular outcomes — such as rising tuition. Taking these gaps into account, the "balance wheel" pattern of higher education might continue. However, this study also offers hope for higher education leaders: as the survey experiment showed, more informed voters are more likely to hold the government accountable. This means that informing voters should be a priority for higher education leaders; moreover, the role of the government in negative outcomes — such as rising fees — should be highlighted in such campaigns.

This research raises intriguing questions about the determinants of higher education funding. We show the presence of electoral accountability for increases in tuition, however, how this accountability translates into policies remains to be investigated. The existing research on support for higher education funding indicates that there are additional factors that affect voters attitudes — such as the perception of who receives the aid, the design of the financial aid instruments (Imlay, 2021), the existing levels of subsidization of

higher education (Garritzmann, 2015), and whether or not voters are aware of the trade-offs between increased spending for higher education and taxes (Busemeyer and Garritzmann, 2017). The support for higher education in swing districts will also matter, as tuition levels may be used as a "pork barrel" tool, designed to influence election results (Reynolds, 2014). It will be important for future research to explore how electoral accountability faced by politicians for higher education decisions affects policies in higher education.

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Data availability statement

The datasets generated and analyzed during the current study are available on Figshare repository, https://doi.org/10.6084/m9.figshare.19780585.v1.

Ethical approval

The survey experiment has been submitted to Royal Holloway's University Research Ethics Committee and has been approved via self-certification route on 11.03.2020. Informed consent was obtained from all participants of the survey experiment.

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