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Economic Freedom and Academic Freedom across Nations

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Abstract

Academic freedom is a cornerstone of modern academic life. It is not only implied by basic liberal principles but also contributes to scientific progress and economic growth. It is therefore important to better understand what affects how free scholarly pursuits are, and to that end, we ask whether economic freedom can help explain variation in academic freedom across countries. In our case, relating the Economic Freedom of the World index and its five areas to V-Dem's index of academic freedom and its five areas reveals that the rule of law is positively and robustly related to academic freedom in all its forms. This suggests that the rule of law, in its general and broad sense, can arguably serve as a guarantor of academic freedom. Where the rule of law is weakened, academic freedom can be at risk. There are some indications that regulatory freedom is similarly related to academic freedom, but less robustly so, maybe indicating that interventionism in one policy area (economics) can breed interventionism in another (academia).

Keywords: Freedom; markets; rule of law; legal system; academic freedom

Introduction

Academic freedom is highly valued across the world.[1] Four main reasons are that it enables knowledge about the world to be generated (Mill, 1859; Dewey, 1902; Polanyi, 1958), that it enables the development of independent, inquisitive and capable individuals (Dworkin, 1996; Andreescu, 2009), that it enables innovative and useful knowledge to be produced, not least leading to economic benefits (Aghion et al., 2008; Mokyr, 2012; Eicher et al., 2018; Berggren and Bjørnskov, 2022a), and that it enables social scientists to engage in productive, respectful interaction with political decision-makers (e.g., leading to reduced economic inequality, as indicated by Posso and Zhang, 2023).[2]

Yet, its prevalence varies a great deal across time and space. What explains this variation? The existing cross-country literature is very limited: Berggren and Bjørnskov (2022b), Tayebi and Teimouri (2023) and Lerch et al. (2024) identify relationships between various political institutions and academic freedom, and Capasso et al. (2023) show a negative association between corruption and academic freedom. Most of the studies on determinants of academic freedom, however, look at country-specific factors, such as culture (Kraince, 2008), communism (Kwasniewicz, 1994), governmental research evaluation (Martin-Sardesai, 2017) and relationships between researchers and industries (Streiffer, 2006).

Our contribution is to offer a cross-country study with a new potential explanatory factor: economic freedom.[3] This has become an established concept, not least through the Economic Freedom of the World index (EFW) reported in Gwartney et al. (2022), which we use. The index consists of five areas and measures, on a scale from 0 to 10, how conducive policies and institutions in these areas are to a market-oriented society. The areas are the size of government, the rule of law, monetary stability, freedom to trade and invest internationally, and regulatory freedom.

Our hypotheses are that the size of government is negatively related to academic freedom (since a large government tends to adopt the view that it governs the whole of society), that the rule of law is positively related to it (fair and effective legal institutions directly protect spheres in society

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[1] We follow the *Encyclopædia Britannica* in understanding it as '[t]he freedom of teachers and students to teach, study and pursue knowledge and research without unreasonable interference or restriction from law, institutional regulations or public pressure.' On the concept as such, see, e.g., Machlup (1955), Altbach (2001) and Karran (2009).

[2] For more on how academic freedom can be justified, see, e.g., Moodie (1996) and Karran (2009).

[3] There is a large literature relating economic freedom to other outcomes: see Hall and Lawson (2014), Lawson (2022) and Berggren (2024).

from interference and corruption, since they indirectly undergird a culture of trust and openness), that monetary stability is unrelated to it (we see no strong reason to expect inflationary developments to influence freedom in the academic realm), that freedom to trade and invest is ambiguously related to it (on the one hand, allowing business and capital relatively free reign might induce such interests to steer academia in desired ways; on the other hand, such interests may use its resources to support and stimulate open-ended research on the belief that it benefits society, and them, in the long run), and that regulatory freedom is positively related to it (since we expect an interventionist attitude in one area – the economy – to lead to interventionism in another – the academy). The net effect of economic freedom is, therefore, theoretically ambiguous.

Our research question, how one type of freedom (in the economic sphere) impacts another type of freedom (in the academic sphere), connects to a discussion started by F. A. Hayek (1944) and Milton Friedman (1962), when they, in slightly different ways, suggested a connection between economic freedom and political freedom. In both cases, the idea was the economic freedom is a necessary (but not necessarily a sufficient) condition for political freedom.[4] However, we depart from their approach by investigating a continuous relationship between economic and academic freedom. In this, we are inspired by Bjørnskov (2018), in which he tests whether economic freedom is beneficial for press freedom and finds this to be the case.[5]

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[4] Lawson and Clark (2010) test what is now known as the 'Hayek–Friedman hypothesis' and find, using data on economic and political freedom for more than 100 countries over four decades, that it is rare to see countries have high political freedom if they do not also have high economic freedom.

[5] Why would academic freedom be different from press freedom or a general freedom of expression? To cite Spannagel and Kinzelbach (2023: 3973): 'Important dimensions of academic freedom – such as the freedom to research and teach, institutional autonomy, and the freedom to exchange research findings with other scholars – cannot be subsumed under freedom of expression.' To that, we can add reasons why the relationship with economic freedom is arguably different. For example, suppressing academic freedom may come with substantially higher costs. If a political elite is not simply to send its children to universities in Australia, the United Kingdom or the United States, the quality of their education depends on academic freedom. As pointed out above, a vibrant academic environment is also of value to domestic industry in all but the poorest countries. Moreover, academics are, in most cases, geographically mobile, implying that even moderate repression can result in an exodus of highly qualified individuals. Academic research is often an international endeavor that cannot easily be home-sourced. Lastly, an empirical analysis by Berggren and Bjørnskov (2022b) shows that academic freedom differs from civil liberties and overall freedom of expression, lending further credence to the separate character of academic freedom.

We do so by combining two data sources. Our data on academic freedom are from the V-Dem dataset as developed by Spannagel et al. (2020) and Spannagel and Kinzelbach (2023), and consists of an overall index and five components: Freedom to Research and Teach, Freedom of Academic Exchange and Dissemination, Institutional Autonomy, Campus Integrity and Freedom of Academic and Cultural Expression. Our data on economic freedom is from Gwartney et al. (2022) and likewise consist of an overall index and five components (already mentioned above).

Our empirical analysis shows that two of the five components of economic freedom are associated with the overall academic freedom index as well as all of its five areas: first and foremost the rule of law, but in certain specifications also regulatory freedom. Thus, when the legal system is fair and effective, which includes protection of property rights and impartial enforcement of voluntary contracts, and which precludes corruption, there is more freedom in the scholarly realm. Likewise, at times when there is a less interventionist tendency in the economic regulatory area, scholarly life is left more free. The remaining three areas – government size, monetary stability, and freedom to trade and invest internationally – exhibit no systematic relationship with academic freedom. This suggests that they neither pose a threat to, nor promote, academic freedom.

As far as we know, this is only the third study that tries to explain variations in academic freedom using a large cross-country sample, and it extends the literature by incorporating market mechanisms and legal institutions as factors related to academic freedom. As such, our study is also a contribution to the small literature exploring how different aspects of freedom are interrelated. However, it *is* an exploratory study without strong causal claims, but as such, we think it serves as a useful starting point for further research.

We now proceed to present our theoretical framework, the data and empirical strategy, the results, and our concluding remarks.

