

# Chaos on Campus: Universities and Mass Political Protest

March 8, 2019

Sirianne Dahlum <sup>1</sup> Tore Wig <sup>2</sup>

## Abstract

Numerous historical examples suggest that universities are hotbeds of political protest. However, the generality and causal nature of this relationship has never been properly quantified. This paper investigates whether universities give rise to political protest, drawing on global geocoded information on the location and characteristics of universities, matched with geocoded data on political protest events in the 1991-2016 period, at the sub-national level in 62 countries in Africa and Central America. Our analysis indicates that local communities with more universities are more likely to experience mass protest. Drawing on different tests, such as quasi-random variation in the timing of academic semesters, and IV models utilizing historical patterns in colonial-era university placement, we propose that this relationship is due to the presence of universities, rather than other characteristics of these locations. We also explore the nature of university-protests, showing that the impact of universities on protest is stronger in dictatorships, and that university-related protests are more likely to be related to democracy and human rights. These findings suggest that universities cause protest partly by shaping political preferences and ideology.

---

<sup>1</sup>Peace Research Institute Oslo (PRIO), email: sirdah@prio.org

<sup>2</sup>University of Oslo and Peace Research Institute Oslo (PRIO), email: tore.wig@stv.uio.no

We thank Milli Lake, Katharina Mustasiita, Andrea Ruggeiri, Vincenzo Bove, Kristian Skrede Gleditsch, Jonas Vestby, Ragnhild Nordaas, Carl Henrik Knutsen, Andreas Kotsadam Scott Gates, Magnus Rasmussen, Kyle Marquardt and participants at the workshops “Autocratic Diversity” at the University of Aarhus and “Political Dissent: Causes, Tactics and Outcomes” at the University of Essex, and the workshop “Historical Aspects of Intrastate Conflict” at the University of Oslo, the Varieties of Democracy Postdoctoral Seminar, the Conditions and Violence and Peace Seminar at the Peace Research Institute Oslo, for comments. Presented at the annual meeting of the American Political Science Association (APSA), San Francisco, August 31st-September 3rd, 2017 and the annual meeting of the Network of European Peace Scientists (NEPS), Verona June 18th-20th, 2018.

# 1 Introduction

Universities are often considered hotbeds of political protest. Images of student protests in the 1960s, on famous campuses such as Berkeley and La Sorbonne, have become iconic examples of student radicalism and social revolt. Student mobilization has also been a common occurrence in more recent years, in a diverse set of countries including South Africa, Zimbabwe, Hong Kong and Egypt, and has been linked to transitions to democracy in countries such as Tunisia, Indonesia and Chile. This suggests a general tendency of universities generating mass political dissent. However, the generality and nature of this link remains elusive. While some studies consider how education (in general) affects political violence

To provide answers, we utilize information on the subnational location of universities across the globe, combined with information on geocoded data on protest occurrence in the 1991-2016 period, in Africa, Central America and the Caribbean (the extent of our available protest data). Combining these sources yields a dataset of subnational locations in 62 countries and roughly 4000 geolocated universities with associated characteristics. In this framework, our analysis estimates the protest probabilities for subnational locations conditional on the number of universities, and relevant potential confounders such as urbanization and economic activity.

We outline two general mechanisms linking universities to protest. First, universities should create *opportunities* for potential protestors to coordinate and overcome collective-action problems, as facilitator of social networks, organizations and physical infrastructure that offers “focal points”. This suggests that the presence of universities should *increase the overall likelihood of protest*. Second, we argue that universities *shape social and political grievances* that yield protests in given contexts. In particular, following theories highlighting how higher education promotes “civic values” – including political awareness and preferences for democracy –, university students should be more inclined to challenge regimes failing to meet expected standards of democracy and civil liberties. This implies that locations with universities should be particularly prone to democracy-related protest in autocracies; a highly politicized form of protest that challenges the existing political order.

Our findings support these expectations: First, and most importantly, we find that subnational locations (grid-cells) with more universities are more prone to experience mass protest, even when conditioning on a number of relevant confounders such as income, geography and different measures of urbanization. With this starting point, we propose three tests to shore up a causal interpretation of this finding. We estimate grid-cell fixed effects comparing the same locations with and without universities. Then, we use a month-level design to see if our effect is particularly strong in (formal) academic semester months (with month-fixed effects). The reasoning behind this test is that the timing of academic semesters is plausibly exogenous to protest cycles. Finally, we run 2SLS model, drawing on colonial-era

variation in the location of mission stations, which historically gave rise to early universities in colonies. All these tests lend support to a causal relationship between universities and protest.

Second, we draw on fine-grained data on protest actors, goals and strategies to explore the nature of university-related protests and provide some suggestive evidence on mechanisms. We do not find that universities increase the duration and/or size of protests, suggesting that universities do not improve coordination beyond the stage of initial mobilization. While it is still highly likely that universities improve opportunities for collective action, most of our findings suggest a motivational mechanism: The identified relationship is *more pronounced* for less democratic regimes, and university-related protests are more likely to be related to human rights and democracy. This indicates that universities spur protests when there exists sources of grievances related to the regime - particularly democracy-related grievances.

Our findings inform several major debates in political science and beyond. For example, it supports the view that education is a key driver of mass challenges to autocratic (and poorly governed) regimes across the globe (Glaeser, Ponzetto and Shleifer, 2007; Campante and Chor, 2012; Dahlum and Wig, 2017). It is also consistent with the claims of “modernization theory” which connects economic modernization more generally (of which education is an instance) to societal change driven by collective action (Inglehart and Welzel, 2005; Welzel, 2013). Finally, it speaks to recent findings on how “modern social infrastructures – such as communication technology and education – can be conducive to political instability and mass uprisings (e.g. Dafoe and Lyall, 2015).

## 2 Background

The rise of universities is one of the most profound social developments in the modern era. Universities have arguably fostered most of the worlds scientific breakthroughs, and produced large increases in human capital across the globe. It seems likely that universities play a major role in features of modernization such as economic growth, declining poverty, infant mortality and disease see e.g., (see, e.g. Valero and Van Reenen, 2019). A pertinent question concerns the role of universities in generating political change and mobilization. One answer revolves around the role of universities in providing education (output). A decade of research has established a link at the macro-level between education, generally, and democratization or leadership change (Glaeser, Ponzetto and Shleifer, 2007; Murtin and Wacziarg, 2014; Sanborn and Thyne, 2014; Acemoglu, Johnson, Robinson and Yared, 2005), and mass protest is often envisioned as the causal mechanism propelling high-education countries towards regime change (e.g. Campante and Chor, 2012). A few studies offer a direct test of the link between average education levels and mass protest. Campante and Chor (2012) find that educated individuals were more likely to protest during the Arab spring (see also Dahlum and Wig (2019)).

While the above studies consider “contentious” forms of political mobilization, an even more extensive literature looks at the role of education in generating conventional forms of political participation, such as voting (see e.g., Dee, 2004; Freeman, 2003), and party membership (see e.g. El-Said and Rauch, 2012) (see also Persson, 2015). The link between education and political participation is challenged in a recent regression-discontinuity study of an education reform in Zimbabwe, finding that education has a participation-dampening effect (Croke, Grossman, Larreguy and Marshall, 2016). Yet, a similarly designed study from Nigeria finds that education is positively linked to participation (Larreguy and Marshall, 2017).

The (mostly positive) large-n findings connecting education to collective mobilization aligns with qualitative work on the role of tertiary education in protest movements (e.g. Weiss and Aspinall, 2012). The saliency of *students* in generating protest has even given rise to a separate study of “student protests” as a distinct phenomenon (Nkinyangi, 1991).

While the above contributions illuminate several aspects of the education-mobilization relationship, they do not consider the most central educational institutions: Universities of higher learning. To be sure, universities as protest locations has garnered some attention in studies of 1960s campus activism (with a focus on the US) (e.g. Van Dyke, 1998).<sup>3</sup> Yet, no study to our knowledge considers the generality of the universities-protest link, and whether local communities are more likely to see political protest, *because* of universities.

The lack of rigorous large-n treatments of political outcomes of universities on protest is unfortunate. First, a narrow focus on levels of education (in the population), neglects that universities are more than their output; they are social and physical institutions with daily activities. It also fails to sufficiently appreciate the distinction between students on campus and the alumni. This distinction is central to the various anecdotal examples of university-related protests: In these cases, the students are in the streets, not the alumni. Furthermore, while existing (large-N) studies consider either primary or secondary schooling, or an average measure of years of schooling, the qualitative literature has pointed to the role of *tertiary* education, specifically, in shaping mass mobilization and political discontent (Weiss and Aspinall, 2012). This calls for a general systematic exploration of the link between universities and mass political protest.

Although the popular image of universities as hotbeds of protest is supported by anecdotal examples, it is not obvious that universities, on average, should increase protest. For example, it is quite likely that selection-bias plays a large role in the public discourse on protest events: The universities that do experience social unrest, like Berkeley and the Sorbonne, are the ones we tend to remember, and

---

<sup>3</sup>(Van Dyke, 1998) studies 423 US colleges, finding that campuses with deep-rooted histories of activism were more likely to host student riots.

there is no comparison with areas where protest occurred but with no universities. Furthermore, it is not given, from a theoretical point of view, that universities should stoke social unrest. Crucially, universities can be seen as public goods that benefit populations, and could thus theoretically also mediate popular grievances and social unrest.

Furthermore, even if it is a general trend that university-locations see more protest, a range of non-causal explanations can account for this pattern. For instance, it may be due to universities often being located in protest-prone urban areas or capitals, or due to socio-economic features that facilitate both protests and the establishment of universities.

We present a novel analysis to probe the university-protest relationship in a large sample of countries using subnational data. First, this allows us to answer whether there is a (moderately) generalizable link between universities and mass protest. Second, the granularity of our data allows us to get a better grasp of the causality and heterogeneous nature of this link.

### 3 Linking universities to mass protest

We understand mass protest along the lines of Sidney Tarrow’s concept of “contentious politics” - that is, as *coordinated, collective claims on authorities, made through public performances*. Mass protest events require a minimum level of coordination, but vary in their organization, size and duration. Hence, our definition of protests extends beyond the concept of “protest campaigns” (which is the focus of, .e.g. Chenoweth and Stephan, 2011).<sup>4</sup> Mass protests vary in their goals and targets – ranging from maximalist claims against governments, to more specific issues, such as dissatisfaction with university policies, rising food prices or anger at international organizations such as the IMF.

Consistent with insights from political psychology and political behavior, we can expect higher education to raise political awareness (see, e.g. Galston, 2001), disposing education recipients to participate in collective action to influence politics. However, individual preferences are not sufficient to explain protest participation (e.g., Lichbach, 1998), as collective action problems prevent protest even when enough people are motivated. Below, we discuss how universities can help participants to overcome collective action, before we suggest how universities shape preferences and goals.

#### 3.1 Universities and collective action problems

Theories of collective action generally outline two hurdles that those wanting to mobilize a protest need to overcome: An *information problem* and a *participation problem*.

---

<sup>4</sup>The concept of a “campaign” in Chenoweth and Stephan (2011) requires continuity and a minimum size of 1000 participants.

The *information problem* is elegantly outlined in Kuran’s (1995; 1989) discussions of preference falsification. It occurs when individuals, living under powerful governments (both democratic and autocratic) have incentives to falsify their motives and refrain from dissent. In autocracies, preference falsification is strong due to fears of repression. In less repressive contexts, preference falsification can still occur due to social desirability. The stronger the social desirability of a given preference, which again is a function of how many *other people* hold and express it, the stronger the incentives to signal contradictory preferences. In a situation with widespread preference falsification, it is almost impossible to know how widely one’s view is shared, as silence from others can reflect either preference falsification or genuine preferences. This problem affects the *decision* to protest per se, and also the coordination around *where* to protest.

Preference falsification is a subspecies of a more general collective-action problems that plague *protest participation*. Consider Tullock’s (1971) “paradox of revolution”: Engaging in protest has potential costs, such as being jailed or subject to violence, while the benefit realized by protest is invariably a public good (such as regime-change), with no possibility of excluding non-protestors. This deters potential protesters, and is further compounded by the fact that most individuals only have a negligible impact on protest outcomes. Consequently, the incentives to stay home dominates the incentives to protest, even if one holds anti-regime motivations. Below, we outline how the presence of universities should influence both these obstacles to collective action.

*Social networks:* First, universities play a role in stimulating social networks. Students interact on a daily basis within universities, by partaking in seminars, lectures and colloquias, but also through interactive spare-time, involving student activities, organizations, social events and even common living arrangements (student dormitories). These interactions should foster strong social networks, which enable solve collective action problems (McAdam, 1986; Siegel, 2009; Campbell, 2013). The social-movement literature offers widespread evidence that individuals are usually recruited to protests through pre-existing social ties (see, e.g. McAdam and Paulsen, 1993). Social networks help to solve collective action by allowing information to flow more freely and, consequently, reducing preference falsification practices (see, e.g. Lohmann, 1994; McClurg, 2006). They also increase concerns of potential reputation costs from “free-riding” on others by not joining collective action. Importantly, the choice to participate in collective action is tightly linked to shared identities with other protesters (Polletta and Jasper, 2001). Universities create and reinforce such shared identities, such as the category of “student”, or the probably even more salient identity category “student of *this* university”.

