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The Academic Freedom Index and Other New Indicators Relating to Academic Space: An Introduction

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March 2020

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The Academic Freedom Index and Other New Indicators Relating to Academic Space: An Introduction^{*}

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^{*}The realization of the Academic Freedom Index would not have been possible without the expertise and infrastructure of the V-Dem Institute, including their global network of country experts. In particular, we would like to thank V-Dem's deputy director Anna Lührmann for her readiness to collaborate, her thoughtful advice throughout the project and for managing a smooth project implementation at V-Dem. We are indebted to numerous scholars, higher education policymakers and index experts who provided input throughout the process of designing the indicators and ultimately of interpreting the data. Special thanks are due to Sonja Berghoff, Sirianne Dahlum, Lisa Gastaldi, Hauke Hartmann, Anna Lührmann, Kyle L. Marquardt, Anja Neuendorf, Robert Quinn, Johannes von Römer, Monika Steinel, and Brigitte Zimmerman. We also acknowledge the valuable data contributions by Zachary Elkins and colleagues at the Comparative Constitutions Project, and by Brendan Apfeld at the University of Texas. We thank Olan McEvoy and Alicja Polakiewicz for their research assistance over the course of the project, and Amanda Pridmore for editing this paper. GPPi gratefully acknowledges a grant from OSF's Higher Education Support Programme HESP.

Abstract

The Academic Freedom Index is the first conceptually thorough assessment of academic freedom worldwide and dates back to 1900. While some previous datasets exist, they are geographically limited and methodologically or conceptually insufficient to offer a comprehensive picture of the levels of academic freedom across time and space. This working paper introduces the new dataset, including the Academic Freedom Index, discusses its advantages compared to other types of data, details the conceptualization of the new indicators, and offers a content and convergent validation of the results. The new dataset provides ample opportunities for policymakers, advocates and scholars to monitor and analyze patterns and trends of academic freedom around the world.

Introduction

Academic freedom is widely recognized as a fundamental norm of higher education and essential to quality research. From incident-based reporting, we know that academic freedom is routinely violated across the world.¹ Due to the lack of an appropriate comparative measurement, however, our broader understanding of global levels of academic freedom has been very limited up until now. New expert-coded and factual indicators included in V-Dem's v10 data release were designed to close this gap. This new dataset on academic space is the result of a close collaboration between researchers and experts at the FAU Erlangen-Nürnberg, the Global Public Policy Institute in Berlin, the Scholars at Risk Network and the V-Dem Institute in Gothenburg.

The present working paper introduces the dataset, consisting of eight new indicators and one existing indicator, of which five are aggregated into a new *Academic Freedom Index* (AFi) that is coded for more than 180 countries² and territories from 1900 to 2019. First, we discuss the benefits of our assessment approach in comparison to previous attempts to measure academic freedom and explain the underlying concept and operationalization of our indicators. In section 2, we introduce all indicators in greater detail, giving insights into the rationales behind certain coding and wording decisions, starting with a factual variable used to pre-code the dataset, followed by the academic freedom indicators and AFi, as well as complementary factual and expert-coded indicators. In section 3, we offer a content and convergent validation of the *Academic Freedom Index* and its indicators following the framework of Adcock and Collier (2001).

1 Academic Freedom

1.1 Existing Datasets Relating to Academic Freedom

Some comparative assessments of academic freedom already exist, which rely on five different types of data: events-based data, self-reporting data, survey data, legal analyses, and expert-coded data. However, these methods or their implementation so far are insufficient to paint a comprehensive picture of academic freedom violations across time and space.

Events-based data on attacks against academics and students have been collected by Scholars at Risk's Academic Freedom Monitoring Project since 2013. While such data are a very useful tool to illustrate and showcase academic freedom violations, research

¹For example, Scholars at Risk's (SAR) Academic Freedom Monitoring Project has reported over 1,000 verified incidents of attacks against higher education personnel around the world since 2013 (SAR n.d.).