Theoretical framework

Our theoretical framework is simple and relates the five aspects of economic freedom to academic freedom. Beginning with three of the areas, which we, on theoretical grounds, believe are governed by the same type of mechanism – the size of government, freedom to trade and invest internationally and regulatory freedom – our hypothesis is that the less economic freedom there is in these areas (i.e., the larger the government, the more obstacles to trade and invest across borders,

and the more comprehensive the regulations), the less academic freedom there is. The reason is a version of the Friedman (1962) idea of a link between the mentality of policymakers when making economic-policy decisions and when making decisions about how to run the public sector in general, including public universities and private universities that are part of the financial and regulatory system of the government:

- *If they expand the size and scope of government*, they are inclined to want to intervene in what the government does as well, on the basis of seeing the government as essentially doing 'good' things. It should do a lot, according to this way of thinking, and when it does something, it should consciously shape what its funds are used for to improve outcomes. And as Hayek (1944) notes, if there is a belief in central planning (not so common nowadays, but interventionism is nevertheless popular in many areas), then this entails a commitment to certain core values, which (it will easily be thought) should override the values of others.

- *If they embrace protectionism*, they reveal a belief in an ability to manage the economy: to make economic transactions across borders more difficult and, supposedly, in an ability to direct national economy policy through measures such as targeted industrial policy (perhaps inspired by the likes of Mazzucato, 2013). There is thus a belief in the 'epistemic powers' of government that enable specific policies that can stimulate growth-enhancing innovation etc. If there is a belief in such powers for industry, one can easily imagine the same mentality being applied to the world of university education and research. The government can restrict and direct in order to improve outcomes as it is believed to be able to predict future industrial and academic success.

- *If they implement more comprehensive regulation*, this may also reveal an interventionist mindset, i.e., that government is justified to intervene in the private decisions of economic agents by constraining their choice set. This may have noble underpinnings, such as a desire to alleviate negative externalities or information asymmetries, but it can lead to a similar tendency for interventionism in cases, which are more uncertain (in terms of social welfare) or more contested. If the political decisionmakers, perhaps on ideological grounds, think it desirable to steer society in certain directions, whether based on a thorough cost-benefit analysis (in the wide sense of the term) or not, in one area, this mindset is likely to

characterize the approach to other policy areas, such as the world of scholarly activities, as well.[6]

As a result of these 'transpositions', an interventionist attitude can be expected to spill over into the academic world, with restrictions, subsidies, requirements for awarding grants, etc. Again, this may very well be driven by a sincere conviction of doing it for 'the good of society', especially in democracies, but could likewise be based on a desire to stifle academic activities seen as a threat to a regime (primarily in non-democratic countries). This view is in some ways similar to the one proffered by Coase (1974). He critiques the tendency to regulate markets for goods (i.e., constrain economic freedom) while keeping the market for ideas unregulated (with, e.g., unconstrained academic freedom). In contrast, *his* understanding of how these two markets work implies that restrictions should be 'symmetric', i.e., that the same regulatory approach should be taken. If one sees a need to regulate one market, one should see a need to regulate the other (and conversely, if one sees little need to regulate one market, one should see little need to regulate the other). To the extent that policymakers are influenced by a Coasean-type argumentation, they will see a need to limit academic freedom if they see a need to limit economic freedom and the relationship between these two indicators should be positive. Hence, based on Friedman and Coase, a testable hypothesis 1 is: *The larger the government, the more obstacles against trading and investing across borders, and the more comprehensive the economic regulations, the less academic freedom.*[7]

Moving on to another area of economic freedom, the rule of law, it is different in nature from the three areas just discussed, in that it is more institutional than policy-oriented – it concerns the character of the legal system, and thereby institutional phenomena that usually change more slowly over time than policies (Sobel and Coyne, 2011). The *Encyclopedia Britannica* defines it as 'the mechanism, process, institution, practice, or norm that supports the equality of all citizens before the law, secures a nonarbitrary form of government, and more generally prevents the arbitrary use of

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[6] Of course, one can also imagine the 'opposite' mindset, that it is *always* wrong to intervene in the economy or elsewhere irrespective of consequences, which could be very problematic as well.

[7] In the narrower context of American academia, Alchian (1953) proposes that tenure, widely regarded as a tool for a certain kind of academic freedom, is related to various choices characteristics of universities. His general idea, as it relates to this study, is that more 'market-oriented' ways of running a university comes with less, or weaker, tenure. This could be seen as suggesting a *negative* relation between the three indicators of economic freedom discussed here and academic freedom, and thus as a counter-hypothesis to our first hypothesis, inspired by Friedman and Coase.

power.' If those in power implement a weak rule of law, entailing unequal treatment of citizens in legal matters and allowing for arbitrary uses of power that may include semi-corrupt or corrupt practices, one would expect that this approach not only applies to the legal sphere, but also to others – such as academia. Making sure one's ideological allies get positions and funding; restricting what can be taught and researched to prevent perspectives that the government or special interests deem threatening to their position of power; making internationalization and open discourse and exchange across borders difficult – such measures are to be expected from people who disregard the rule of law. In this sense, such people also disregard meritocracy, which is a pillar of academia. In addition to this 'direct' effect, one can add an 'indirect', cultural effect. For example, the rule of law has been shown to relate to social trust (Berggren and Jordahl, 2006; Cassar et al., 2014; Martinangeli et al., 2024), tolerance (Berggren and Nilsson, 2013, 2021; Berggren et al., 2019), and respect for general human rights (Bjørnskov, 2024). If so, decision-makers could be expected to be less inclined to see free academic research as dangerous in a system of rule of law, with more trust and tolerance towards others. Hence, our testable hypothesis 2 is: *The weaker the rule of law, the less academic freedom.*

As for the last area of economic freedom, we do not expect the remaining area of economic freedom, monetary stability, to be related to academic freedom. This is especially the case since the appearance and spread of independent central banks in recent decades, which separates monetary policymaking from other types of policymaking, and where policy is also of a different nature, not related to specific interventions. Hence, testable hypothesis 3 is: *Monetary stability is unrelated to academic freedom.*

As these hypotheses have been stated, one might ask, as an underlying question: Why would people with power outside of academia wish to interfere and reduce academic freedom? If we restrict ourselves to two types of actors, politicians and corporations, and begin with the former, they can try to promote ideas they consider beneficial to themselves or society or try to stop ideas they consider detrimental or dangerous to themselves or society. Both private and public interest can thus come into play, plausibly shaped by preexisting sets of beliefs and values. Corporations, on the other hand, can try to direct both research and teaching in ways that benefit business interests – which can be either good or bad from a general-interest point of view. If corporate involvement involves support for high-tech research that improved productivity, that implies an attempt to steer research in a specific direction, but the effects could be overall beneficial. However, detrimental attempts at cutting off research that benefits competitors or other fields could also take place. Adding a third actor, the broader public, both politicians and corporations may have an incentive to

limit the freedom of academics, and most specifically academics in the social sciences, as unregulated research and dissemination of knowledge may constitute a credible threat to political power (Tayebi and Teimouri, 2023). In all, we see it as a complex arena with a mix of self-centered and society-oriented motivations among those who try to interfere in academic life.