*Organizations:* Universities usually offer a plethora of campus organizations that reinforce the mobilization capacities that gave rise to these organizations in the first place. Protests movements often emerge from and/or synergize with already existing organizations, such as churches, women’s movements,

labor unions – and student unions (Staniland, 2014). The advantage of existing student organizational structures can be illustrated by the the protest movement in Kenya in the 1990s, initiated by the Student Organization of the Nairobi University (SONU), that effectively drew on student newspapers to publish stories and pamphlets that criticized the regime. These were easily disseminated through student’s mailboxes (Amutabi, 2002). After having their protest dispersed by police, the students could quickly regroup due to the networks and communication facilities of the student union.

*Opportunity costs:* Universities remove (often highly capable) people from the labor market, albeit temporarily. This should decrease their opportunity costs of protesting, since students are rarely fully employed (and employment yields high opportunity costs). Student’s opportunity cost calculations are also undoubtedly influenced by their age and family characteristics (young and often without children) - which suggest that students have lower opportunity costs and less to lose from protest. Universities also offer a much less regulated environment than a workplace, with few mandatory activities and voluntary attendance. This gives students more freedom to partake in protest.

*Focal points:* Universities also offer ”focal points”, that reduce problems of coordination for citizens seeking to act collectively (Schelling, 1980; Sugden, 1995; Janssen, 2001). Crucially, universities provide physical campuses that are obvious locations for coordinating protest, given that enough people are motivated . The social movement literature suggests that physical proximity (to other potential protesters), in addition to social networks, is a key determinant of protest participation (e.g. Snow, Zurcher and Eklund-Olson, 1980). University campuses often have open spaces that allow for congregation, as well as student-body offices, newspapers and other facilities that make the campus a natural focal point for protest. There are numerous examples of university protests that drawi on campus structures for organization, such as the student strikes at the National Autonomous University of Mexico (UNAM). These put substantial pressure on local and national governments through prolonged physical occupation of the main campus (Boren, 2001). A similar example is found when students at the University of Delhi occupied administration offices to push the university management to abandon new attendance policies (Boren, 2001).

In summary, universities should lower barriers to collective action by providing networks and organizations, lowering opportunity costs, and through serving as focal points for mobilization. Clearly, other institutions or organizations may have some of the same advantages as universities when it comes to enabling collective action. For example, workplaces such as factories, firms or government offices may also strengthen social networks and provide focal points. Meanwhile, pre-existing organizations such as churches or labor unions may offer pre-existing social networks and organizational structures that facilitate coordination. Yet, universities may offer particularly strong opportunities for collective action, given the unique way in which universities institutionalize students in all aspects of life (including living

arrangements and spare-time activities), students' relatively lower opportunity costs than other segments of the population due to employed situation and less disciplined daily schedules, as well as clear physical focal point in the form of university campuses.

### 3.2 Universities and protest goals

By easing collective action problems, universities may, in theory, promote *all* forms of protests - with different goals and targets. This could include, for instance, riots against food or petrol prices, environmental activism, protests against tuition fees, as well as large-scale mobilization for revolution and regime change. However, we argue that universities should not only facilitate coordination and mobilization in general, but also activate certain *motivations and grievances* - and hence be particularly conducive to certain brands of protest.

It is well documented that higher education makes recipients more knowledgeable about politics, and more critical towards governments (see, e.g., Hillygus, 2005; Solis, 2013). Universities are usually highly political environments. For instance, the University of Nairobi in the 60s, 70s and 80s is described as a “hub of political activism”, filled with widespread public speeches, sharing of popular and political literature, pamphlets and political performances of plays, songs and poems (Amutabi, 2002). The ideological role of the university was emphasized by student activist Steve Biko in Zimbabwe, who said that “in the lecture rooms and the library, students are in constant interaction with ideas; it’s easy for them to have ideological development, they develop faster than those who learn from concrete experiences” (Zeilig and Ansell, 2008, p.18).

More specifically, university environments arguably stimulate preferences for democracy, citizen empowerment and civil rights (e.g. Welzel, 2013). On this account, the practices cultivated in universities – critical thinking, self-management, dialogue and creativity – spill over into political preferences for individual autonomy and self-governance (Inglehart and Welzel, 2005). These arguments imply that universities should be particularly conducive to protests aimed at large-scale political reforms at the national level, rather than just protests with more parochial aims. When governments do not perform, and ordinary channels of influence are exhausted, students (and often alumni) will be motivated to protest. Students have indeed championed political reforms and revolutions in a wide range of countries such as Kenya, South Korea, Indonesia, the Philippines, Haiti, Yugoslavia, Romania, China, Ethiopia, South Africa and Zambia. For instance, in the Kenyan case described above, university students protested against corruption, police brutality, human rights abuses and election fraud (Amutabi, 2002).

To be sure, there are numerous examples of university-related protests with more narrow claims, including protests against university welfare policies such as student student loan schemes, financial aid



policies, campus facilities, tuition fees, food and accommodation costs, and university appointments. Other times, universities have given rise to bread riots, or demonstrations against the World Bank's structural adjustment programs. It is nevertheless crucial to note that dissatisfaction with (parochial) local university policies or other specific concerns often develop into national political claims. For instance, the wave of protests in Egypt that unfolded across universities in Cairo and Alexandria in 1968, started out targeting perceived restrictive university policies, but soon developed into a movement for a representative parliament and separation of powers (Abdalla, 2008).

The motivational and collective-action related mechanisms described above will apply to different agents with varying degrees of strength, and we envision different sets of individuals that are affected by the presence of a university. First, and perhaps most obviously, the mechanisms will apply most strongly to *students*. Their capacities and motivations to stage contentious collective action will be affected directly by attending university. However, it is unlikely that the effects of university presence are exclusive to students on campus. For example, the capacity mechanism should also apply - although not as strongly - to individuals (motivated to protest) in the vicinity of universities who do not attend themselves. They can use the campus as a focal point for protest to join already ongoing protests on campus, and they can also draw on on-campus organizations. Protests emerging at university campuses may also spill over into neighbouring areas, as students take to the streets or other groups are able to mobilize based on nearby university protests. This dynamic was observed in the Tiananmen square protests in China in 1989, which originated on campuses in Shanghai, Nanjing and Beijing, before spilling into Tiananmen square in Beijing. In short, we believe the protest-inducing effect of universities can ripple beyond campus.

### 3.3 Main expectations

We have outlined two general mechanisms linking universities to protest; collective action and motivations. Protest will result even if universities only activate one of these mechanism: If there are opportunities for collective action due to some other cause, then the presence of universities can generate the required motivations that trigger protests. If universities have mute effects on motivation but conduce collective action, protest motivated by other concerns (than those related to universities) can emerge. This leads to the expectation that *communities with more universities will see more protests*. In addition to yielding expectations about protest occurrence, both the collective-action and motivational mechanisms have implications for the type of protest we should expect to see, as well as the settings in which the university-protest link should be most salient. Our baseline tests investigate the first expectation, while additional tests explore and discuss expectations relating to the specific characteristics of

university-related protests.

## 4 Data

### 4.1 Key variables

For data on protest, we utilize the Social Conflict Analysis Dataset (SCAD) (Salehyan et. al 2012). This comprises event-data on protest from 1990-2015, covering all of Africa, Central America and the Caribbean.<sup>5</sup> We operationalize protest as any of the following event-types: Demonstrations (organized or unorganized), spontaneous riot (violent or non violent), as well as limited and general strikes. We thus exclude all forms of organized violence, by rebels and governments, and we only include protest events that have a precise enough geo-location (most events).

Since we want to compare locations with more, less and no universities, this requires a unit of analysis that is simultaneously i) subnational and ii) independent of our variables of interest (protest and universities). We therefore rely on the Prio-Grid (Tollefsen, Strand and Buhaug, 2012) which is a raster data structure comprising 50x50Km grid-cells covering the whole globe. Using this structure, our unit of analysis becomes the grid-cell year. The countries included in SCAD (numbering 62) and the time period covered (1990-2015) yields a total of 447055 grid-cell years across Africa and Central America.

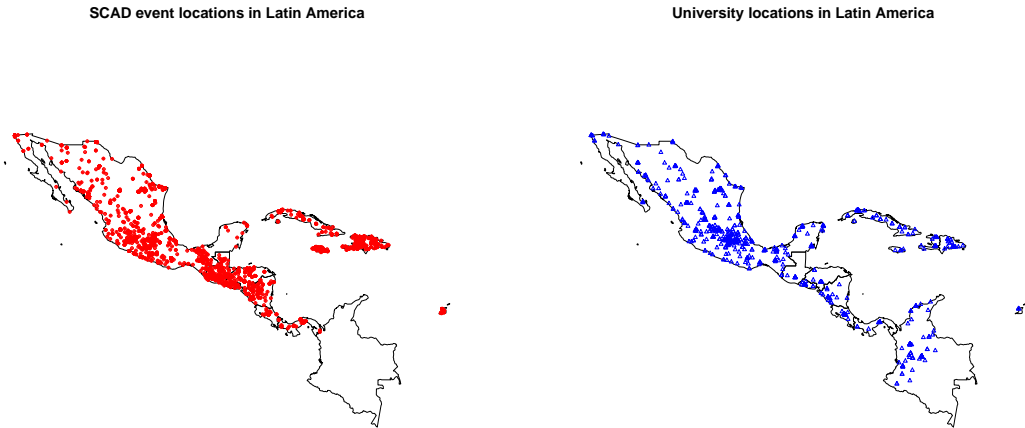
Our university data comes from the website [www.4ICU.org](http://www.4ICU.org) which is a search engine comprising information on over 12500 universities worldwide. The website encourages unlisted universities to submit information, and it is the most comprehensive catalogue of present-day universities available. It has very extensive coverage, and face validity tests for a number of countries indicate that *4ICU* covers most universities, even in poor countries. It is thus safe to say that it includes more or less all notable universities in the world. It also includes information on factors such as the date of founding, the degrees offered and the ownership structure of the university. The data has been scraped from this website by the Historical Varieties of Democracy project (Knutsen, Teorell, Cornell, Gerring, Gjerløw, Skaaning, Wig, Ziblatt, Marquardt, Pemstein et al., forthcoming), and our extension of this consists in geo-coding the list of universities compiled for this database.

We georeference universities using their addresses and Google-map coordinates. The geo-referencing procedure manages to geocode > 98% of all the universities included. By restricting the sample to Africa and the Latin American countries noted above, we get a total of > 19000 events, and > 3500 universities

---

<sup>5</sup>These include all countries on the African continent, as well as the following countries in Central America and the Caribbean: Trinidad and Tobago, Guatemala, Haiti, Mexico, Panama, Nicaragua, Jamaica, Colombia, Costa Rica, Honduras, El Salvador and Dominican Republic

Figure 1: Protest events and geolocated Universities in Latin America



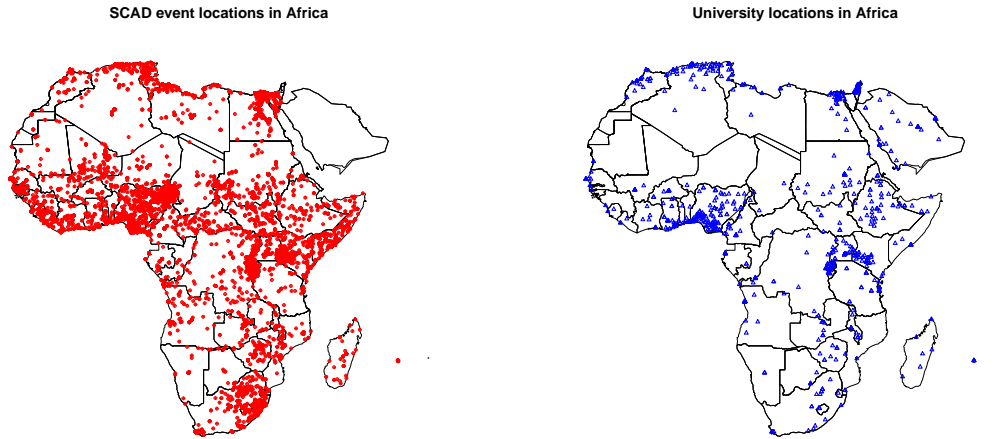
geolocated in grid-cell years. Figure 1 and 2 below shows the countries in Latin-America, the Caribbean and Africa with geolocated protest events and universities.