²Note that, for the time being, some country-years are excluded from the published dataset if less than three coders provided data (also see below). The missing data will be complemented in future rounds of data collection.

on conflict and human rights data shows that events-based data have critical limitations when it comes to depicting violence and repression (Price and Ball, 2014). Their exclusive focus on events of repression or violence means that existing institutional restrictions and systematic intimidation remain unreported. One paradoxical effect of this omission is that such data can make the most repressive environments appear comparatively benign. Furthermore, events data collected at the international level are known to be selective and heavily biased in favor of certain types of events against others, in particular violent ones. Therefore, they do not allow for a representative description of a given phenomenon. In addition, the number of known and reported events are crucially dependent on the overall availability of information and the capacity of observer organizations. These are likely to fluctuate over time, so that event counts wrongfully suggest that they depict a change in repression levels – when in reality they show changing levels of information (Clark and Sikkink, 2013) and data collection capacity (Spannagel, 2019).

Institutional self-reporting data are, for example, at the core of the European University Association's Autonomy Scorecard, which assesses the autonomy of universities across Europe (EUA, n.d.). A similar approach is taken by the Times Higher Education (THE) ranking in its new University Impact Ranking, aiming to measure universities' contribution towards the Sustainable Development Goals (SDGs). Amidst a broad range of other indicators, THE includes the existence of "policies guaranteeing academic freedom" as part of its assessment of SDG 16: Peace, Justice and Strong Institutions. Their data are collected exclusively through self-reporting and on a voluntary and selective basis (THE, n.d.). Like events-based data, self-reporting data have fundamental limitations when it comes to obtaining a comprehensive global measure of academic freedom – they can cover only relatively factual questions and are easily subject to manipulation.

In scholarly work, Karran and his colleagues have focused their analyses of academic freedom on constitutional guarantees and legal safeguards of institutional autonomy and tenure for academics (Karran, Beiter and Appiagyei-Atua, 2017), as well as the use of exploratory, survey-based data collection on academics' perception of their academic freedom (Karran and Millinson, 2018). In the German context, similar surveys have been carried out by the Institut für Demoskopie Allensbach (Petersen, 2020). The insights gained through such data can be valuable, but are at the same time limited both in their substance and geographic application. Surveys among academics and students cannot appropriately be applied at a global level on account of the ethical concerns associated with surveys in authoritarian contexts as well as the likely self-selection, censorship and manipulation of participants and responses. A purely legal analysis risks capturing a misleading picture when not compared to a country's *de facto* situation of academic freedom, given that discrepancies between law and practice are likely to be high in many countries around the world. This concern is confirmed by analyses of the new dataset: In 2019, for example, close to one-third of countries with the worst performances on

academic freedom (i.e., AFi scores of less than 0.4) have constitutional protections for academic freedom in place.

After careful consideration of different measurement approaches and consultations with a range of stakeholders (cf. Hoffmann and Kinzelbach, 2018), we found that expert-coded data would be the most appropriate way to collect data on academic freedom at a global level. In their assessment of individual countries, experts are able to contextualize *de jure* protections with observations of the *de facto* situation, integrate in-depth analyses, and include data from other methods like survey results or events-based data whenever available. Such expert-based indices are well-established in the field of democracy and political freedom measurement, including the Varieties of Democracy (V-Dem) Project, Freedom House, the Bertelsmann Transformation Index, or Polity IV.

However, until now, none of these projects using experts assessments have included a meaningful measure of academic freedom. Only the projects from Freedom House and V-Dem mention academic freedom, but their respective indicators are conceptually insufficient to assess the concept in its complexity. Freedom House's indicator D3 ("Is there academic freedom, and is the educational system free from extensive political indoctrination?") and its sub-questions³ focus mainly on political expression, and relate not only to higher education, but also to primary and secondary education. What is more, the indicator does not specifically address the freedom to research, but only that of teaching. V-Dem's indicator v2clacfree ("Is there academic freedom and freedom of cultural expression related to political issues?") similarly focuses exclusively on the ability to express political views while not addressing academics' ability to work freely (and further confounds the cultural and academic spheres).

Yet academic freedom and freedom of expression are distinct concepts,⁴ and academic freedom cannot be subsumed in its entirety under freedom of expression. Therefore, neither of the two existing expert-coded indicators can be regarded as meaningful measures of academic freedom. Due to these shortcomings of the existing data, the formulation of

³Freedom House's D3 sub-questions are the following:

[•] Are teachers and professors at both public and private institutions free to pursue academic activities of a political and quasi-political nature without fear of physical violence or intimidation by state or non-state actors?