Lastly, there is a possibility that the relationship goes from academic to economic freedom (as well). For instance, if academic freedom is related to more successful research and a high regard for scientific findings, and if it makes academics bolder in trying to influence policy, it could be that academic freedom leads to more economic freedom. This, of course, presupposes that free research does identify economic freedom with politically desirable outcomes, which is a contested issue. The one study of a political effect of academic freedom, that by Posso and Zhang (2023), indicates the opposite: that academic freedom leads to more redistributive policies (which reduce economic freedom). That suggests that concerns about reverse causality might be unwarranted, but as pointed out above, we refrain from making strong causal claims in this study.

Data and empirical strategy

In order to test out hypotheses, we combine two major sources of data with a relatively simple set of control variables. We first follow the small, recent cross-country literature on academic freedom by employing the index developed by Spannagel et al. (2020) and Spannagel and Kinzelbach (2023) and included in the *Varieties of Democracy* (V-Dem) dataset. We specifically use only the five components of *de facto* academic freedom: freedom of academic expression, campus integrity, institutional autonomy, freedom of academic exchange, freedom to research and teach. The reason for not also including the *de jure* components is that they appear as a separate issue and are not obviously correlated with the *de facto* components (cf. Berggren and Bjørnskov, 2022b). All five components derive from expert assessments, which are coded as other V-Dem data, applying bridge coders and anchoring vignettes, i.e., 'brief descriptions of fictitious scenarios for each indicator' that to some extent ensure that coders assess the same phenomena.

All five components are scored on a scale from 0 to 4; descriptive statistics can be found in Table 1. Throughout, we use scores derived from exploratory factor analysis, which we document in Appendix Table A1. The analysis very clearly shows that all five components load onto a single factor with loadings between .83 and .92 and a single component explaining 88 percent of the

variation. These scores, which have an average of zero and a standard deviation of approximately one, are our preferred measure in the rest of the paper. However, we also use what we call a 'worst indicator' in robustness tests. This indicator is simply the minimum of the five components, scaled from zero to ten. We use it on the assumption that the repression of academic freedom can, in principle, be attained by repressing a single element while keeping the rest at more reasonable levels. If so, a simple or factor-derived average may overestimate the actual level of academic freedom.[8]

Table 1. Descriptive statistics

Variable	Mean	Standard deviation	Observations
Academic freedom	-.000	.926	1448
Freedom of academic expression	2.465	1.144	1495
Campus integrity	2.537	1.047	1448
Institutional autonomy	2.236	.962	1448
Freedom of academic exchange	2.716	.983	1448
Freedom to research and teach	2.588	1.012	1448
Worst academic freedom	.490	.256	1448
Economic freedom index	6.176	1.325	1129
Size of government	6.006	1.625	1263
Rule of law	4.941	1.592	1407
Monetary stability	7.105	2.156	1139
Openness to trade and investment	6.328	2.134	1093
Regulatory freedom	6.147	1.400	1135
Single-party regime	.311	.463	1566
Civilian autocracy	.181	.385	1566
Military	.066	.248	1566
Electoral democracy	.443	.497	1566
Failed coup	.126	.420	1566
Successful coup	.08l7	.332	1566
Log GDP per capita	8.829	1.241	1362
Recession	.238	.426	1200
Log population	2.016	1.733	1362

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[8] We do so inspired by a similar exercise on the economic freedom data documented in Bolen and Sobel (2020), who ask if the 'balance' between five components of economic freedom is important to long-run economic growth.

Our second main source of data is the annual report of economic freedom of the world from the Fraser Institute (Gwartney et al., 2022). Since the mid-1990s, these reports have provided an overall index of economic freedom as well as more specific information of freedom in five separate domains: the size of government, the rule of law, monetary stability, freedom to trade and invest internationally, and regulatory freedom. These five indices are composed of up to 43 different subindicators and distributed on a scale from zero (no economic freedom) to ten (maximum freedom). In recent years, the data cover 162 countries across the world observed every year. However, we apply the economic freedom data in five-year intervals because data between 1970 and 2000 are only available every five years.

We apply a small and parsimonious baseline specification of control variables in order not to include bad controls or take out likely transmission mechanisms of economic freedom. As in previous studies, we add the logarithm to purchasing-power adjusted GDP per capita, as previous studies have found positive long-run effects of income on academic freedom (Berggren and Bjørnskov, 2022b). We control for reactions to crisis and short-run effects by adding a dummy for recessions, defined as 1 when at least one of the years in a five-year period had negative growth in GDP per capita. We also add the logarithm to population size, as the governments of larger countries may repress more. These data are all from the Penn World Tables, mark 10 (Feenstra et al., 2015).

In addition, we control for differences in regime types by combining information in Bjørnskov and Rode's (2020) dataset of regime types and regime changes. Previous studies note that democracies enjoy much more academic freedom, but we here go one step further: we use a categorical variable separating single-party autocracies, military dictatorships, civilian autocracies, and electoral democracies.[9] Democracies are distinguished from multi-party autocracies by both having *ex ante* electoral uncertainty and *ex post* irreversibility of election results. This variable is based on a minimalist concept of democracy, setting it apart from liberal democracy, which, according to Zakaria (1997: 22), is "a political system marked not only by free and fair elections, but also by the rule of law, a separation of powers and the protection of basic liberties of speech, assembly, religion, and property" (cf. Mukand and Rodrik, 2020). We use it to ensure that academic freedom is distinct

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[9] Whenever we refer to military dictatorships or civilian autocracies, we refer to such regimes with multi-party elections. If there are not multi-party elections, military dictatorships and civilian autocracies are referred to as single-party autocracies.

from the measure of democracy, which, in its broader form, overlaps conceptually to a greater degree with both academic freedom and economic freedom. From the same source, we add two measures capturing the number of failed and successful coups, respectively, within each five-year period. We do so as coups are particular disruptions to political institutions that often result in increased general repression.

Our estimation strategy is simple and dictated by the exploratory nature of our paper. In order to account not only for level differences, but also different effects of economic freedom in different political regimes, we throughout add an interaction between our categorical regime type variable and economic freedom. Throughout, we report conditional marginal effects for each regime type with conditional standard errors, as calculated by the Delta method (Brambor et al., 2006). The full dataset includes up to 1,132 observations (when using the rule of law component of economic freedom) from 154 countries in non-overlapping five-year periods between 1970 and 2015 for which we have GDP data. We estimate effects with OLS with two-way fixed effects for five-year periods and countries such that all estimates are identified by within-country variation relative to a joint international trend.

Although we do not want to claim that our estimates are causal, our control variables, including economic freedom, are observed at the beginning of each five-year period while academic freedom is observed at the end of the period. To the extent that the timing of changes can inform about causality, with fixed effects our estimates could be interpreted as Granger-causal. We return to this issue in a new section below in which we include lagged and lead economic freedom.