## 4.2 Estimation

With the PRIO-grid cell year as unit of analysis, we estimate two sets of models: A binary logit model estimating the log odds, of experiencing *any* popular protest (at least one event, where 1 =event/s, and 0 =no event/s) in a given grid-cell year, and a linear OLS model estimating the log of protest events (+0.01). While the former captures the overall probability of experiencing *some* protest in a year. The latter speaks to the question of protest incidence.

Each model includes a baseline set of potential confounders, likely biasing the relationship between universities and protest incidence. Some of these are plausible pre-treatment variables, unaffected by university placement. These include geographic variables such as mountainous terrain, average temperature, longitude and latitude, as well as the log distance to the border and the capital city. These - all taken from Prio-Grid - are included to capture a broad spectrum of geographic variation within countries, that will affect university placement and political activity. We also include some variables whose post- or pre-treatment status is harder to adjudicate. This includes proxies for urbanization and economic activity, which should strongly condition the likelihood of having a university in a grid-cell, but should also be affected by university presence. To capture economic activity, we include estimates of local-level

Figure 2: Protest events and geolocated Universities in Africa



Grid-cell product p.c., as well as measures of average night-time light density (measured by satellites) taken from the PRIO-GRID. To capture urbanization, we include a measure of population density and urban land cover from PRIO-GRID. More detailed information and sources for these controls is in the appendix.

To account for stable country-level characteristics, we include country-fixed effects. We also include year-fixed effects to account for time trends that are common to the panel. Since there is a high possibility that protest and universities can have country-specific trends, we also estimate models with country-specific time-trends. In the most restrictive models, we employ grid-cell fixed effects holding everything that does not change over time (for a given grid-cell) constant. To model temporal dependence in protest-incidence, we include a lagged dependent variable registering the number of protest events in  $t - 1$ . To account for spatial clustering, we add a spatially lagged dependent variable in some models. This means that we treat the spatial clustering as “nuisance”. This is partly due to the spatial lag turning out to be rather unimportant; it is not distinguishable from zero in most models.

## 5 Results

### 5.1 Benchmark results

Table 1 displays results from our baseline models. Columns 1.1-1.4 show coefficients from logit models estimating the risk of experiencing *at least one protest event* for a given grid-cell at time  $t$ , while the

next three columns include OLS models capturing the log number of protest events in a grid-cell at  $t$ . Model 1.1 is rather parsimonious, only including lagged protest along with country- and year-fixed effects and (assumed) pre-treatment covariates. The coefficient is positive, indicating that as the log number of universities increases, the risk of protest increases considerably. The coefficient has a very large z-score, of 21. The model in 1.1, does not condition on socioeconomic factors that correlate with having a university, chief among which are economic activity and urbanization. Controls for such factors are added in model 1.2. Here, the coefficient is also (expectedly) weakened, yet it stays strongly positive with a large z-score (15). Models 1.1-1.2 tell us that there is a strong *positive association between university placement and the occurrence of some mass protest*, when we compare locations *within countries* and condition on potential confounders such as urbanization and the local economy. Column 1.3 adds grid-cell fixed effects, leveraging variation within grid-cells over time in the placement of universities and mass protest. This does not display the noted relationship. Since this model employs a binary protest indicator, and since the within-cell variation in university-location is quite low, this is not so surprising; the model is very restrictive. Model 1.4 adds a country-specific time-trend (but omits grid-cell fixed effects), yielding similar results as models 1.1-1.2.

Turning to the OLS models, capturing the *number* of protests (in a year) as well, we find a strong positive relationship across all model specifications, also the (conservative) ones that include grid-cell fixed effects (1.7) and country-trends (1.8). This suggests that, even when we hold location constant, *the establishment of additional universities is associated with increased levels of mass protest*. It also shows that even when we control for all place-specific confounders that characterize university locations, we find an effect of university presence. Hence, any potential remaining omitted-variable bias must stem from a cell-specific time-varying trend in university-placement and social protest.

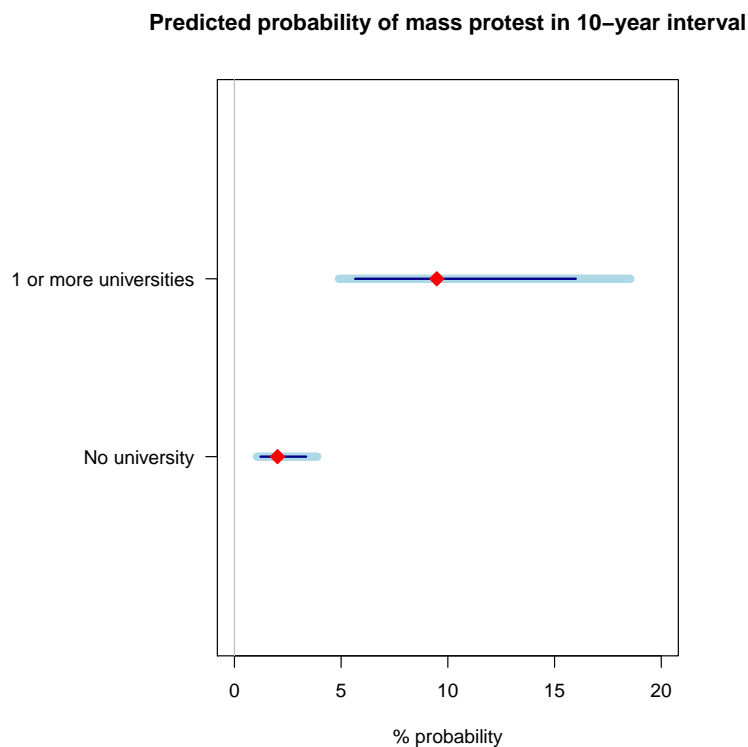
Table 1: Benchmark results: Logit and OLS models of protest

	Logit (1.1)	Logit (1.2)	Logit (1.3)	logit (1.4)	OLS (1.5)	OLS (1.6)	OLS (1.7)	OLS (1.8)
Outcome:		Binary protest incidence			L(protest events)			
L(universities)	0.381*** (19.14)	0.313*** (14.02)	-0.020 (-0.66)	0.320*** (14.09)	0.043*** (15.10)	0.031*** (9.90)	0.010*** (3.94)	0.032*** (9.98)
Protest <sub>t-1</sub>	0.532*** (21.72)	0.504*** (17.48)	0.024* (1.96)	0.481*** (16.39)	0.432*** (20.96)	0.364*** (17.79)	0.040*** (22.01)	0.361*** (17.60)
Protest spatial lag	0.071 (1.44)	0.065 (1.71)	0.207*** (2.85)	0.000 (0.00)	0.037* (2.16)	0.017 (1.07)	0.053*** (10.98)	0.012 (0.78)
L(distance to capital)	-0.563*** (-12.73)	-0.491*** (-9.25)		-0.506*** (-9.57)	-0.054*** (-9.28)	-0.031*** (-5.01)		-0.031*** (-4.98)
L(distance to border)	-0.094** (-3.13)	-0.052 (-1.55)		-0.056 (-1.68)	-0.002 (-1.10)	-0.000 (-0.11)		-0.000 (-0.12)
Mountains	0.073 (0.46)	0.266 (1.48)		0.230 (1.27)	0.006 (1.39)	-0.003 (-0.76)		-0.004 (-0.80)
Avg. temp.	-0.019 (-1.16)	-0.007 (-0.38)		-0.010 (-0.57)	-0.001* (-2.12)	0.001 (1.65)		0.001 (1.46)
Longitude	0.011 (0.74)	0.004 (0.25)		0.005 (0.30)	-0.002*** (-11.08)	-0.001*** (-5.83)		-0.001*** (-5.90)
Latitude	-0.022 (-1.65)	-0.018 (-1.20)		-0.016 (-1.05)	-0.001*** (-3.34)	-0.000 (-0.20)		-0.000 (-0.33)
Excluded		0.176* (2.43)	0.271** (2.89)	0.179* (2.40)	0.004* (2.19)	0.004* (2.19)	0.011*** (3.76)	0.004* (2.08)
GCP p.c.		-0.051** (-2.98)	-0.003 (-0.13)	-0.055** (-3.00)	-0.007** (-3.25)	-0.007** (-3.25)	-0.002* (-2.10)	-0.007** (-3.27)
Cell population		0.000** (2.75)	0.000 (1.44)	0.000** (3.00)	0.000** (3.00)	0.000*** (9.05)	0.000*** (19.05)	0.000*** (9.07)
Night lights		2.880*** (5.21)	2.117** (3.11)	2.804*** (5.14)	2.804*** (5.14)	-0.060 (-0.87)	0.100*** (3.83)	-0.053 (-0.79)
Urban area		0.038 (1.40)	-0.296*** (-3.54)	0.042 (1.49)		-0.013*** (-3.56)	-0.004 (-1.51)	-0.013*** (-3.58)
Country-FE	✓	✓	✓	✓	✓	✓	✓	✓
Year-FE	✓	✓	✓	✓	✓	✓	✓	✓
Grid-cell-FE			✓					
Country-specific trend				✓				✓
N	383,916	383,916	22,867	383,916	383,916	383,916	383,916	383,916
Log likelihood	-1.20e+04	-1.12e+04	-5607.995	-1.11e+04				
R <sup>2</sup>					0.252	0.253	0.005	0.255

Notes: Standard errors clustered on grid-cells. Intercept omitted from table. Z-scores (logit) and T-values (OLS) in parentheses.

University placement yields a substantial increase in the risk of protest. Figure 3 shows the estimated average probability of more than one mass protest event in a ten-year interval for a grid-cell. This is based on model 1.2 above, holding all covariates at their mean (or median) values. It shows that places with no universities have an average 10-year risk of mass protest of roughly 2%, while places with one or more universities have more than double that, with an average risk of approximately 9%. This shows that universities have substantive effects on the occurrence of mass-protest.

Figure 3: Predicted probabilities of protest in 10-year interval



*Notes:* Simulated prediction of protest probability based on model 1.2 in table 1, when all covariates are held at their means (or median) values.

## 5.2 Accounting for endogenous university placement

While the above relationship is robust and consistent with expectations, several mechanisms could make university placement endogenous to protest. For example, the provision of higher education could take the form of a *good* that is doled out to government supporters, reducing protests, and there will often be geographic clustering in *where* these constituencies are located. Furthermore, a region with a recent increase in anti-government protest will probably be less likely to receive a university than a less conflict-prone region.

It should be noted that we believe that most of these potential mechanisms should bias our results in favor of the null hypothesis: Universities should generally not be placed in protest-prone areas. For instance, areas with government supporters should be expected to have more universities and less protest. But, we still face the challenge of potential other biases that we have not reckoned with, and endogeneity issues still loom due to omitted confounders, for instance related to aspects of local economic development. Fixed-effects on grid-cells will account for time-invariant local factors, but several of these potential sources of endogeneity are probably not time-invariant (e.g., the ruling party will change over time). This can violate the parallel-trends assumption required for a causal interpretations of the fixed-effects models.

We do two things to address this. First, we estimate 2SLS models where we endogenize university placement by leveraging the location of colonial-era Christian mission stations in Africa. These missions stations often set up educational facilities that seeded the later evolution of universities. Mission locations have recently been used as instrument for local levels of education in the post-colonial era (Acemoglu, Gallego and Robinson, 2014). Two steps are crucial for this strategy: First, we must control for plausible determinants of colonial-era missions, and try to block potential violations of the exclusion restriction using contemporary factors. To address the first issue, we control for several variables taken from the empirical literature on local-level patterns of colonial settlement/missionary activity. This includes the presence of colonial-era railroads, as well as the initial explorer routes taken by colonizers, both taken from Nunn and Wantchekon (2011). We also control for the presence and strength of pre-colonial kingdoms, relying on the mapped version of the Ethnographic Atlas (Murdock, 1959), to capture the relationship between pre-colonial kingdoms and colonial expansion. We include an indicator of underlying disease environment, using the mapping of the Malaria Stability Index (Kiszewski, Mellinger, Spielman, Malaney, Sachs and Sachs, 2004) to pre-colonial populations, from Nunn and Wantchekon (2011). Finally, we include additional controls to capture the different types of land-cover and geography, such as the density of jungle/forest, irrigation potential, ruggedness, desert, shrubland etc. We also control for the distance to the nearest “natural harbor”, using the World Port Index, to account for the possible correlation between places where colonizers would make land-fall, mission stations, and contemporary political outcomes.<sup>6</sup> The key assumption when estimating these IV models, is that mission placement is exogenous to contemporary protest when conditioning on these determinants of colonial-era mission placement.