[•] Does the government pressure, strongly influence, or control the content of school curriculums for political purposes?

[•] Is the allocation of funding for public educational institutions free from political manipulation?

[•] Are student associations that address issues of a political nature allowed to function freely?

[•] Does the government, including through school administration or other officials, pressure students and/or teachers to support certain political figures or agendas, including by requiring them to attend political rallies or vote for certain candidates?

[•] Conversely, does the government, including through school administration or other officials, discourage or forbid students and/or teachers from supporting certain candidates and parties?

⁴We do, however, recognize that the two are related – which is why we decided to include the v2clacfree indicator in our aggregated index (see below).

new indicators was necessary to collect data that are more focused on the specific issue of academic freedom *and* more comprehensive in its conceptualization.

1.2 Operationalizing Academic Freedom

Although there has been a rich and lengthy discussion in scientific literature about the definition of academic freedom,⁵ it remains a contested concept today (Grimm and Saliba, 2017, 48).

In international law, academic freedom is addressed under the umbrella of the right to science in Article 15 of the International Covenant on Economic, Social and Cultural Rights of 1966, which states in paragraph 3: "The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity." This treaty is legally binding for all current 170 states parties. At the time of this paper's writing, the UN Committee on Economic, Social and Cultural Rights was about to finalize a general comment on Article 15 that would provide more information on states' concrete obligations under this article. In a previous general comment on the right to education (Article 13), the Committee had already stipulated educational staff and students' entitlement to academic freedom and the autonomy of higher education institutions (CESCR, 1999). Additionally, a UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel, adopted in 1997, specifies academic freedom as

"the right [of academics], without constriction by prescribed doctrine, to freedom of teaching and discussion, freedom in carrying out research and disseminating and publishing the results thereof, freedom to express freely their opinion about the institution or system in which they work, freedom from institutional censorship and freedom to participate in professional or representative academic bodies" (UNESCO, 1997).

Given the contested and multi-faceted nature of the concept, in our approach to measuring academic freedom we decided in favor of a pragmatic operationalization and a disaggregation of indicators that would give users of the data the option to consider different dimensions separately.

In the process of developing a systematic concept, we identified a range of elements often considered essential to the *de facto* realization of academic freedom based on a review of the literature⁶ and in-depth discussions with transnational policymakers, academics and advocates in the higher education field. Subsequently, we captured these elements

⁵See for example Fuchs (1963) or Eisenberg (1988) for a definition from the US-American perspective dominating the literature. Alternatively, there are definitions that conceptualize academic freedom not as a universal principle, but in relation to its application in a specific environment, such as in Marginson (2014). A definition focusing on the social responsibility of professors can be found in Appiagyei-Atua, Beiter and Karran (2017). A definition of academic freedom emphasizing institutional autonomy is provided by Altbach (2001).

⁶In addition to some of the academic works listed above, a recent paper by Beiter (2019) was particularly helpful, as was a study by Roberts Lyer and Suba (2019).

with four new key indicators, namely the freedom to research and teach, the freedom of academic exchange and dissemination, the institutional autonomy of universities, and campus integrity⁷. The inclusion of additional aspects would have been conceivable, for example an indicator capturing academics' general job security. But when formulating those new indicators we decided in favor of the most parsimonious solution by focusing on elements that are a) comparable across different university systems around the world and b) specific to the academic sector, i.e. that are not yet measured by existing indicators and that describe the situation distinctly from overlapping phenomena of repression. However, for the aggregate Academic Freedom Index we decided to complement these four measures with the indicator on freedom of academic and cultural expression that was already included in the V-Dem dataset. This decision will be explained in more detail below.

We found it useful to include some additional aspects in the dataset (not the index), notably factual information on de jure commitments to academic freedom. Furthermore, we designed a complementary expert-coded indicator on academics' and students' level of public criticism of the government in order to capture the political threat that academics represent – or do not represent – to those in power. The following section presents all these indicators relating to academic space in more detail.