Results

A first look

We begin the empirical part with some descriptive illustrations. Figure 1 shows the state of academic freedom across the world – the lighter the color, the more of it there is. Traditionally, Western countries see higher levels of academic freedom, while much of the rest of the world sees quite low levels – certainly, there are many dark areas across Latin America, Africa, the Middle East, and Asia (with exceptions). Within the data we employ, the lowest level of academic freedom is observed in Laos in the late 1970s (a factor-derived score of -2.37), and the lowest levels in democracies are

found in Turkey (-1.74) and Argentina (-1.59), in both cases immediately prior to becoming autocratic. Conversely, we observe the highest levels of academic freedom in Poland (1.19) and Austria (1.16) in recent years, while the highest levels in autocracies are Burkina Faso (.92) in recent years and Panama (.58) in the early 1980s. From our point of view, we wish to investigate to what degree this variation can be explained by the economic-freedom levels of these countries.
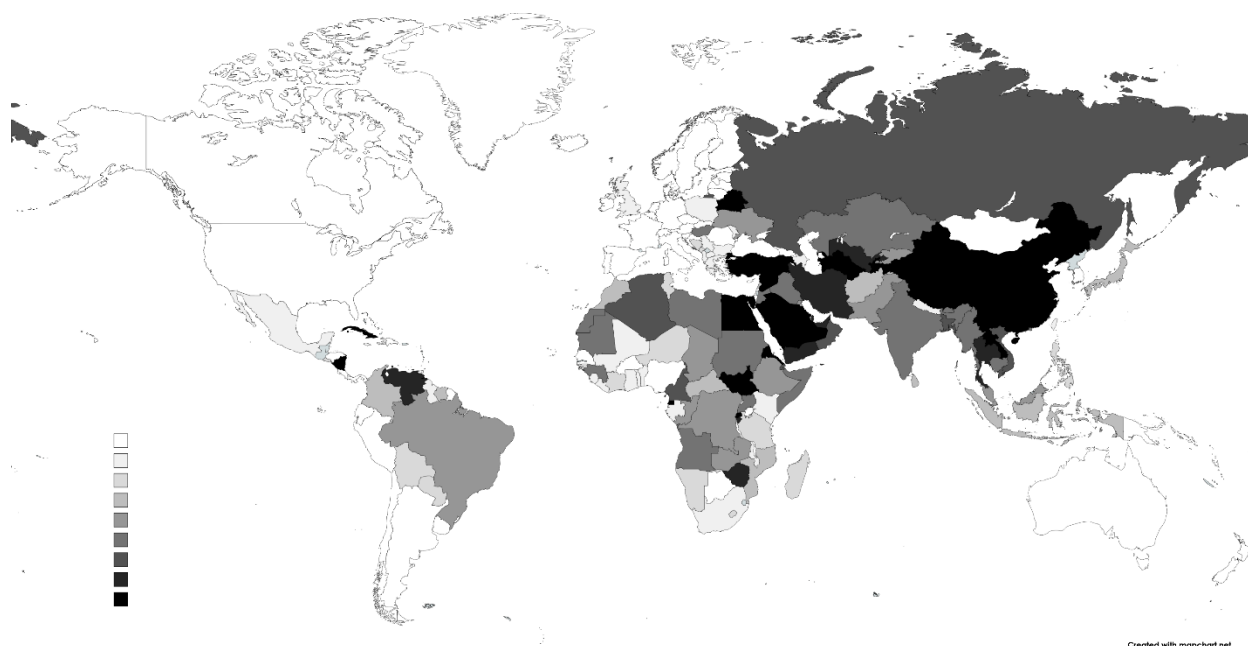
Figure 1. Academic freedom in the world
Notes: Each category includes a ninth of the index of academic freedom from black (worst) to white (best).

Figure 2 illustrates that academic freedom is much higher in democracies than in either of three types of autocracy. It also shows that in democracies and multi-party autocracies, academic freedom is higher in the countries with an above-median economic-freedom level – the white areas of the columns indicate how much they differ. In the most recent period in the data, 2010–2015, democracies with a level of economic freedom below the median had an average level of academic freedom of 0.71 while those above had an average of 0.87 (p<0.001). Among multi-party autocracies, the difference is less pronounced: 0.41 versus 0.54 (p<0.10) in civilian autocracies and .44 versus .50 (p<0.72) in military dictatorships. The opposite relationship holds in the seven one-party autocracies, where economic freedom is generally low and where markets are not really, as a rule, functional.
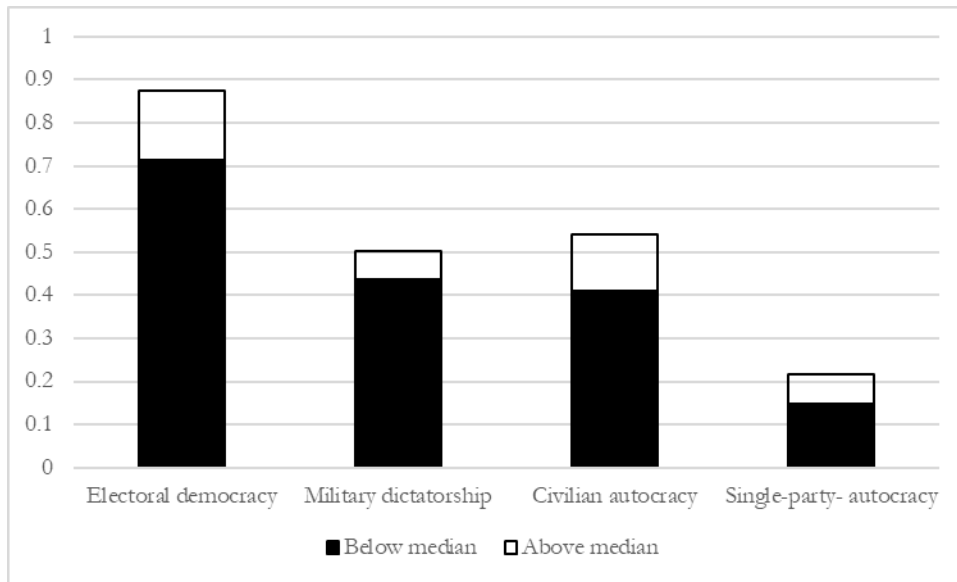
Figure 2. Regime type, economic freedom and academic freedom

Notes: The black area shows the average academic freedom for the countries of each regime type with below-median economic freedom, while the white area shows the additional academic freedom for the countries of each regime type with above-median economic freedom.

Another way of getting a sense of the academic freedom data is to illustrate the dynamics in the last 40 years, which we do in Figure 3. We here plot the average academic freedom in each of six regions/country groups in the data: the stably democratic West, Latin America, Sub-Saharan Africa, the MENA (Middle East and North Africa) region, Asia, and the post-communist countries in Central and Eastern Europe and the Caucasus. Although averaging across regions necessarily smooths out intra-country dynamics in politically stable countries, the figure still illustrates both the dynamics and large differences across the world. The West is not surprisingly the most academically free, followed by Latin America. The formerly communist countries are, on average, today the third-freest region – and include some of the absolutely freest, such as the Czech Republic – but started during communism as the least academically free. Another intriguing fact visible in the data is that Sub-Saharan Africa, in recent years, has been practically as free as the formerly communist countries. Overall, Figure 3 thus demonstrates the substantial variation in the data over a long period of time as well as stable regional differences in recent decades. However, even this figure understates the degree of variation, as contemporaneous improvements and declines across countries within regions are not readily visible.
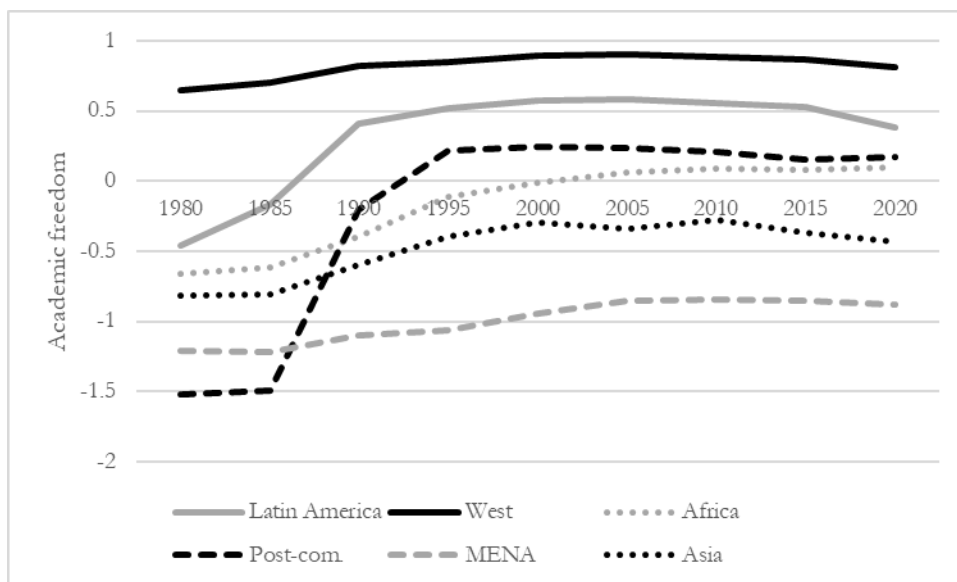
Figure 3. Academic freedom in six regions, 1980–2020.