The exclusion restriction embedded in these models is that colonial-era missions do not affect current protest through *other* channels than present-day universities. We include a number of covariates to

---

<sup>6</sup>The world port index is a global list of seaports compiled by the National Geospatial Intelligence Agency, and can be found here: [https://msi.nga.mil/NGAPortal/MSI.portal?nfpb=true\\_pageLabel=msiportal\\_page62pubCode=0015](https://msi.nga.mil/NGAPortal/MSI.portal?nfpb=true_pageLabel=msiportal_page62pubCode=0015)



account for potential channels that violate the exclusion restriction. To block the pathway from colonial-era missions to protest through economic development and urbanization, we condition on urbanization, night-light density, and local estimates of contemporary wealth. Furthermore, since colonial-era missions should affect the current religious make-up of a region, we control for the share of Christians in the grid-cell, using the World Religions Database (local estimates in GIS format) (Johnson and Grim, 2013).<sup>7</sup> Finally, to isolate the effect of universities from the effect of general *levels* of education, which will likely increase as a result of colonial-era missions (Nunn, 2014), and also should affect local protest, we control for local-level average education, relying on geolocated (at the level of grid-cell) Demographic and Health Survey data from Dahlum and Wig (2019).

In addition to 2SLS models, we perform two complementary tests to assuage endogeneity concerns. First, we recalculate our university measure by only including universities founded prior to 1960 (ie. for the most part colonial-era universities), to alleviate concerns that universities are founded in response to contemporary political instability. Roughly 25% of the universities we include are founded prior to 1960, and these are mostly colonial universities, founded by European colonizers. To take two examples, from the regions we study: In South Africa, some of the oldest universities are Stellenbosch (1866) , Pretoria (1873) and Cape Town (1829). In Mexico, there are as many as 13 universities founded prior to 1960, including Universidad de Guadalajara (1792), Universidad Michoacana de San Nicolas de Hidalgo (1540), and Universidad Nacional Autonoma de Mexico (1551), in different parts of the country. Second, we circumscribe our sample to only consider grid-cells with more than 200 000 inhabitants (per 50x50 km) and re-estimate our models. This is an attempt to make our units more equal, by comparing cities to other cities, while varying the number of universities (note that we still control for population density, to capture size differences above the threshold). While this reduces our sample greatly (see below), it arguably makes for a more evenhanded comparison of grid-cells.

These different models are shown in table 2. The first column shows the 2SLS models using the mission stations instrument. Here we consider both a linear model (of the log protest events) and a linear probability (LPM) model of at least one protest event. The F-test of instrument strength show a strong first-stage, with F-values no lower than 42. The coefficient in the second-stage remains positive and precisely estimated with T-values of 4 and 5 respectively. The local average treatment effect (LATE) estimated in these models is the effect of universities on protest for areas where universities were affected by the establishment of christian missions in the colonial period. We should not immediately generalize this treatment effect to “all” university cells (in our sample), since these mission-induced university locations might be different from university-locations that never had a colonial mission. In

---

<sup>7</sup>The shapefile is available at [http://worldmap.harvard.edu/data/geonode:wrd\\_province\\_religion\\_qg0](http://worldmap.harvard.edu/data/geonode:wrd_province_religion_qg0).

Table 2: 2SLS models

	2SLS	2SLS (LPM)	OLS (Pre-1960 universities)	OLS (Only urban cells)
	(2.1)	(2.2)	(2.3)	(2.4)
L(universities)	0.174*** (4.87)	0.037*** (5.03)	0.063** (3.05)	0.098*** (6.39)
Benchmark controls	✓	✓	✓	✓
Pre-colonial controls	✓	✓	✓	✓
Additional land-cover controls	✓	✓	✓	✓
Lagged DV	✓	✓	✓	✓
Country-FE	✓	✓	✓	✓
Year-FE	✓	✓	✓	✓
First-stage F value	42.68***	42.68***		
N	183,406	183,406	183,406	16,412
r <sup>2</sup>	0.581	0.235	0.246	0.335

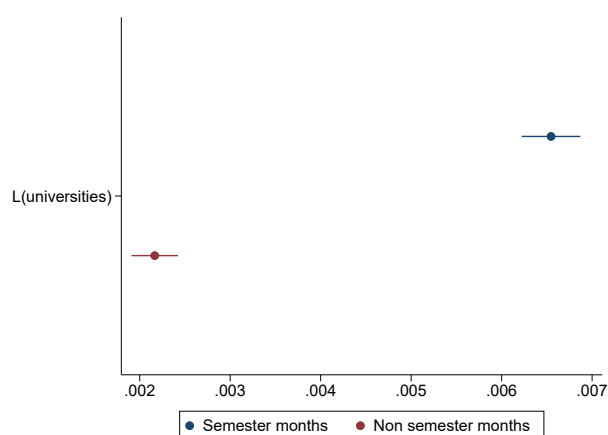
*Notes:* Standard errors clustered on grid-cells. Covariates and intercept omitted from table, due to space considerations. T-values (OLS) in parentheses.

particular, these places will often have much older universities, and thus a stronger university culture, which may again be linked to a stronger strain of political activism and radicalism than locations with newer universities. That we find a stronger coefficient for universities in the 2SLS models than in our benchmark models might reflect this, but it is also consistent with our expectation that the endogeneity bias should pull our university estimates towards zero. The two other columns in the table replicate the baseline analysis on colonial universities, and circumscribed to urban cells. Both tests reveal coefficients that are consistent with the baseline results.

We conduct one more test to assuage endogeneity concerns. This starts from the observation that some aspects of the *operation* of universities are not endogenous to protest, such as the (formal) timing of academic semesters. If we can show that the effect of universities is more pronounced in the (exogenous) time period that defines the academic semester, then this yields some additional evidence that the effect of universities on protest is at least partly of a causal nature, rather than driven by other characteristics of these locations. To do this, we use public information on the (national) academic calendars in each country, and code this for 45 countries in the SCAD sample at the monthly level (we were unable to find data for some countries). We combine this with a monthly version of our grid-cell dataset, registering protest events in a grid-cell on a month-to-month basis. Using this dataset, we estimate the protest incidence in a grid-cell (using the baseline model, 1.4 in table 1) conditional on universities and whether the academic semester is ongoing in a given month. To screen away confounders relating to the correlation between the academic semester and particular times of the year, we use month-fixed effects. Most countries have summer and winter holidays, but the specific months and length of semesters vary quite a bit between countries, and so does the presence and timing of other breaks.

Figure 4 shows the university coefficients in semester months (semester=1) and non-semester months

Figure 4: Conditioning on academic semester months



Coefficient from OLS model with covariates from model 1.6 table 1. The outcome is the log number of protests in a grid-cell. Estimated with covariates, year-, country- and month-fixed effects and standard errors clustered on grid-cells. Information on academic semesters is coded based on information from departments of education, or, if these are not informative, the largest university in the capital city as a proxy for the academic semester elsewhere in the country. This assumption has been validated in a handful of cases.

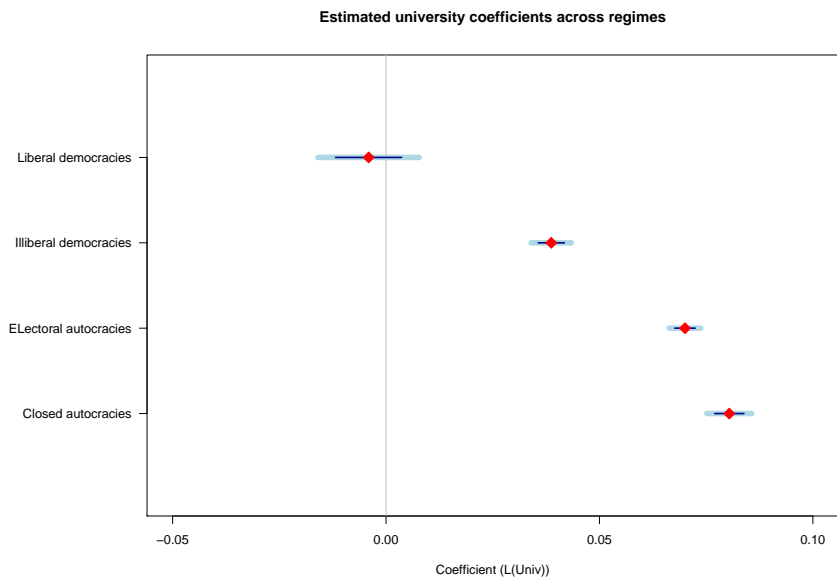
(semester=0), from the baseline model with month-fixed effects. The coefficient for universities is more than double the size in semester periods than in non-semester periods. It is important to note that the positive coefficient in non-semester months is not in discord with the theoretical argument outlined above: A number of the mechanisms, such as those relating to changes in motivations and anti-regime grievances, should operate regardless of the fact that students are currently on campus. However, the boost in the coefficient during the academic semester in grid-cells with universities is consistent with the idea that universities also affect the opportunities for protests to form. Most crucially, it yields further evidence that there is something causal related to the *operation* of universities, since the formal semester is plausibly exogenous to protest cycles.

### 5.3 The nature of university-protests

What kind of protests do universities generate? First, we would expect that the positive effect of universities is especially strong for protests motivated by grievances and preferences that should be inculcated by higher-education, in line with the motivational mechanism outlined above. Universities should give rise to protests against governments that do not deliver the liberties that students and graduates demand. To investigate this, we interact our grid-cell level university-measure with a country-level measure of regime-types, namely the Regimes of the World categorization (Lührmann, Tannenberg and Lindberg, 2018) from the Varieties of Democracy (V-DEM) dataset (Coppedge et al. 2017). The RoW data distinguishes between liberal democracies, illiberal democracies, electoral autocracies, and closed

autocracies, where the latter category includes the most repressive regimes. We expect the university effect to increase for more autocratic regimes, and to be most intense in closed autocracies. The expected pattern, of a more positive relationship in less democratic states, is evident in figure 5. It shows that the association between universities and increased protest occurrence is more pronounced in more autocratic regimes.

Figure 5: The effect of universities across regime types

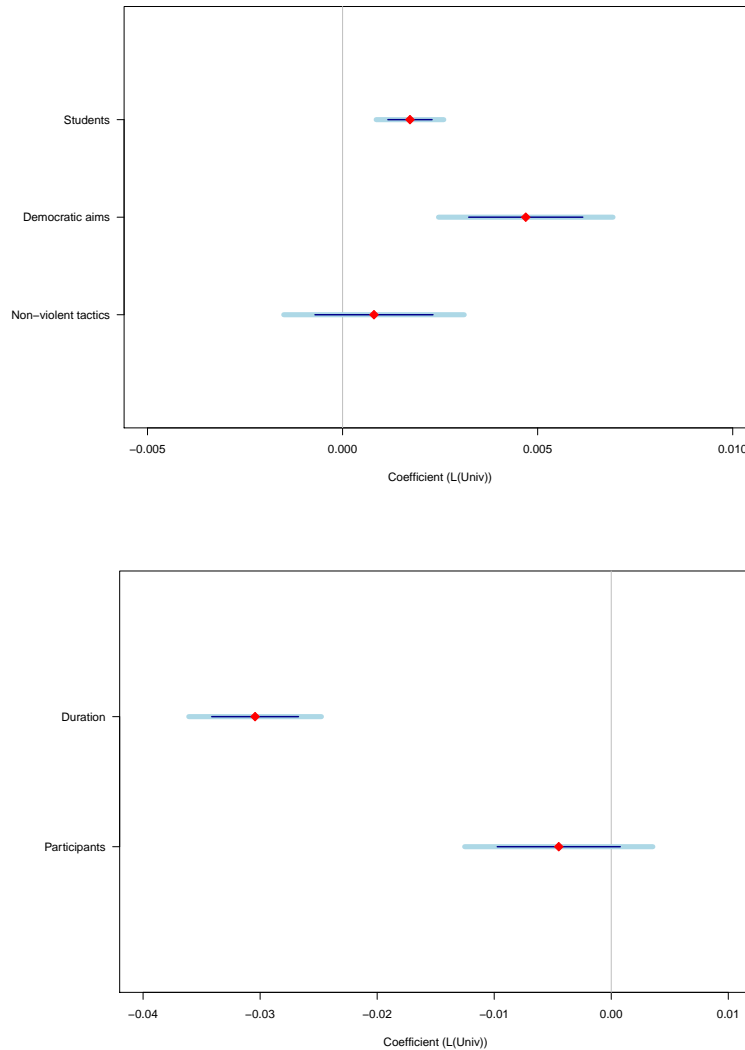


Coefficient from OLS model with covariates from model 1.6 table 1. The outcome is the log number of protests in a grid-cell. Estimated with covariates, year-, and country-fixed effects and standard errors clustered on grid-cells. Since regime-types can be relatively static, we also estimate this without country-fixed effects, with little qualitative difference in results.

While this test informs us about one *structural condition* for university-related protests, it does not tell us, specifically, about whether university-related protests differ *in kind* from protests happening in places without universities. To probe this question, we take the individual protest event as our unit of analysis, and ask: How do protests in areas with more universities differ from other protests? We consider the protest location, and define (more or less) “University-related protests” by the number of universities in the grid-cell where the protest takes place, also when conditioning on all of our baseline grid-cell controls from the above models. Note that our unit-of-analysis here is the *individual protests*, while our right-hand side variables measure features of the grid-cell where the protest is located. As noted, we derive expectations based on the collective action- and motivation mechanisms outlined above.