2 The New Indicators on Academic Freedom and Academic Space

This section should be read as a complement to the information contained in the V-Dem v10 Codebook (Coppedge and al., 2020a), which lists all indicators discussed here including their exact wording, clarifications, response levels, source information (in the case of factual data), as well as definitions and instructions given to the expert coders. The Codebook also provides information on the different available versions of the expertcoded variables, and Pemstein and al. (2019) gives detailed insight into the methodology of V-Dem's expert-coded data and the statistical modeling behind the various estimates. Their explanations include, for instance, the use of anchoring vignettes, which are brief descriptions of fictitious scenarios for each indicator. When expert coders of different countries rate those hypothetical cases, it helps to estimate experts' assessment thresholds and improve the data's cross-country comparability (ibid. 12f). Instead of replicating such information in great detail, the following serves to give additional context and explain some of the rationales on which coding and wording decisions of the new academic space

⁷As will be further elaborated below, by 'campus integrity' we understand the absence of a deliberately, externally induced climate of insecurity or intimidation on campus.

indicators were based.

Before addressing these issues, it should be noted that, for methodological reasons, some country-years of the expert-coded indicators (as well as the index) are omitted from the published dataset for the time being. In order to provide reliable estimates, the V-Dem methodology foresees multiple, independent coders for each expert-coded indicator (a total of 1,810 country experts have so far contributed data to the *Academic Freedom Index*). In order to ensure a minimum quality level, we decided to exclude country-years that did not meet a threshold of at least three coders per indicator. Aggregated index data is provided for country-years with at least three out of five indicators meeting that threshold. The remaining data gaps will be filled in the coming rounds of data collection.

2.1 Pre-coding Variable:

Existence of Universities (Factual Data)

Academic freedom can only be meaningfully measured where academic institutions exist. Therefore, for our expert-coded academic space indicators, we pre-coded the contemporary V-Dem dataset, which covers 183 countries and territories since 1900, in order to limit the coding to those country-years where academic institutions were – or had previously been – present. Given that the closure of previously existing academic institutions could be the result or instrument of a crackdown on academic freedom, we only filtered out country-years prior to the foundation of a country's first university⁸.

The factual pre-coding data on the existence of universities (v2cauni) were collected on the basis of a dataset by Brendan Apfeld, University of Texas (which is also included in the V-Dem dataset as variable v2canuni), but with some important modifications. Apfeld's v2canuni dataset records the total number of universities in a given countryyear based on information provided by the uniRank website 4icu.org, an international higher education directory. Though a valuable starting point, there were several problems associated with the use of this dataset for our pre-coding. Firstly, Apfeld's v2canuni dataset filters out institutions that are not degree-granting. However, we found that the uniRank information on awarded degrees is incomplete for many universities and its application is transnationally inconsistent, meaning that the filter resulted in many false negatives. This would have been particularly problematic for our endeavor, as countries' oldest institutions may be missing from the uniRank information. Therefore, we worked with the pre-filter dataset that Apfeld kindly shared with us. Secondly, uniRank only lists information on universities that exist today, meaning that institutions that were closed or merged with others, as well as historic countries included in the V-Dem dataset, are

⁸By 'universities' we understand all higher education institutions, both public and private. They include institutions such as research universities, universities of applied sciences, undergraduate colleges, polytechnic universities, and international campuses.

not included. Thirdly, the uniRank data are not exhaustive. In order to remedy these issues as much as possible, we compared the uniRank data with information available at the International Association of Universities' (IAU) World Higher Education Database (WHED, whed.net). Both sources indicate the foundation date of each university in their database, based on which we identified the earliest recorded foundation date for each country. In the cases where two sources provided conflicting information and at least one of the suggested dates was later than 1900, we additionally consulted countryspecific online sources and academic literature. In cases where these third sources did not provide clear evidence allowing us to determine the country's first higher education institution, we decided in favor of the earliest suggested founding date. For historic and smaller countries not included in uniRank and WHED, we also relied on information from third sources.