As another first dynamic look at the data (although not illustrated), when looking at about 300 substantial changes to the rule of law, we observe only nine cases where academic freedom increased substantially after the rule of law decreased. [10] These episodes are Bangladesh in the late 80s; Bhutan in the late 80s; Eswatini in the early 00s and the early 10s; Kenya in the late 90s; Rwanda in the early 90s; the Seychelles in the late 90s; and the Gambia in the early 90s. We find only seven cases in which the opposite happened: Bangladesh in the late 00s; China in the early 80s; the Comoros in the early 10s; Peru in the late 80s; Suriname in the early 10s; Turkmenistan in the late 80s; and Zimbabwe in the early 10s. This pattern lends some credence to an interpretation in line with the Hayek–Friedman hypothesis applied to academia – it is, in general, rare to see substantial improvements in academic freedom if the rule of law has deteriorated markedly, and it is about as rare to see substantial reductions in academic freedom if the rule of law has been clearly strengthened.

In addition, Table 2 shows the static relationship between combinations of academic freedom and the rule of law, which – with due consideration of differences in, e.g., economic development and urbanization – may perhaps be interpreted as reflecting a long-run equilibrium. While a strong rule of law is strictly speaking neither necessary nor sufficient for high academic

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[10] We here define substantial change as a change that is larger than one standard deviation of the period-to-period changes in either the rule of law or academic freedom.

freedom to obtain, it certainly is strongly related to it. The main pattern across the 1,008 observations not from single-party autocracies shows that three-fourths of all observations are situated on the diagonal suggested by our theoretical considerations.

Table 2. Country combinations for academic freedom and the rule of law

	Low rule of law	High rule of law
High academic freedom	125	379
Low academic freedom	379	125

Notes: Countries are divided by the median for both variables. The data exclude all single-party regimes.

Since these changes and the general pattern nevertheless might reflect changes in other variables, we proceed to account for additional factors in regression analysis.

Baseline results

We start by presenting our baseline results in Table 3. Beginning with the control variables, almost all of them are far from attaining statistical significance, although, for example, both GDP per capita and population size are, as expected, consistently positive. The exceptions are electoral democracy and failed coups, which attain significance when certain areas of economic freedom are included. As for electoral democracies, evaluated at the average level of economic freedom, the marginal conditional estimate indicates that they have about .4 index points more academic freedom than non-democracies. In other words, all other things being equal, moving towards democracy on average entails an increase in academic freedom of approximately 40 percent of a standard deviation (cf. Berggren and Bjørnskov, 2022b). This estimate remains stable across the six columns of the table.[11]

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[11] On average, the results also indicate that military dictatorships tend to have about .1 index points more academic freedom relative to single-party autocracies and civilian autocracies. This difference nevertheless remains insignificant throughout.

Table 3. Main results

Economic freedom variable	Dependent variable: Academic freedom					
	1	2	3	4	5	6
	EFW index	Size of government	Rule of law	Monetary stability	Openness to trade and investment	Regulatory freedom
Economic freedom	.054	.049	.123***	.006	.025	.043
	(.059)	(.031)	(.047)	(.026)	(.032)	(.051)
Log GDP per capita	.035	.043	.017	.038	.056	.035
	(.114)	(.087)	(.084)	(.112)	(.113)	(.109)
Recession	.011	-.003	.007	.001	-.000	-.005
	(.032)	(.034)	(.032)	(.032)	(.036)	(.035)
Log population	.141	.003	.083	.083	.224	.064
	(.143)	(.140)	(.125)	(.139)	(.142)	(.143)
Military dictatorship	.217	.229	.276	.174	.193	.292
	(.406)	(.197)	(.260)	(.293)	(.212)	(.353)
Civilian autocracy	.046	.188	.116	-.145	.122	-.225
	(.469)	(.107)	(.265)	(.348)	(.287)	(.420)
Electoral democracy	.336	.521**	.138	.461**	.364**	.526*
	(.322)	(.254)	(.209)	(.199)	(.174)	(.282)
Failed coup	.037	.057**	.064**	.035	.028	.029
	(.027)	(.027)	(.026)	(.027)	(.028)	(.027)
Successful coup	-.009	-.034	-.006	-.018	.003	-.008
	(.049)	(.053)	(.047)	(.052)	(.045)	(.052)
Ec. free. * military	-.009	-.016	.013	.023	-.036	.042
	(.079)	(.036)	(.071)	(.048)	(.050)	(.067)
Ec. free. * civilian	-.018	-.010	-.027	-.008	-.017	-.029
	(.069)	(.030)	(.057)	(.041)	(.038)	(.058)
Ec. free. * democracy	.015	-.003	.075	-.001	.002	-.017
	(.061)	(.038)	(.049)	(.029)	(.037)	(.053)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	989	1084	1132	990	971	994
Countries	151	154	154	151	151	151
Within R squared	.283	.315	.354	.276	.265	.277
F statistic	5.90	6.40	8.83	5.77	5.96	5.72

Effect evaluated at

Military	.045	.033	.136*	.029	-.011	.085
dictatorship	(.071)	(.032)	(.077)	(.042)	(.040)	(.056)
Civilian autocracy	.036	.039	.096**	-.001	.008	.014
	(.068)	(.024)	(.049)	(.032)	(.031)	(.054)
Electoral	.068	.046*	.198***	.005	.026	.026
democracy	(.052)	(.026)	(.049)	(.019)	(.023)	(.034)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level.