First, if motivation/ideology links universities to protest, we expect that university-related protests are (crucially) more likely to concern human rights and democracy, and that they will be non-violent. The latter is expected since non-violent (vs violent) resistance is often motivated by the ideology concerning

Figure 6: Protest-level analysis: Factors characterizing university-related protests



Coefficients from OLS models with protest-characteristics as outcomes and protests as the units of analysis. The outcomes register the binary characteristic (e.g., “democratic aims”). Same covariates as in model 1.6 table 1. Estimated with year-, and country-fixed effects and standard errors clustered on grid-cells.

human rights and democracy, and seems particularly likely to be employed by students (see e.g., Dahlum, 2018). Furthermore, if the coordination and capacity mechanisms are strong, we expect university-related protests to be larger, since they should be able to organize more participants. We would also expect them to last longer, since durability is a feature of organizing capacity on the part of the protesters. Finally, we expect university-related protests to more often involve students: This does not speak to any of the outlined mechanisms, but is a crucial test that our argument needs to pass. If the university-protest link does not somehow involve students, it is harder to make the case that the operation of universities is a crucial causal factor in university-locations.

These expectations are investigated in figure 5.3. The top panel reveals interesting patterns regarding the motivations of university-related protests: University-related protests are more likely to be related to democracy, which is a key expectation of the motivational pathway described above. However, they do not seem more likely to involve non-violence (rather than violence). The finding on democratic aims suggest that the university-protest link has something to do with the particular motivations and ideologies that universities conduce, but that it is not characterized by particular patterns regarding violent or non-violent tactics. The same figures also indicate that protests in university-locations are much more likely to involve students as protest-actors. We further explore the link between universities and protest aims in the appendix (section 7), and find that (in addition to democracy-related goals), university-related protests are more likely to revolve around foreign policy, domestic violence and education. Meanwhile, university-related protests are less likely to involve claims regarding the economy, food, and ethnic or religious claims. These findings seem rather consistent with the motivational pathway described above.

The second panel in figure 5.3 illustrates the nature of university-related protests with respect to the number of protest participants, and the duration of protests. Contrary to expectations, it shows that university-related protests involve fewer protesters (as coded in the SCAD data), although this is not statistically significant, and have shorter durations than protests in non-university locations. This does not support the notion that universities work their effects through facilitating better coordination of collective action (at least beyond the initial mobilization stage). However, this pattern could also result from governments viewing university-related protests as more of a threat, thus putting more resources into limiting them, which may reduce their size and duration.

In sum, protests in university-locations conform with the image of “democracy protests” Brancati (2016) around the world. While the above analysis provides interesting descriptive evidence, it does not, however, show that universities *cause* a certain type of protest. Establishing causal connections between universities and protest characteristics is a task for further research.

## 5.4 Additional tests

We here address some outstanding questions regarding the university-protest link. First, is it the case that universities create *more* protests in aggregate, or do they just attract protest activity that would otherwise occur elsewhere? To test this, we perform national-level (country-year) analyses that consider whether the number of universities (per capita) increases protest activity in a country-year format. These country-year analyzes would not register any impact of universities if they just attracted protest that would otherwise have occurred in other locations. In the appendix, we perform country-year analyses revealing a positive and precisely estimated university coefficient, suggesting that universities do more than just

relocate protests that would otherwise happen. This is consistent with our proposed mechanisms, which suggest that universities also *generate* protest.

Second, we investigate whether universities increase protests through increasing (and partly proxying for) local *education levels*. Using local-level data from the DHS surveys, Dahlum and Wig (2019) show that education increases local-level protests in Africa. Since we conjecture that universities cause protests also when holding local education levels constant, partly by improving coordination, but also through affecting the attitudes of not-yet graduated students, we expect a link between universities and protest also when controlling for local education levels. Controlling for education significantly reduces our sample of grid-cells, since not all grid-cells are included in the DHS survey. Nevertheless, we find a positive university coefficient even when including local education in the model.

Third, one of the most plausible threats to making causal claims regarding the universities-protest relationship is the potential for reporting-bias in the protest-event data. Recent studies suggest that data based on media reports (of which the SCAD data is an instance), is subject to reporting biases that correlate with right-hand side variables (Weidmann, 2016). For example, news reporting of conflict might be more frequent in urban, wealthy and more populated areas where there is infrastructure that facilitates the operation of journalists, and events that attract media attention. This is a particular problem for universities: Universities stimulate communication skills that ease access to foreign media outlets, and create local publics of media-consumers that create demand for local and foreign journalists. In addition to hosting events and personnel that attract media attention, they also embed physical and technological infrastructure (wifi, printers, scanners, etc. etc.) that facilitate the production of media content. Hence, we would expect reporting bias to be a concern for our investigation of the universities-protest link. To investigate this, we perform the test suggested by Weidmann (2016). This is elaborated on and presented in the appendix. In brief, using this test, we find no evidence that our results are driven by reporting bias.

Fourth, it could be argued that some universities are more likely than others to generate protest. For instance, variations in university ownership structure or the academic course contents could influence to what extent students gain democratic preferences and/or grievances against current regimes. To explore this, we investigate whether the effect of universities depend on whether they are privately or publicly owned, drawing on information from our universities-dataset. It could be argued that publicly owned universities, at least in dictatorships, can be used to indoctrinate and will therefore reduce political opposition. However, we find that both public and private universities are linked to protest, although the effect is somewhat stronger for private universities in dictatorships (see section 8 in the appendix, for details). We also explore whether religious universities are more or less likely to conduce protest, relating to the argument that religious education may offer less emphasis on critical thinking and personal

autonomy, and thereby not promote the same political grievances and preferences as secular universities. The results, presented in the appendix (section 9) suggests that there is somewhat more mixed evidence that religious universities are conducive to protest.

Finally, we perform a number of additional tests to probe the robustness and richness of our results. For example, we investigate whether the university effect is specific to either Africa or Central America and the Carribean, finding similar results in both regions. We also experiment with different functional forms, and additional controls such as local-level education. In short, we find that our results are highly robust to various specification changes. These tests are discussed and presented in the appendix.

An important caveat to our results is the possibility that these findings do not generalize outside of the studied regions; Africa, Central America and the Carribean. It could be that relationships differ in e.g., Western European countries, or Asia. However, it is important to keep in mind that the studied regions are highly heterogeneous, and that the results are strong in regions as different as Central America and Africa. This lends some confidence that our results are generalizable and describe an important global pattern between universities and mass protest. Expanding the number of cases studied, with new (and similar) protest-event data, will be an important task for further research on this question.

## 6 Conclusion

The remarkable increase in education that the world is currently undergoing has several positive effects. It empowers and informs citizens and unlocks the creative potential of populations, which may again increase citizens capacity to mobilize. Consistent with this, a trove of historical anecdotes and indirectly related systematic evidence suggest that universities should be hotbeds of political protests, or – more generally – that communities with universities should experience more contentious collective action. We present the first global study to test this proposition, relying on geolocated universities and protest-event data across 64 countries in Africa and Central-America.

Our results indicate that locations (grid-cells) within countries that have more universities are more likely to experience protest events, and experience more protest events in a given year. Furthermore, we find some - at least suggestive – evidence that this association represents a causal effect. When digging deeper into the data, we find that the effect of universities on protest is particularly strong in dictatorships, and that protests-in university locations are more often aimed at governments, are associated with calls for democracy and human rights, and (unexpectedly) involve students as actors.

This has a number of broader implications. First, it suggests some meso-level evidence for the mechanism tying education to democracy in the literature (Murkin and Wacziarg, 2014; Glaeser, Ponzetto and Shleifer, 2007; Acemoglu et al., 2005), namely that higher education is linked to protest against



dictatorships. Our analysis suggests that one crucial facet of “modernization” - institutions of higher education - gives populations greater motivations to challenge autocratic governments while enhancing their abilities to do so. Second, in presenting systematic evidence for a link between universities and protest, we provide general support for the numerous historical examples of university-related protest, originating on campuses worldwide (Zeilig, 2007). Finally, these findings speaks to expectations regarding conditions that facilitate collective action - by indicating that the spatial and institutional characteristics of universities are very conducive environments to political protests.

## References

- Abdalla, Ahmed. 2008. *The Student Movement and National Politics in Egypt, 1923-1973*. American Univ in Cairo Press.
- Acemoglu, Daron, Francisco A Gallego and James A Robinson. 2014. “Institutions, human capital, and development.” *Annu. Rev. Econ.* 6(1):875–912.
- Acemoglu, Daron, Simon Johnson, James A. Robinson and Pierre Yared. 2005. “From Education to Democracy.” *The American Economic Review* 95(2):44–49.
- Amutabi, Maurice N. 2002. “Crisis and student protest in universities in Kenya: Examining the role of students in national leadership and the democratization process.” *African Studies Review* 45(2):157–177.
- Boren, Mark Edelman. 2001. *Student resistance: A history of the unruly subject*. Routledge.
- Brancati, Dawn. 2016. *Democracy Protests*. Cambridge University Press.
- Campante, Filipe R and Davin Chor. 2012. “Why was the Arab world poised for revolution? Schooling, economic opportunities, and the Arab Spring.” *The Journal of Economic Perspectives* 26(2):167–187.
- Campbell, David E. 2013. “Social networks and political participation.” *Annual Review of Political Science* 16:33–48.
- Chenoweth, Erica and Maria J Stephan. 2011. *Why civil resistance works: The strategic logic of nonviolent conflict*. New York: Columbia University Press.
- Coppedge, Michael, John Gerring, Staffan II Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Frida Andersson, Michael Bernhard, M Steven Fish, Adam Glynn et al. 2017. “V-Dem Codebook v7.”.

- Croke, Kevin, Guy Grossman, Horacio A. Larreguy and John Marshall. 2016. "Deliberate Disengagement: How Education Can Decrease Political Participation in Electoral Authoritarian Regimes." *American Political Science Review* 110(3):579-600.
- Dafoe, Allan and Jason Lyall. 2015. "From Cell Phones to Conflict? Reflections on the Emerging ICT-Political Conflict Research Agenda." *Journal of Peace Research* 52(3):401-413.
- Dahlum, Sirianne. 2018. "Students in the Streets: Education and Nonviolent Protest." *Comparative Political Studies* p. 0010414018758761.
- Dahlum, Sirianne and Tore Wig. 2017. "Educating Demonstrators: Education and Mass Protest in Africa." *Journal of Conflict Resolution* Forthcoming.
- Dahlum, Sirianne and Tore Wig. 2019. "Educating Demonstrators: Education and Mass Protest in Africa." *Journal of Conflict Resolution* 63(1):3-30.
- Dee, Thomas S. 2004. "Are there civic returns to education?" *Journal of Public Economics* 88(9):1697-1720.
- El-Said, Hamed and James E Rauch. 2012. "Education, Political Participation, and Islamist Parties: The Case of Jordan's Islamic Action Front." *Middle East Journal*, forthcoming .
- Freeman, Richard B. 2003. What, me vote? Technical report National Bureau of Economic Research.
- Galston, William A. 2001. "Political knowledge, political engagement, and civic education." *Annual review of political science* 4(1):217-234.
- Glaeser, Edward L, Giacomo AM Ponzetto and Andrei Shleifer. 2007. "Why does democracy need education?" *Journal of economic growth* 12(2):77-99.
- Hillygus, D Sunshine. 2005. "The missing link: Exploring the relationship between higher education and political engagement." *Political Behavior* 27(1):25-47.
- Inglehart, Ronald and Christian Welzel. 2005. *Modernization, Cultural Change and Democracy -The Human Development Sequence*. Cambridge: Cambridge University Press.
- Janssen, Maarten CW. 2001. "Rationalizing focal points." *Theory and Decision* 50(2):119-148.
- Johnson, Todd M and Brian J Grim. 2013. *The world's religions in figures: An introduction to international religious demography*. John Wiley & Sons.