For all country-years in the contemporary V-Dem dataset, the v2cauni variable indicates whether universities currently exist or have ever existed in that country (1) or not (0). Expert coders for the four new academic freedom indicators (and one complementary measure) only assessed the country-years coded as (1). However, where the starting year is later than 1900, coders were also asked to verify that no university of our definition existed prior to that date. For years in which all of a country's universities were closed down, coders were asked to assess the closure's impact on the academic space (which may differ depending on the reason for closure). In addition, we requested that coders add a note on such closures in the comments field.

2.2 The Academic Freedom Index and Composing Indicators (Expert-Coded)

As noted above, the new *Academic Freedom Index* consists of five expert-coded indicators on academic freedom, each of which is coded by country experts on a predefined scale from 0 to 4 and on a country-year basis:

- the freedom to research and teach (v2cafres);
- the freedom of academic exchange and dissemination (v2cafexch);
- the institutional autonomy of universities (v2cainsaut);
- campus integrity (v2casurv); and
- the freedom of academic and cultural expression (v2clacfree).

First of all, it should be noted that we consider all undue **interference by non-academic actors** as infringements on academic freedom, meaning individuals and groups that are not scientifically trained university affiliates. Non-academic actors include individuals and groups such as politicians, party secretaries, externally appointed university management, businesses, foundations, other private funders, religious groups, and advocacy groups. As a consequence, we do not consider restrictions that are set *by the*

academic community itself as interference, including issues regarding research priorities, ethical and quality standards in research and publication, or standardized curricula aiming to enhance teaching.

Secondly, we realize that levels of academic freedom may vary significantly between institutions and geographic regions within the same country, and acknowledge that it is a significant limitation of the new dataset that such **within-country variations** cannot be adequately depicted. For the country-level assessment, we asked the expert coders to generalize across universities in a particular country, while considering the prevailing practices and conditions and bearing in mind different institutions' relative importance in the higher education sector of the country. The indicators themselves are formulated in a way that would in principle allow, in a separate data collection effort, for researchers to apply them at the institutional level. Furthermore, we recommend that the quantified country-year scores be complemented by qualitative case study information, including to explore within-country variations.⁹

A third important issue in the assessment of academic freedom infringements in a country is the likely variation between disciplines, such as between natural sciences and social sciences, established fields of study and contested ones, or economically profitable and non-profitable sectors. Under authoritarian conditions, we presume that the social sciences are, typically, under stricter control by the state. In contrast, financially profitable sciences are likely more exposed to the influence of corporate money. However, we are aiming to assess the integrity of the academic community as a whole, and consider it to be dangerous to excuse or relativize the infringements on some subjects by the freedom of others – precisely because the targeting of a few sensitive subject areas is a known pattern of repression, which often spreads a culture of fear throughout the academic community. At the same time, the quality of restrictions on the academic sector as a whole is different depending on whether only some or all disciplines are targeted, which is why we didn't choose to focus on only the worst-off subject areas. We therefore decided to include a qualification on the scope of infringements across disciplines in the response scale of the first two indicators (the freedom to research and teach and the freedom of academic exchange and dissemination). Accordingly, countries are rated as "completely restricted" (0) if interference and restrictions are consistently applied across all disciplines, and as "severely restricted" (1) if in some disciplines interference and restrictions are consistently applied. However, the frequency with which interference and restrictions occur also matters greatly in determining the level of academic freedom. The remaining levels "moderately restricted" (2), "mostly free" (3) and "fully free" (4) are therefore defined by that frequency (occasionally, rarely, or not, respectively) instead of by the scope across disciplines (for more details see Coppedge and al., 2020a).

⁹We have prepared research guidelines for such studies, and papers on academic freedom in several countries will soon be available on the GPPi website at gppi.net/academicfreedom.

Regarding the second indicator on the freedom of academic exchange and dissemination, we consciously decided to include both so-called **intramural and extramural freedoms** in the same indicator. The terms refer to the freedom to discuss and disseminate research findings among academic (intramural) and non-academic audiences (extramural). The rationale of this decision was that we consider them to be inseparable elements of the broader issue of academic exchange and dissemination. If considered separately, countries that systematically restrict extramural but not intramural exchanges (e.g. allow the publication of research results only in highly technical, scholarly journals) would likely end up somewhere in the middle, instead of low, on this measure. Such operationalization would problematically suggest that academic freedom may be legitimately restricted to the intramural sphere.