Turning to our variables of interest, the estimates in Table 3 show that there is only one area of economic freedom that is related to academic freedom, viz., the rule of law, and the sign is, as hypothesized, positive. However, none of the other areas of economic freedom stand in a statistically significant relationship to academic freedom, indicating that the degree of interventionism of 'regular' economic policy does not have distinct spillover effects on academic life. The fact that we cannot establish a relationship between the three more policy-oriented areas of the Economic Freedom of the World index and academic freedom could be taken to indicate that a freer market economy, with more room for corporations to influence society, does not seem to undercut academic freedom, as feared by some. Moreover, the positive effect of the rule of law appears for all political regimes, although most strongly for democracies, for which the estimate is also significantly larger than in civilian autocracies (p<.05).[12]

We next look at the five components of academic freedom, as described in Section 3, separately. The results are shown in Table 4, where we for simplicity only report the conditional marginal effects for each regime type, although the regressions include a full specification. Interestingly, a 'new' result emerges in this exercise: in addition to the rule of law continuing to be robustly and positively related to academic freedom in all regime types, regulatory freedom also stands in a positive relationship to our outcome variable in most cases in autocracies, and particularly so in military multi-party autocracies. The additional result may suggest that an interventionist mindset, as discussed in Section 2, in the economic policy sphere seems to

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[12] Whether conditional point estimates pertaining to military dictatorship, civilian autocracy, and electoral democracy are significantly different from each other cannot be gauged from the interaction terms *per se*. These terms indicate if a conditional estimate is different from that of the comparison category, which in our case is single-party autocracies. When we note that the point estimates of the rule of law for civilian autocracy and electoral democracy are significantly different at p<.05, this is not directly visible in the table.

characterize policies affecting the freedom for scholars in higher education.[13] However, none of the other areas of economic freedom matter.

Table 4. Results for specific indicators of academic freedom

Economic freedom variable	Dependent variable: Academic freedom					
	1	2	3	4	5	6
	EFW index	Size of government	Rule of law	Monetary stability	Openness to trade and investment	Regulatory freedom
Effect on freedom of academic expression evaluated at						
Military	.097	-.035	.319***	.064	-.051	.236**
dictatorship	(.106)	(.060)	(.121)	.051)	(.051)	(.120)
Civilian autocracy	.093	-.008	.284***	.025	-.000	.091
	(.109)	(.049)	(.057)	(.048)	(.048)	(.080)
Electoral	.084	.049	.258***	.011	.014	.049
democracy	(.066)	(.035)	(.063)	(.023)	(.032)	(.045)
Effect on campus integrity evaluated at						
Military	.049	-.038	.231**	.071	-.078	.271**
dictatorship	(.119)	(043)	(.115)	(.062)	(.055)	(.132)
Civilian autocracy	.143	.026	.197***	.038	.023	.159**
	(.111)	(.034)	(.062)	(.041)	(.053)	(.081)
Electoral	.075	.040	.243***	.006	.009	.066
democracy	(.070)	(.035)	(.068)	(.023)	(.032)	(.045)
Effect on institutional autonomy evaluated at						
Military	.124	-.017	.126	.133	-.013	.155*
dictatorship	(.122)	(.031)	(.081)	(.085)	(.055)	(.088)
Civilian autocracy	.136	.009	.158***	.039	.016	.141**
	(.104)	(.028)	(.049)	(.046)	(.049)	(.063)
Electoral	.106*	.038	.213***	.021	.031	.065
democracy	(.059)	(.029)	(.056)	(.020)	(.029)	(.039)
Effect on freedom of academic exchange evaluated at						
Military	.015	-.011	.229***	.034	-.030	.145*
dictatorship	(.098)	(.048)	(.087)	(.054)	(.041)	(.082)

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[13] This specific result only consistently applies to military dictatorships. Moreover, one should keep in mind that the rule of law and regulatory freedom are relatively highly correlated ($r \approx .5$), potentially reflecting that reforms that change the rule of law and reforms changing regulation are often bundled.

Civilian autocracy	.099	.029	.145***	.006	.046	.094
	(.086)	(.028)	(.055)	(.032)	(.042)	(.059)
Electoral	.069	.051*	.176***	.007	.017	.041
democracy	(.058)	(.029)	(.061)	(.019)	(.027)	(.035)
Effect on freedom to teach and research evaluated at						
Military	.083	.018	.221***	.052	-.009	.178**
dictatorship	(.099)	(.051)	(.081)	(.049)	(.049)	(.073)
Civilian autocracy	.132	.045	.174***	.024	.029	.113*
	(.092)	(.030)	(.056)	(.035)	(.044)	(.068)
Electoral	.091	.053	.214***	.008	.019	.074
democracy	(.065)	(.033)	(.069)	(.022)	(.031)	(.041)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level.

Robustness analysis

In principle, our findings in Section 4.2 could be subject to several biases creating spurious results invalidating the generalizability of the findings. We therefore subject them to a few robustness checks.

First, we conduct a number of outlier analyses in order to make sure that the results are not driven by extreme observations. We begin by removing the seven single-party autocracies (since they, as discussed in Section 4.1 in connection with Figure 2, display a peculiar pattern). The results shown in Table A2 in the Appendix indicate that this changes very little compared to the baseline analysis of Table 2. We next remove the 5% lowest and 5% highest academic freedom levels, and, in a separate exercise, observations with the 5% and 5 % highest levels of economic freedom (for each indicator) in Table A3. The rule of law continues to be statistically significant in its positive relationship to academic freedom in electoral democracies in both cases, unlike in civilian autocracies. When removing the 5% highest and lowest rule of law observations, significance evaporates for military dictatorships, but we are reluctant to conclude too much from this, as it excludes a disproportionate number of observations for this regime type.

Second, we lag economic freedom an entire period as a simple way of establishing Granger causality as well as capturing full effects, if institutional changes take time to arise. The results, which we report in the lower panel of Table A3 in the Appendix, indicate that the rule of law is a robust determinant of academic freedom in military dictatorships and electoral democracies, but not in

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civilian autocracies where the estimate is not only insignificant, but also much smaller than in either of the other regime types.

Third, we use an alternative indicator that captures the lowest level of academic freedom across the five indicators – the "worst indicator" variable. As explained in Section 3, the idea is that *de facto* academic freedom can suffer if a single component is worse than the rest – say, if the freedom of academic expression is repressed while the rest is not to the same extent – which is not fully reflected in the aggregate indicator used in our baseline analysis. As shown in Table A4 in the Appendix, we find that this alternative indicator of academic freedom does not really entail changed results, which may be no surprise given how highly correlated the five indicators are.

Fourth, we want to make sure that our results are not driven by the contemporaneous democratization and introduction of the rule of law in post-communist societies in the 1990s. Figure 3 might lead one to expect the relationship to be mainly driven, for this reason, by the post-communist countries. However, in Appendix Table A5, we show that our results are entirely robust to excluding all post-communist countries.

Fifth, in order to discern what elements of the second area of the Economic Freedom of the World index drive the relationship with academic freedom, we have applied factor analysis to its eight sub-areas.[14] The resulting two factors consist of (1) protection of private property, judicial independence, impartial courts, military interference, integrity of the legal system, and reliability of police, and (2) legal enforcement of contracts and regulatory costs of the sale of real property. It is the first that is related to academic freedom in a statistically significant way, as shown in Table A6 in the Appendix, indicating that both a key economic aspect of the rule of law (protection of private property) and civil rights are of importance. Another division into economic rights and civil-constitutional rights yields similar results, indicating that the latter types of rights matter.

Can the results be interpreted causally?

A last question is the extent to which our robust findings can be interpreted causally. As we note above, while we do not want to claim that they can, we observe economic freedom at the beginning

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[14] The factor analysis yields two well-defined factors, one capturing 66 percent of the variation in the data, the other 33 percent. Judicial independence, impartial courts, protection of property rights, and military interference load substantially onto the first factor, regulatory costs of property, loads only onto the second factor, while the remaining subindices exhibit cross-factor loadings. Details of the factor analysis are available upon request.

of each five-year period while academic freedom is observed at the end of the period. Due to our fixed effects strategy, this means that there is approximately five years between the observed changes in economic freedom and changes in academic freedom. To the extent that the sheer timing of changes can inform about causality, with fixed effects our estimates can be interpreted as Granger-causal. This may nevertheless not be sufficient if there is a lag between actual changes and observed changes such that observation occurs some period after the changes (and perhaps the policy decisions leading to them) have actually occurred. When working with expert-coded data such as the ones from V-Dem, from which we derive academic freedom, this is always a real risk.