- Kiszewski, Anthony, Andrew Mellinger, Andrew Spielman, Pia Malaney, Sonia Ehrlich Sachs and Jeffrey Sachs. 2004. "A global index representing the stability of malaria transmission." *The American journal of tropical medicine and hygiene* 70(5):486–498.
- Knutsen, Carl Henrik, Jan Teorell, Agness Cornell, John Gerring, Haakon Gjerløw, Svend-Erik Skaaning, Tore Wig, Daniel Foran Ziblatt, Kyle L Marquardt, Daniel Pemstein et al. forthcoming. "Introducing the Historical Varieties of Democracy Dataset: Political Institutions in the Long 19th Century." *Journal of Peace Research* .
- Kuran, Timur. 1989. "Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution." *Public Choice* 61(1):41–74.
- Kuran, Timur. 1995. *Private Truths, Public Lies: The Social Consequences of Preference Falsification*. MA: Harvard University Press.
- Larreguy, Horacio and John Marshall. 2017. "The Effect of Education on Civic and Political Engagement in Nonconsolidated Democracies: Evidence from Nigeria." *The Review of Economics and Statistics* 99(3):387–401.  
**URL:** [http://dx.doi.org/10.1162/REST\\_a00633](http://dx.doi.org/10.1162/REST_a00633)
- Lichbach, Mark I. 1998. "Contending Theories of Contentious Politics and the Structure Action Problem of Social Order." *Annual Review of Political Science* 1998(1):401–424.
- Lohmann, Susanne. 1994. "The dynamics of informational cascades: the Monday demonstrations in Leipzig, East Germany, 1989–91." *World politics* 47(1):42–101.
- Lührmann, Anna, Marcus Tannenbergh and Staffan I Lindberg. 2018. "Regimes of the World (RoW): Opening New Avenues for the Comparative Study of Political Regimes." *Politics & Governance* 6(1).
- McAdam, Doug. 1986. "Recruitment to high-risk activism: The case of freedom summer." *American journal of sociology* 92(1):64–90.
- McAdam, Doug and Ronnelle Paulsen. 1993. "Specifying the relationship between social ties and activism." *American journal of sociology* 99(3):640–667.
- McClurg, Scott D. 2006. "The electoral relevance of political talk: Examining disagreement and expertise effects in social networks on political participation." *American Journal of Political Science* 50(3):737–754.
- Murdock, George Peter. 1959. *Africa: Its peoples and their culture history*. New York: McGraw-Hill.

- Murtin, Fabrice and Romain Wacziarg. 2014. "The democratic transition." *Journal of Economic Growth* pp. 1–41.
- Nkinyangi, John A. 1991. "Student protests in sub-Saharan Africa." *Higher Education* 22(2):157–173.
- Nunn, Nathan. 2014. *Gender and Missionary Influence in Colonial Africa*. New York: Cambridge University Press pp. 489–512.
- Nunn, Nathan and Leonard Wantchekon. 2011. "The Slave Trade and the Origins of Mistrust in Africa." *American Economic Review* 101(7):3221–52.
- Persson, Mikael. 2015. "Education and Political Participation." *British Journal of Political Science* 45(3):689–703.
- Polletta, Francesca and James M Jasper. 2001. "Collective identity and social movements." *Annual review of Sociology* 27(1):283–305.
- Salehyan, Idean, Cullen S. Hendrix, Jesse Hamner, Christina Case, Christopher Linebarger, Emily Stull and Jennifer Williams. 2012. "Social Conflict in Africa: A New Database." *International Interactions* 38(4):503–511.  
**URL:** <http://www.tandfonline.com/doi/abs/10.1080/03050629.2012.697426>
- Sanborn, Howard and Clayton L Thyne. 2014. "Learning democracy: Education and the fall of authoritarian regimes." *British Journal of Political Science* 44(04):773–797.
- Schelling, Thomas C. 1980. *The strategy of conflict*. Harvard university press.
- Siegel, David A. 2009. "Social networks and collective action." *American Journal of Political Science* 53(1):122–138.
- Snow, David A, Louis A Zurcher and Sheldon Ekland-Olson. 1980. "Social networks and social movements: A microstructural approach to differential recruitment." *American sociological review* pp. 787–801.
- Solis, Alex. 2013. Does higher education cause political participation? Evidence from a regression discontinuity design. Technical report Working Paper, Department of Economics, Uppsala University.
- Staniland, Paul. 2014. *Networks of Rebellion: Explaining Insurgent Cohesion and Collapse*. London: Cornell University Press.
- Sugden, Robert. 1995. "A theory of focal points." *The Economic Journal* pp. 533–550.

- Tollefsen, Andreas Forø, Håvard Strand and Halvard Buhaug. 2012. "PRIO-GRID: A unified spatial data structure." *Journal of Peace Research* 49(2):363–374.
- Tullock, Gordon. 1971. "The Paradox of Revolution." *Public Choice* 11(00):88–99. R:
- Valero, Anna and John Van Reenen. 2019. "The economic impact of universities: Evidence from across the globe." *Economics of Education Review* 68:53–67.
- Van Dyke, Nella. 1998. "Hotbeds of activism: Locations of student protest." *Social Problems* 45(2):205–220.
- Weidmann, Nils. 2016. "A closer look at reporting bias in conflict event data." *American Journal of Political Science* 60(1):206–218.
- Weiss, Meredith Leigh and Edward Aspinall. 2012. *Student activism in Asia: Between protest and powerlessness*. U of Minnesota Press.
- Welzel, Christian. 2013. *Freedom rising. Human Empowerment and the Quest for Emancipation*. Cambridge: Cambridge University Press.
- Zeilig, Leo. 2007. *Revolt and protest: Student politics and activism in sub-Saharan Africa*. Vol. 20 IB Tauris & Company.
- Zeilig, Leo and Nicola Ansell. 2008. "Spaces and scales of African student activism: Senegalese and Zimbabwean university students at the intersection of campus, nation and globe." *Antipode* 40(1):31–54.

# Online Appendix for **Chaos on Campus: Universities and Mass Protest**

February 25, 2019

## 1 Overview

This appendix performs several additional tests that elaborate on, and assess the sensitivity of, our main result. First, in section 2 we conduct country-year analyses probing whether the effects of universities, identified at the grid-cell level, aggregate to the level of countries. This crucially speaks to the concern that universities do not generate *sui generis* protests, but simply attract already existing protests happening elsewhere. In section 3 we re-investigate our main result while controlling for education *levels*, since a number of our mechanisms concern other pathways than the link between universities and the output of universities, the education level of citizens. Third, section 4 presents tests to probe whether our results are due to reporting bias – which would occur if university locations are more likely to generate news reports of protest, conditional on there being an actual protest. In section 5, we gauge how sensitive our results are to using different estimators than the ones used in the baseline models. Section 7 explores how university-related protests differ from other protests in terms of their goals, when considering protests as the unit of analysis. After this, section 8 looks at whether results differ when we disaggregate our data on universities into universities that are privately owned and universities that are public, while section 9 considers religious universities. Section 10 shows that the university coefficient is stable across the two world regions in our sample (Africa and Central America/the Carribean). Section 11 presents some descriptives for the main variables used in the main empirical analysis, while the final section (section 12) describes the variables and data used in the main analysis.

## 2 Country-year analyses

While the university-protest link appears robust for analyses of grid-cells (local-level), it remains an open question whether this aggregates up to the country level. One possibility is that universities simply

work as *focal points* for protests; drawing protest activity that would otherwise happen elsewhere to the university areas. On this account, universities simply re-locate rather than create protests. If this is the case, we would observe a positive relationship when investigating grid-cells, but no relationship when investigating country-years as our unit of analysis. This is because geographic “re-shuffling” of protest within a country will not change the aggregate level of protests in a country. Table 1 addresses this issue. It investigates the relationship between (the number of) universities and protest incidence at the country-year level, estimating both Logit models (of one or more protests) and OLS models (of the number of protests). These estimations yield similar results as the grid-cell analyses: Increases in the number of universities yield increases in protest, also at the country level. This suggests that universities affect protest in other ways than simply attracting protest activity that would otherwise have occurred elsewhere.

Table 1: Country-year models (logit and OLS)

	Logit	Logit	OLS	OLS
	(A1)	(A2)	(A3)	(A4)
L(universities)	0.110** (2.88)	0.487* (2.30)	0.329** (3.18)	0.468*** (3.54)
Protest <sub>t-1</sub>	0.442*** (10.09)	0.152** (3.26)	0.036* (2.15)	0.025** (2.85)
GDP p.c.		-0.643 (-0.91)		-0.172 (-0.44)
Population		-0.410 (-0.24)		-0.556 (-0.50)
Urbanization		-15.885** (-3.02)		-15.267*** (-4.95)
Country-FE		✓		✓
Year-FE	✓	✓	✓	✓
N	1440	963	1440	1215
Log likelihood	-540.738	-307.731	-3265.019	-2478.916
R <sup>2</sup>			0.195	0.135
Countries	61	58	61	58
Years	23	23	23	23

*Notes:* Standard errors clustered on countries. Intercept omitted from table. Z-scores (logit) and T-values (OLS) in parentheses. The independent variable is log number of universities in a country, covariates taken from V-DEM dataset.

### 3 Controlling for local-level education

Table 2 re-estimates our baseline models while controlling for the local (average) level of education, drawing on the DHS surveys as they are used and operationalized in grid-cell format in the paper by Dahlum and Wig (2019). We use an indicator measuring the highest level of education received, ranging from no formal education to completed tertiary education. Controlling for education reduces the number of observations in the sample, since only a few grid-cells and years have DHS coverage. The sample is reduced to around 6000 observations in most of the models, and even further to 349 in the logit models

including fixed effects on grid-cells. Nevertheless, the university coefficient is in the expected direction and is precisely estimated, with the exception of the (very conservative) logit model with grid-cell fixed effects. The education coefficient is also positive in some of the models, in line with the findings in Dahlum and Wig (2019). This indicates that universities work their effect through *other pathways* than just through their impact on the education level of populations. We discuss such potential pathways in the main text.

Table 2: Controlling for local-level education from DHS

	Logit	Logit	Logit	OLS	OLS	OLS
	(A5)	(A6)	(A7)	(A8)	(A9)	(A10)
L(universities)	0.417*** (8.57)	0.330*** (5.29)	0.181 (1.24)	0.140*** (7.52)	0.082*** (4.26)	0.065** (2.95)
Education level (DHS)	0.996*** (3.74)	0.913** (3.25)	-0.150 (-0.27)	0.043 (1.40)	0.010 (0.30)	0.010 (0.18)
Protest <sub>t-1</sub>	0.514*** (11.28)	0.453*** (8.88)	-0.017 (-0.24)	0.410*** (10.40)	0.320*** (7.75)	0.016 (0.97)
Protest spatial lag	-0.044 (-0.10)	-0.062 (-0.12)	0.311 (0.21)	-0.049 (-0.29)	-0.050 (-0.28)	0.122 (0.71)
L(distance to capital)	-0.588*** (-4.75)	-0.689*** (-4.48)		-0.156*** (-4.57)	-0.157*** (-5.07)	
L(distance to border)	-0.029 (-0.41)	-0.027 (-0.34)		-0.020 (-1.61)	-0.008 (-0.73)	
Mountains	0.378 (0.93)	0.482 (0.95)		0.014 (0.28)	-0.002 (-0.03)	
Avg. temp.	0.010 (0.18)	0.030 (0.49)		0.003 (0.47)	0.004 (0.80)	
Longitude	0.106* (2.21)	0.106 (1.90)		0.012** (2.76)	0.010** (2.68)	
Latitude	0.064 (1.38)	0.094 (1.81)		0.011* (2.45)	0.011** (2.67)	
Excluded group		0.048 (0.16)	-1.404 (-1.49)		-0.017 (-0.72)	-0.096 (-1.17)
GCP p.c.		-0.826* (-1.98)	-2.540 (-0.95)		-0.358*** (-4.17)	-0.438 (-1.64)
Cell population		0.000 (0.90)	-0.000 (-0.04)		0.000 (1.57)	0.000 (0.25)
Night lights		6.077* (2.09)	3.792 (0.41)		4.695*** (3.34)	1.310 (0.92)
Urban area		0.400 (1.64)	-1.030 (-1.56)		0.157 (1.47)	-0.810*** (-7.59)
Country-FE			✓			✓
Year-FE	✓	✓	✓	✓	✓	✓
N	6449	5960	347	6645	6151	6155
Log likelihood	-559.760	-103.634	-3528.940	-7703.136	-6800.097	-4666.388
R <sup>2</sup>				0.330	0.333	0.035

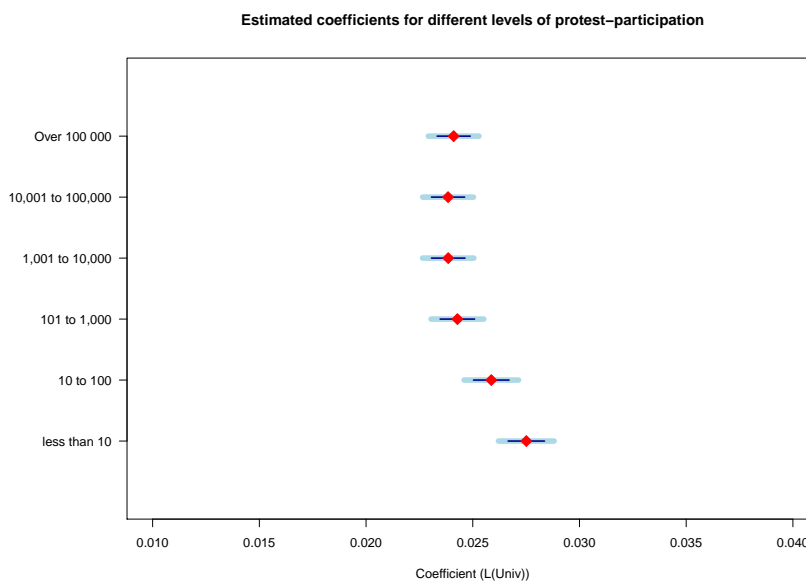
*Notes:* Standard errors clustered on grid-cells. Intercept omitted from table. Z-scores (logit) and T-values (OLS) in parentheses. The independent variable is log number of universities in a grid-cell. The education variable is taken from Dahlum and Wig (2019).



## 4 Sensitivity to reporting-bias

To assess the potential for reporting-bias, described in the main text, we follow the prescription of Weidmann (2016). He proposes an assessment of the degree of reporting bias, by investigating whether estimated coefficients vary by the *size of protest-incidents* (measured in terms of the number of reported participants). Larger events (with large numbers of participants) are more likely to be reported in the media, and will thus have a higher baseline probability of being reported, as a function of reporting bias. Hence, if estimates attenuate for high-participation events, this indicates that the initial results suffer from reporting-bias. We gauge this in figure 1. It shows that coefficients attenuate slightly when moving from the events with lowest participation to those at the levels just above. However, coefficients stabilize already when considering events with 101-1000 participants, and most of the confidence intervals overlap. This suggests that our results are quite robust to reporting-bias. This could partly result from the fact that we already control for a number of confounders that should capture reporting bias in university locations, such as urbanization, population and local wealth-estimates, meaning that the coefficient for universities net of these covariates is more or less purged of such bias.

Figure 1: Testing for reporting bias



*Notes:* Coefficient estimates for the L(universities) coefficients, in a baseline model with covariates identical to model 1.6 in table 1 in the main text. 90% (light blue) and 95% (dark blue) confidence intervals around the point estimate (red).

## 5 Different functional forms

Table 3 probes the sensitivity of the main result to the choice of estimator in the main analysis, using logit and OLS. It estimates a negative binomial model, a poisson model, a linear probability model, and a probit model. The main result remains, across these different estimator choices: Universities are positively related to protest incidence in all four cases.

Table 3: Assessing sensitivity to functional form assumptions

Outcome:	Negative binomial	Poisson	LPM	Probit
	(protest events)		Binary protest event	
	(A11)	(A12)	(A13)	(A14)
L(universities)	0.364*** (14.29)	0.364*** (14.29)	0.006*** (10.57)	0.146*** (15.74)
Protest <sub>t-1</sub>	0.570*** (14.85)	0.570*** (14.85)	0.066*** (19.64)	0.264*** (19.94)
Protest spatial lag	0.068 (1.11)	0.068 (1.11)	0.005 (1.54)	0.033 (1.57)
Excluded group	0.181* (2.33)	0.181* (2.33)	0.001** (2.67)	0.075** (2.72)
GCP p.c.	-0.055* (-2.24)	-0.055* (-2.24)	-0.001*** (-3.46)	-0.020** (-2.85)
Cell population	0.000 (1.60)	0.000 (1.60)	0.000*** (9.22)	0.000*** (4.06)
Night lights	3.141*** (4.20)	3.141*** (4.20)	-0.004 (-0.31)	1.374*** (5.75)
Urban area	0.027 (0.81)	0.027 (0.81)	-0.002*** (-3.91)	0.000 (0.03)
L(distance to capital)	-0.484*** (-7.90)	-0.484*** (-7.90)	-0.006*** (-5.54)	-0.198*** (-9.29)
L(distance to border)	-0.026 (-0.69)	-0.026 (-0.69)	-0.000 (-0.27)	-0.021 (-1.64)
Mountains	0.195 (0.93)	0.195 (0.93)	0.000 (0.01)	0.122 (1.84)
Avg. temp.	-0.002 (-0.11)	-0.002 (-0.11)	0.000 (0.78)	-0.001 (-0.13)
Longitude	0.007 (0.40)	0.007 (0.40)	-0.000*** (-6.57)	-0.001 (-0.12)
Latitude	-0.015 (-0.98)	-0.015 (-0.98)	-0.000 (-1.06)	-0.008 (-1.59)
Country-FE	✓	✓	✓	✓
Year-FE	✓	✓	✓	✓
N	347,752	347,752	347,752	347,752
Log likelihood	-1.63e+04	-1.63e+04		-1.10e+04
R <sup>2</sup>			0.219	

*Notes:* Standard errors clustered on grid-cells. Intercept omitted from table. Z-scores and T-values in parentheses. The independent variable is log number of universities in a grid-cell.

## 6 First-stages for the 2SLS models

Table 4: First-stage of 2SLS models where universities are instrumented for by colonial missions

	OLS
Outcome:	L(universities)
L(missions)	0.058*** (6.71)
Excluded group	-0.011 (-1.01)
Colonial railroad	0.129 (1.91)
Christian majority	0.030 (0.85)
Explorer route	-0.039* (-2.23)
Malaria	-0.005 (-0.20)
Pre-colonial centralization	-0.004 (-0.41)
Protest <sub>t-1</sub>	0.051 (0.72)
GCP p.c.	-0.021 (-0.64)
Population	0.000*** (3.78)
Forest cover	-0.000 (-0.39)
Shrub	-0.001* (-2.01)
Night-lights	0.603* (2.01)
Urbanization	0.229*** (3.80)
L(distance to capital)	-0.093*** (-3.89)
L(distance to border)	-0.025** (-2.99)
Mountains	0.061 (1.65)
Avg. temp.	-0.007 (-1.83)
Longitude	0.003 (1.52)
Latitude	0.001 (0.30)
Country-FE	✓
Year-FE	✓
	(-15.12)
N	191,873
r2	0.273

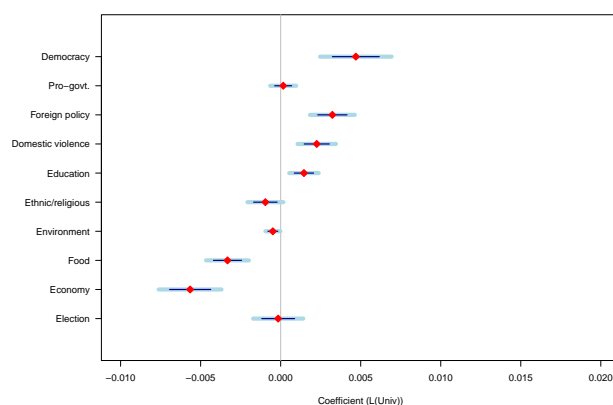
*Notes:* Standard errors clustered on grid-cells. Intercept omitted from table. T-values in parentheses. The dependent variable is number of universities.

## 7 Other characteristics of protests in university areas

We further explore the nature of university-related protests (protests occurring in university locations), operationalized by the university-coefficient with *protests as the unit of analysis* (with the baseline covariates at the level of grid-cells), as described in the main text. As noted, this does not consider grid-cells and the protest probability conditional on having universities, but asks: Given that a protest occurs, what do protests look like in university-locations (measured by matching the grid-cell information to the protest locations). Figure 2 explores the most common protest issues occurring in university locations (measured by the L(univ) coefficient). It shows several interesting patterns: First, university-protests are most likely to relate to democracy/human rights issues, but also to issues concerning foreign policy and domestic/internal violence. The latter is quite plausibly closely related to human rights violations etc., since it should include issues relating to government repression. Furthermore, it seems that university-related protests are more likely to relate to education-issues, which is unsurprising and strengthens our belief that there is something about universities, in particular, that drives protest in university-locations.

Several issues are not (or negatively related) to university locations: Particularly relating to food and the economy. This could reflect the fact that protests happening in urban locations with high human-capital (typically university locations) should have a lower likelihood of harboring strong economic grievances. Ethnic and religious issues also seem less pertinent to protests in university locations. There is no difference between protests happening in places with more universities and protests happening in places with fewer universities when it comes to “pro-government” as a protest issue.

Figure 2: The nature of university-related protests: Protest issues



*Notes:* Coefficient estimates for the L(universities) coefficients at the level of *protests*, in a model with covariates identical to model 1.6 in table 1 in the main text. Note that the unit of analysis is different but the covariates are measured at the level of the grid-cell where the protest occurs. 90% (light blue) and 95% (dark blue) confidence intervals around the point estimate (red).

## 8 Additional conditional effects: Public vs. private education

This section investigates whether there is a difference between public and private education in terms of the effect of universities on protest, and whether this differs across democracies and dictatorships. It uses the information in the university-dataset on whether a university is public or privately owned, and re-estimates the baseline model with the university terms disaggregated: Including one term for public education, and one for private education. We run these analyses for both democracies and dictatorships, using the Regimes of the World data (described in the text). Here, we classify “liberal democracies” and “illiberal democracies” as Democracies, and “closed autocracies” and “electoral autocracies” as dictatorships. Figure 5 displays these results, showing that both public and private universities clearly matter for protest, and that private universities have larger coefficients (than public universities) in dictatorships, while the opposite is the case in democracies. This is in line with the notion that the regime has more control over public universities in dictatorial regimes, while private entities pose more of a threat to dictators. We leave this question for further exploration in future research.

Table 5: Comparing public to private universities across democracies and dictatorships

Outcome:	(Binary p. event)	(Protests)	(Binary p. event)	(Protests)	(Binary p. event)	(Protests)
Regimes	Logit All	OLS All	Logit Dictatorships	OLS Dictatorships	Logit Democracies	OLS Democracies
	(A16)	(A17)	(A18)	(A19)	(A20)	(A21)
L(private universities)	0.093** (3.01)	0.058*** (4.73)	0.119** (2.82)	0.079*** (4.81)	0.108** (2.88)	0.041** (2.59)
L(public universities)	0.181*** (9.66)	0.033*** (6.65)	0.210*** (9.64)	0.052*** (7.54)	0.112*** (3.70)	0.009 (1.48)
Protest <sub>t-1</sub>	0.502*** (16.95)	0.337*** (16.93)	0.498*** (12.46)	0.335*** (13.34)	0.485*** (11.81)	0.323*** (12.04)
Protest spatial lag	0.087** (2.81)	0.014 (0.92)	0.073** (2.72)	0.012 (0.89)	0.189 (1.30)	0.017 (0.20)
Excluded group	0.176* (2.40)	0.003 (0.89)	0.207* (2.36)	0.002 (0.68)	0.139 (1.01)	0.005 (0.71)
GCP p.c.	-0.074*** (-5.19)	-0.016*** (-3.95)	-0.119*** (-4.06)	-0.025*** (-3.72)	-0.040*** (-3.43)	-0.013*** (-3.36)
Cell population	0.000 (1.22)	0.000*** (6.61)	0.000 (0.76)	0.000*** (4.88)	0.000 (1.09)	0.000*** (5.82)
Night lights	2.730*** (4.45)	0.374 (1.88)	2.845*** (4.63)	0.465** (3.05)	3.167* (2.10)	0.690 (1.29)
Urban area	0.160*** (4.56)	0.038*** (3.29)	0.232*** (5.97)	0.055*** (3.84)	0.044 (0.85)	-0.028 (-1.10)
L(distance to capital)	-0.561*** (-10.32)	-0.031*** (-5.09)	-0.546*** (-8.36)	-0.030*** (-4.75)	-0.547*** (-6.34)	-0.041*** (-3.47)
L(distance to border)	-0.054 (-1.54)	-0.001 (-0.28)	-0.070 (-1.66)	-0.002 (-0.83)	0.014 (0.28)	0.003 (1.00)
Mountains	0.178 (1.03)	-0.005 (-0.57)	-0.032 (-0.17)	-0.016* (-1.96)	0.323 (1.08)	0.011 (0.64)
Avg. temp.	-0.023 (-1.34)	0.002** (2.95)	-0.044* (-2.21)	0.003*** (3.78)	0.008 (0.29)	-0.000 (-0.19)
Longitude	0.036** (2.89)	0.000 (0.22)	0.043* (2.47)	0.001** (3.09)	0.028 (1.77)	-0.001 (-0.68)
Latitude	-0.006 (-0.40)	0.001 (1.53)	0.012 (0.59)	-0.000 (-0.05)	-0.058** (-2.71)	0.004** (3.21)
Country-FE	✓	✓	✓	✓	✓	✓
Year-FE	✓	✓	✓	✓	✓	✓
N	244,519	244,519	197,809	197,849	70, 407	70, 407
ll	-1.10e+04		-4812.461		-6046.669	
R <sup>2</sup>		0.254		0.257		0.272

*Notes:* Standard errors clustered on grid-cells. Intercept omitted from table. Z-scores (logit) and T-values (OLS) in parentheses. A country is deemed “democratic” is classified as either a “liberal democracy” or an “illiberal democracy”, based on the Regimes of the World dataset.