We therefore perform a final test, which we report in Table A7 in the Appendix. We here add one-period lags and leads of economic freedom to our specification. Note that what we refer to as 'lags' are economic freedom data observed ten years prior to academic freedom, what we treat as 'contemporaneous' is really economic freedom observed five years before academic freedom, and 'leads' are economic freedom observed in the same year as academic freedom. This is therefore already a relatively conservative test, yet we still find evidence consistent with a causal interpretation for our rule of law estimates. We find significant estimates for leads of the rule of law, but the inclusion of lags and leads actually increases the point estimates of the rule of law observed at the beginning of periods. Again, this is no proof of causality, but at least in line with Granger-causality. As for the two other components of economic freedom for which we attain significant estimates, only the leads of openness to trade and regulatory freedom become significant, but no lags do. We therefore cannot claim that these weaker results reflect any causal effects.

Overall, our exploration into the association between academic freedom and economic freedom suggests that the positive association between economic and academic freedom indicated in Figure 2 is driven by the rule of law. As the estimates appear highly robust for electoral democracies and most likely also for military dictatorships, and as they resemble standard findings in the literature on economic growth, we proceed to discussing their political and academic relevance.

Concluding remarks

Academic freedom is a cornerstone of scholarly life in many countries, especially in those with a Western political, economic and cultural tradition. Still, it varies a great deal across countries and across time, which calls for explanations. In this study, we have, explored a new potential

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explanatory factor: economic freedom. The hypothesis is that if there is an interventionist mindset behind economic policy, there is likely to be an interventionist mindset in other areas, such as in relation to the scholarly world.

Using data on academic freedom from V-Dem and data on economic freedom from Gwartney et al. (2022), we end up with a clear result: that the rule of law stands in a robust, positive association with academic freedom. If there is a demonstrated willingness to implement fair and effective legal institutions, there is also a demonstrated willingness to let academic agents carry on their activities as it sees fit. This holds both in democracies and in autocracies. In some cases, we also find, especially in military dictatorships, a positive relationship between regulatory and academic freedom, suggesting that the absence of an interventionist mindset in the one case implies the absence of such a mindset in the other. We also find, in a simple test of causality, where we lag economic freedom, that the relation appears causal for the rule of law, but we do not want to stress this result absent more convincing tests of causal inference.

Thus, we acknowledge that these findings may have endogenous elements to them. As one of the first to study potential determinants of academic freedom at the cross-country level, we still think our findings are of value, as suggestive starting points for further, more causally oriented research. Furthermore, we readily acknowledge that this kind of cross-country analysis is not suitable for deep analyses of country-specific factors that could influence academic freedom, such as there being a certain political leader in place and different ways of owning and organizing universities. These factors should be studied more, but more fruitfully in country-specific case studies. The approach of this paper is better suited to identifying broad patterns across countries.

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Table A1. Factor analysis

	Factor 1	Factor 2	Uniqueness
Freedom of academic expression	.843	.324	.185
Campus integrity	.845	.373	.147
Institutional autonomy	.832	.372	.169
Freedom of academic exchange	.918	.327	.052
Freedom to research and teach	.915	.339	.047
Eigenvalue	3.796	.604	
Variance explained	.877	.139	

Table A2. Main results, no single-party autocracies

Economic freedom variable	1 EFW index	2 Size of government	3 Rule of law	4 Monetary stability	5 Openness to trade and investment	6 Regulatory freedom
Economic freedom	.106	.029	.157***	.015	.033	.097
	(.084)	(.027)	(.051)	(.031)	(.039)	(.059)
Log GDP per capita	.049	.044	-.037	.046	.056	.040
	(.111)	(.106)	(.092)	(.115)	(.119)	(.111)
Recession	.034	.009	.017	.012	.011	.019
	(.033)	(.037)	(.038)	(.034)	(.038)	(.039)
Log population	.284*	.367**	.339**	.305**	.283*	.247*
	(.151)	(.157)	(.151)	(.141)	(.168)	(.143)
Military dictatorship	.084	-.032	-.282	-.444	.033	-.594
	(.621)	(.296)	(.384)	(.404)	(.349)	(.541)
Electoral democracy	.433	.101	.125	.294	.345	.486
	(.421)	(.210)	(.288)	(.221)	(.255)	(.334)
Failed coup	.014	.037	.031	.009	.015	-.009
	(.035)	(.034)	(.036)	(.035)	(.035)	(.031)
Successful coup	-.095**	-.126***	-.091**	-.106**	-.091*	-.089*
	(.044)	(.048)	(.059)	(.046)	(.049)	(.048)
Ec. free. * military	-.059	-.031	.063	.027	-.056	.062
	(.101)	(.045)	(.083)	(.054)	(.051)	(.086)
Ec. free. * democracy	.032	.019	.029	-.008	-.016	-.045
	(.066)	(.029)	(.059)	(.029)	(.036)	(.053)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	822	882	895	821	818	827
Countries	144	147	148	144	144	144
Within R squared	.236	.234	.289	.221	.224	.221
F statistic	5.26	5.08	7.13	5.05	4.94	4.32
Effect evaluated at						
Military dictatorship	.049	-.002	.219***	.042	-.023	.159**
	(.090)	(.044)	(.078)	(.048)	(.041)	(.076)
Electoral democracy	.074	.048*	.187***	.007	.017	.052
	(.057)	(.029)	(.059)	(.019)	(.027)	(.035)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level.

Table A3. Excluding extreme observations and lagging economic freedom

Economic freedom variable	1 EFW index	2 Size of government	3 Rule of law	4 Monetary stability	5 Openness to trade and investment	6 Regulatory freedom
Excluding smallest and largest academic freedom						
Military	.057	.043*	.084**	.045	.023	.029
dictatorship	(.080)	(.026)	(.037)	(.051)	(.029)	(.056)
Civilian autocracy	.049	.023	.111	.006	-.030	.127
	(.066)	(.025)	(.082)	(.029)	(.036)	(.078)
Electoral	.070	.025	.165***	.008	.027	.035
democracy	(.053)	(.026)	(.051)	(.019)	(.024)	(.036)
Excluding smallest and largest economic freedom						
Military	.063	.049	.048	-.023	-.063	.111
dictatorship	(.093)	(033)	(.058)	(.044)	(.045)	(.083)
Civilian autocracy	.112*	.045	.034	-.001	.049	.068
	(.065)	(.028)	(.051)	(.037)	(.033)	(.065)
Electoral	.058	.049*	.201***	.004	.031	.024
democracy	(.044)	(.029)	(.053)	(.022)	(.031)	(.030)
Lagging economic freedom one period						
Military	-.018	.025	.146**	-.030	-.032	.034
dictatorship	(.082)	(.028)	(.073)	(.037)	(.039)	(.058)
Civilian autocracy	.018	.051**	.054	-.006	.002	-.019
	(.058)	(.022)	(.043)	(.021)	(.031)	(.047)
Electoral	.035	.039*	.126***	-.001	.006	-.004
democracy	(.054)	(.022)	(.044)	(.018)	(.022)	(.032)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level.

Table A4. Using worst indicator

Economic freedom variable	1 EFW index	2 Size of government	3 Rule of law	4 Monetary stability	5 Openness to trade and investment	6 Regulatory freedom
			Full baseline specification included			
Economic freedom	.027	-.004	.050***	.009	-.001	.032*
	(.026)	(.009)	(.014)	(.011)	(.012)	(.018)
Military dictatorship	-.116	-.079	-.079	-.257	-.032	-.267
	(.221)	(.083)	(.124)	(.144)	(.113)	(.212)
Electoral democracy	.142	-.004	.047	.131	.069	.199*
	(.141)	(.073)	(.085)	(.081)	(.082)	(.108)
Ec. free. * military	.003	-.001	.011	.023	-.012	.029
	(.036)	(.012)	(.028)	(.019)	(.016)	(.035)
Ec. free. * democracy	-.010	.013	.009	-.008	.003	-.020
	(.022)	(.010)	(.017)	(.011)	(.012)	(.017)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	822	882	895	821	818	827
Countries	144	147	148	144	144	144
Within R squared	.269	.253	.307	.272	.261	.268
F statistic	6.56	5.96	8.12	6.16	6.39	5.09
Effect evaluated at						
Military dictatorship	.031	-.004	.062**	.032*	-.013	.061*
	(.031)	(.010)	(.026)	(.017)	(.013)	(.033)
Electoral democracy	.017	.009	.059***	.001	.002	.012
	(.017)	(.008)	(.016)	(.006)	(.008)	(.011)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level. The sample does not include single-party autocracies, such that the non-interacted results in the table refer to civilian autocracies.

Table A5. Main results, no post-communist countries

	Dependent variable: Academic freedom					
	1	2	3	4	5	6
Economic freedom variable	EFW index	Size of government	Rule of law	Monetary stability	Openness to trade and investment	Regulatory freedom
Economic freedom	.053	.039	.133***	.008	.021	.035
	(.064)	(.032)	(.050)	(.028)	(.035)	(.057)
Log GDP per capita	.033	.051	.035	.046	.052	.037
	(.120)	(.093)	(.089)	(.117)	(.120)	(.116)
Recession	.001	-.021	-.001	-.012	-.009	-.018
	(.034)	(.036)	(.034)	(.034)	(.038)	(.039)
Log population	.133	-.006	.079	.073	.231	.062
	(.149)	(.155)	(.132)	(.147)	(.154)	(.146)
Military dictatorship	.167	.155	.265	.135	.183	.205
	(.418)	(.209)	(.266)	(.304)	(.219)	(.373)
Civilian autocracy	-.005	.1117	.113	-.144	.090	-.302
	(.486)	(.204)	(.282)	(.359)	(.298)	(.441)
Electoral democracy	.255	.293	.177	.437**	.334*	.413
	(.354)	(.237)	(.239)	(.221)	(.190)	(.222)
Failed coup	.032	.055**	.055**	.029	.026	.023
	(.028)	(.028)	(.027)	(.028)	(.028)	(.028)
Successful coup	-.003	-.033	-.002	-.011	.007	-.005
	(.049)	(.053)	(.047)	(.051)	(.045)	(.051)
Ec. free. * military	-.009	.002	-.028	-.002	-.015	-.014
	(.071)	(.033)	(.059)	(.042)	(.039)	(.062)
Ec. free. * civilian	-.001	-.005	.011	.021	-.031	.055
	(.083)	(.035)	(.078)	(.049)	(.053)	(.070)
Ec. free. * democracy	.028	.030	.062	.002	.007	.002
	(.066)	(.036)	(.058)	(.033)	(.040)	(.059)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	920	995	1041	922	905	921
Countries	151	154	154	151	151	151
Within R squared	.274	.300	.340	.267	.262	.264
F statistic	5.43	6.15	8.43	5.46	5.46	4.97

Effect evaluated at

Military	.044	.040	.106**	.006	.006	.021
dictatorship	(.073)	(.031)	(.049)	(.033)	(.033)	(.059)
Civilian autocracy	.053	.034	.145*	.029	-.010	.089
	(.073)	(.033)	(.083)	(.042)	(.041)	(.059)
Electoral	.081	.069**	.195***	.010	.028	.037
democracy	(.058)	(.029)	(.054)	(.022)	(.025)	(.041)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level.

Table A6. Disaggregating the rule of law

	1	2	3	4
	First factor index	Second factor index	'Economic rights'	'Civil and constitutional rights'
Military dictatorship	.190*	-.105	-.066*	.167***
	(112)	(103)	(.037)	(045)
Civilian autocracy	.108	-.004	-.019	.073
	(.2149	(164)	(.037)	(.097)
Electoral democracy	.232*	-.005	-.021	.229***
	(.124)	(.089)	(.019)	(.056)

Notes: *** (**) [*] denote significance at $p<.01$ ($p<.05$) [$p<.10$]. Numbers in parentheses are standard errors clustered at the country level. Columns 1 and 2 are based on factor analysis (available on request), where the first factor relies heavily on the protection of property rights, judicial independence, impartial courts, and military interference. The second factor instead reflects the regulatory costs of the sale of real property, while the remaining subareas exhibit cross-factor loadings. Column 3 is the average score for the protection of property rights, the legal enforcement of contracts, and regulatory costs of the sale of real property ('economic rights), while column 4 is the average score for judicial independence, impartial courts, military interference, integrity of the legal system, and reliability of police ('civil and constitutional rights').

Table A7. Adding lags and leads

Economic freedom variable	1 EFW index	2 Size of government	3 Rule of law	4 Monetary stability	5 Openness to trade and investment	6 Regulatory freedom
Lagged						
Military dictatorship	.153*** (.056)	.038 (.030)	.009 (.042)	.030 (.022)	.027 (.038)	-.003 (.040)
Civilian autocracy	.063 (.138)	.025 (.033)	.200 (.132)	-.081 (.050)	.064 (.059)	.046 (.059)
Electoral democracy	.038 (.032)	.021 (.017)	.037 (.026)	.015 (.012)	-.004 (.013)	.006 (.021)
Beginning of period						
Military dictatorship	.278** (.113)	.077 (.051)	.305*** (.055)	.052 (.046)	.094 (.068)	.160 (.101)
Civilian autocracy	.144 (.104)	.020 (.054)	.505*** (.117)	.042 (.068)	.040 (.053)	.204* (.112)
Electoral democracy	.159** (.068)	.094* (.056)	.319*** (.073)	.034 (.027)	.043 (.035)	.092 (.063)
End of period						
Military dictatorship	.247*** (.087)	.020 (.042)	.299*** (.054)	.042 (.035)	.074 (.062)	.112** (.055)
Civilian autocracy	.270 (.178)	-.009 (.043)	.292** (.136)	-.006 (.068)	.180** (.089)	.057 (.096)
Electoral democracy	.128*** (.039)	.059 (.038)	.199*** (.057)	.023 (.015)	.045*** (.017)	.086** (.043)

Notes: *** (**) [*] denote significance at p<.01 (p<.05) [p<.10]. Numbers in parentheses are standard errors clustered at the country level. 'Lagged' is economic freedom observed ten years prior to academic freedom; 'beginning of period' is economic freedom observed five years before academic freedom; and 'end of period' is economic freedom observed in the same year as academic freedom.