## 9 Additional conditional effects: Religious universities

This section draws further on information contained in the data on universities, namely whether a university is a religious university or not. While this is not clearly defined in the data source, a cursory inspection of the different universities that are coded as “religious” indicates that these are universities that are wholly devoted to theological education, with no other degrees offered. It is interesting to consider whether these religious institutions yield different patterns, since they arguably do not inculcate students in the same ideologies as more “classic” tertiary institutions do, and an explanation highlighting that universities inculcate ideological aims such as a preference for democracy etc., would perhaps lead us to expect a different pattern for purely religious universities. Table 6 shows the coefficient for religious universities in addition to the general university term. It yields somewhat inconclusive results: Religious universities seem to be more weakly related to protest (than universities in general) in the logit models, but positively related to protest in the OLS model. We do not draw any firm conclusions from this result, but leave it as an interesting avenue of investigation for future research.

Table 6: Comparing the effect of universities to religious universities

Outcome:	(Binary p. event)	(Protests)
	Logit	OLS
	(A22)	(A23)
L(universities)	0.321*** (13.52)	0.052*** (7.89)
L(religious universities)	-0.085* (-2.49)	0.050* (2.38)
Protest <sub>t-1</sub>	0.490*** (16.62)	0.338*** (16.96)
Protest spatial lag	0.067 (1.92)	0.016 (1.06)
Excluded group	0.173* (2.35)	0.003 (0.99)
GCP p.c.	-0.075*** (-5.62)	-0.016*** (-4.00)
Cell population	0.000 (1.26)	0.000*** (6.36)
Night lights	2.605*** (4.22)	0.428* (2.21)
Urban area	0.171*** (5.14)	0.042*** (3.57)
L(distance to capital)	-0.551*** (-10.53)	-0.032*** (-5.11)
L(distance to border)	-0.043 (-1.25)	-0.001 (-0.36)
Mountains	0.174 (1.00)	-0.006 (-0.70)
Avg. temp.	-0.018 (-1.06)	0.003** (3.04)
Longitude	0.038** (3.14)	0.000 (0.34)
Latitude	-0.007 (-0.45)	0.001 (1.25)
Country-FE	✓	✓
Year-FE	✓	✓
N	244,519	244,519
ll	-1.10e+04	
R <sup>2</sup>		0.266

*Notes:* Standard errors clustered on grid-cells. Intercept omitted from table. Z-scores (logit) and T-values (OLS) in parentheses.

## 10 Additional conditional effects: Regional variation

This section re-estimates our baseline models to see if there is a difference between the Central-America and Carribean sample, and the (significantly larger) Africa sample. This is done in the table 7 below. The university coefficient is reassuringly stable across these two samples, although it is somewhat more sizeable in Africa. This shows that our main result does not stem from one of the two regions.

Table 7: Effect of universities across regions

Outcome:	Logit	OLS	Logit	OLS
	(Central america, Carribean)		Africa	
	(A24)	(A25)	(A26)	(A27)
L(universities)	0.250*** (6.88)	0.042*** (4.83)	0.330*** (13.54)	0.080*** (8.94)
L.lprot	0.289*** (8.57)	0.275*** (9.86)	0.547*** (15.73)	0.353*** (14.89)
Protest spatial lag excluded	0.177 (1.40)	-0.024 (-0.19)	0.044 (1.39)	0.012 (0.86)
GCP <sub>ppp</sub>	0.095 (0.68)	0.024 (1.44)	0.205* (2.43)	0.001 (0.53)
Cell population	-0.035*** (-3.53)	-0.013** (-2.71)	-0.076 (-1.81)	-0.022* (-2.55)
Night lights	0.000 (0.70)	0.000*** (6.09)	0.000 (0.88)	0.000*** (4.90)
Urban area	3.440*** (3.94)	-0.233 (-0.72)	2.524** (2.95)	0.627** (3.13)
L(distance to capital)	0.094 (1.76)	0.001 (0.03)	0.196*** (5.34)	0.049*** (3.61)
L(distance to border)	-0.110 (-0.84)	-0.067 (-1.55)	-0.549*** (-9.23)	-0.033*** (-5.12)
Mountains	0.031 (0.41)	-0.001 (-0.14)	-0.041 (-1.03)	-0.001 (-0.28)
Avg. temp.	0.533 (1.28)	0.039 (0.96)	0.003 (0.01)	-0.018* (-2.27)
Longitude	-0.011 (-0.29)	0.002 (0.67)	-0.028 (-1.49)	0.003*** (3.75)
Latitude	0.034 (1.25)	0.002 (1.30)	0.034* (2.30)	0.002*** (3.34)
	-0.120** (-2.68)	0.012* (2.03)	0.002 (0.13)	-0.001 (-1.07)
Country-FE	✓	✓	✓	✓
Year-FE	✓	✓	✓	✓
N	21,742	222,777	222,777	

Notes: Standard errors clustered on grid-cells. Intercept omitted from table. Z-scores (logit) and T-values (OLS) in parentheses.



## 11 Descriptive statistics

Table 8: Summary statistics for main covariates (Baseline model and 2SLS models)

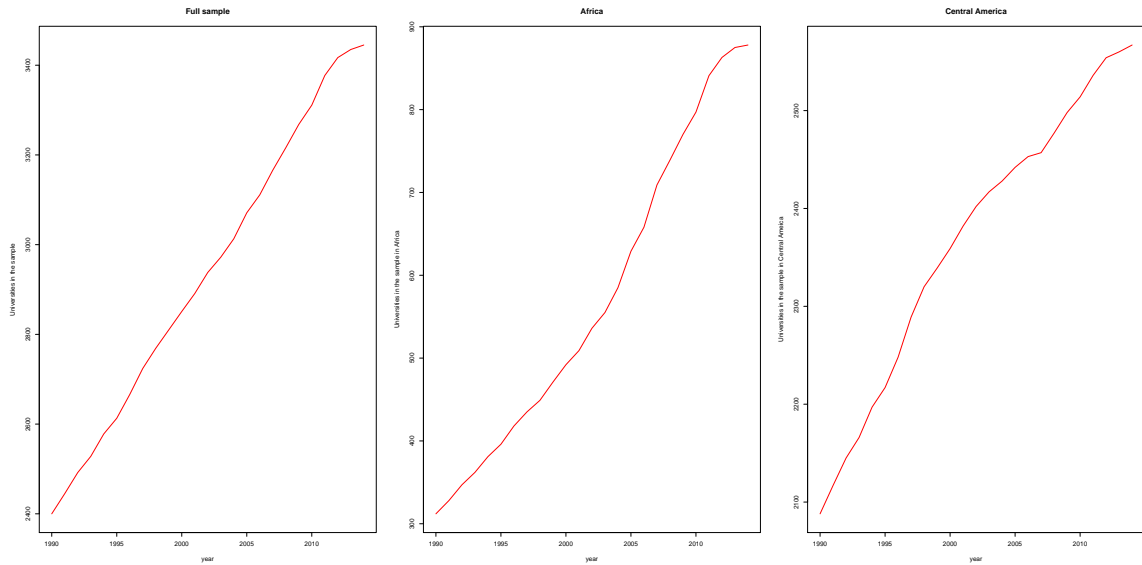
Variable	Mean	Std. Dev.	N
L(universities)	-4.474	0.799	244375
Protest	0.027	0.542	244375
Grid-cell product ppp	0.159	0.72	230319
Population	72206.58	231951.161	244375
Forest (globcover)	24.41	30.994	244375
Shrubland (Globcover)	7.392	13.79	244375
Night lights (sattelite)	0.035	0.048	244375
Urbanization	0.105	0.562	236417
Excluded groups (EPR)	0.361	0.604	244375
Capital distance	6.23	0.788	244375
Distance to border	4.382	1.271	244375
Mountains	0.141	0.261	240787
Temperature	24.541	3.95	240648
Latitude	18.42	15.771	244375
Longitude	6.258	17.699	244375
L(mission stations)	-6.334	1.956	244375
Colonial railroad	0.053	0.223	244214
Christian population	0.424	0.494	244145
Colonial explorer route	0.163	0.37	244214
Malaria	0.743	0.324	209415
Pre-colonial state centralization	2.232	0.927	209415

## 12 Variables and data sources

### 12.1 The university data

The university data is taken from the website [www.4ICU.com](http://www.4ICU.com). This website lists universities around the world, whether they are public or private, religious and other characteristics. There are around 12500 universities in the database. Figure 3 shows the increase in universities in our time-period, in the two world regions where we have SCAD data. It shows the steep increase in universities in these regions. The geocoding of these universities is done by taking their street address and city, and using the `ggcode` package in R. This matches addresses to google-map coordinates. It has a very strong hit-rate for our university sample, managing to geocode 12326 out of 12482 universities (close to 99%). Our main variable used in the main analysis is the (log) number of universities (or the presence of a university) in a grid-cell, as listed in the 4ICU database. We have fairly scant information on the size of these universities (number of enrolled students), and the degrees offered. Hence, we operate with a fairly wide conception of a “university”, allowing for a large number of universities.

Figure 3: Universities in our sample



## 12.2 The protest data

The Social Conflict in Africa Database (now expanded to more countries, and labeled the Social Conflict Analysis Database), includes information on protests, riots, strikes and other “social disturbances” in Africa since 1991. It uses the search engine LexisNexis to identify events, and the coding procedure is described in the codebook (Salehyan and Hendrix, 2016). It covers all countries included in our dataset, but not all countries experience a protest event in a given year. To operationalize our “protest” variable, we combine the events: demonstrations and riots, both “organized” and “unorganized”. In the codebook (Salehyan and Hendrix, 2016, 4), these are described as follows:

- **Organized Demonstration.** Distinct, continuous, and largely peaceful action directed toward members of a distinct “other” group or government authorities. In this event, clear leadership or organization(s) can be identified.
- **Spontaneous Demonstration.** Distinct, continuous, and largely peaceful action directed toward members of a distinct “other” group or government authorities. In this event, clear leadership or organization cannot be identified.
- **Organized Violent Riot.** Distinct, continuous and violent action directed toward members of a distinct “other” group or government authorities. The participants intend to cause physical injury and/or property damage. In this event, clear leadership or organization(s) can be identified.
- **Spontaneous Violent Riot.** Distinct, continuous and violent action directed toward members of

a distinct group or government authorities. The participants intend to cause physical injury and/or property damage. In this event, clear leadership or organization(s) cannot be identified.

### 12.3 Covariates

Most of our baseline covariates come from the PRIO-GRID database Tollefsen, Strand and Buhaug (2012), version 2.0, and are described at <http://grid.prio.org/>. These include Grid-cell product ppp (G-Econ dataset), Cell population (World population database), Forest (globcover) , Shrubland (Globcover), Night lights, Urbanization, Capital distance, Distance to border, Mountains, Temperature, Latitude , Longitude, and the presence of an excluded ethnic group. All sources and other details for these variables can be found

The additional covariates that are added to the 2SLS models, are taken from different sources. Colonial explorer routes, colonial railroads, malaria and pre-colonial state centralization are taken from replication data from Nunn (2014), while mission stations are taken from replication data for Nunn and Wantchekon (2011). The democracy, corruption, GDP and population data comes from the extended V-DEM dataset (Coppedge, Gerring, Lindberg, Skaaning, Teorell, Altman, Andersson, Bernhard, Fish, Glynn et al., 2017), version 8.

### 12.4 Academic semester months

Academic semester months are coded by using two proxies: The academic semester as listed by the department of education (some times on their home page in the given country), or by using the semester months from the biggest university (in the capital) in the country as a proxy for other universities. Using this procedure, we are able to find data for 37 cases (out of 62). These coding rules assume that there are not (major) differences within countries when it comes to the academic calendar, an assumption that is supported by the fact that the academic semester structure is often publicly announced (yearly) by departments of education and even covered in the local news. Semester months are understood as months with ongoing classes during the majority of days.

These countries for which we have data on academic semesters are: Algeria, Angola, Benin, Botswana, Burundi, Cameroon, Cote d'Ivoire, Egypt, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Malawi, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Sierra leone, Somalia, South Africa, South Sudan, Cuba, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, and Nicaragua.

## References

- Coppedge, Michael, John Gerring, Staffan H. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Frida Andersson, Michael Bernhard, M. Steven Fish, Adam Glynn et al. 2017. "V-Dem Codebook v7."
- Dahlum, Sirianne and Tore Wig. 2019. "Educating Demonstrators: Education and Mass Protest in Africa." *Journal of Conflict Resolution* 63(1):3–30.
- Nunn, Nathan. 2014. *Gender and Missionary Influence in Colonial Africa*. New York: Cambridge University Press pp. 489–512.
- Nunn, Nathan and Leonard Wantchekon. 2011. "The Slave Trade and the Origins of Mistrust in Africa." *American Economic Review* 101(7):3221–52.
- Salehyan, Idean and Cullen Hendrix. 2016. "Social Conflict Analysis Database (SCAD) Version 3.2." *Codebook*.
- Tollefsen, Andreas Forø, Håvard Strand and Halvard Buhaug. 2012. "PRIO-GRID: A unified spatial data structure." *Journal of Peace Research* 49(2):363–374.
- Weidmann, Nils. 2016. "A closer look at reporting bias in conflict event data." *American Journal of Political Science* 60(1):206–218.