The third indicator assesses the extent to which universities exercise institutional autonomy in practice. Here, it should be noted that institutional autonomy does not preclude universities from accepting **state or third party funding** and from being accountable towards that funder, but does require that the university remains in charge of decisions regarding its internal governance, finance, administration, and research choices.

Our fourth indicator assesses what we call *campus integrity*, where we understand by "campus" all university buildings as well as digital research and teaching platforms. Campus integrity means the preservation of an open learning and research environment marked by an absence of a deliberately, externally induced climate of insecurity or intimidation on campus. Examples of infringements of campus integrity are politically motivated on-campus or digital surveillance, presence of intelligence or security forces, presence of student militias, and violent attacks by third parties when specifically targeting universities to repress academic life on campus. What is important to note for this indicator is that we are only interested in **targeted attacks** on campus integrity - and not in security concerns or proportionate security measures taken on campus to address them. This is a crucial distinction, as the assessment of some measures such as CCTV cameras on campus requires contextualization: While in one context they may aim to provide security against external threats or facilitate long-distance learning, they can serve as instrument of intimidation and control in other situations. Similarly, the location of a university campus in a generally insecure conflict zone should not automatically result in a lower score on campus integrity, unless targeted attacks disrupt or influence academic work.

Lastly, we decided to rely on V-Dem's pre-existing measure of *freedom of academic and* cultural expression to complete the Academic Freedom Index.¹⁰ Although its formulation – including the amalgamation of academic areas with cultural work – is not ideal, it is a valuable indicator that captures academics' freedom of expression in relation to political issues. As mentioned above, we consider academic freedom and freedom of expression as

¹⁰We thank Anna Lührmann for her suggestion to combine the new indicators with the existing one.

distinct concepts, but we acknowledge that they can overlap and that the line is often difficult to draw, which is why we decided to include this measure in the index. The fifth indicator's inclusion also has advantages from a methodological point of view, as it is a measure that has been in the V-Dem dataset for several years and is included in a different survey than the indicators on academic space. Therefore, it is not only a well-established indicator with often high coder numbers, but its assessment can also be regarded as largely independent from the other four measures – thus improving the objectivity of the composite index measure.

The *Academic Freedom Index* is obtained through aggregation by point estimates drawn from a Bayesian factor analysis model (cf. Coppedge and al., 2020b). Its range of values is between 0 and 1. Although we believe that this aggregation and our conceptualization provide a meaningful overall assessment of academic freedom, we acknowledge that there are other possible ways of combining the newly available data into an aggregate measure. Different compositions, weights and aggregation methods may therefore be applied by individual researchers.

2.3 Complementary Measures: *De jure* Commitments (Factual Data)

Next to the indicators on the *de facto* realization of academic freedom, two new factual variables were released that measure different elements of states' *de jure* commitment to academic freedom. The first provides information on whether constitutional provisions for the protection of academic freedom exist (v2caprotac) and the second captures states' international legal commitment to academic freedom under the International Covenant on Economic, Social and Cultural Rights (ICESCR, v2caacadfree). Together with the expert-coded indicators of *de facto* levels of academic freedom, these variables allow us to compare divergence and convergence of *de jure* protections and *de facto* academic freedom across time and space. In addition, the ICESCR data enhance research opportunities into the effects of international human rights treaties on national *de jure* and *de facto* implementation.

The data on **constitutional provisions** were contributed by the Comparative Constitutions Project (CCP, Elkins and al., 2020) and cover country-years since 1900. The coding distinguishes between no provision (0), existing provision (1), constitution suspended in that year (95), other or undetermined phrases (97), and a code for missing data (99). Cells are left blank for country-years that are not applicable, i.e. mainly in the case of non-sovereign territories.

In line with the CCP methodology, constitutional texts were typically examined by two independent coders searching the constitutions for a guarantee of academic freedom. In the event that two or more coders disagreed with each other, the answers were reconciled by a third, more experienced person who adjudicates competing answers. A small number of cases was single-coded, which are indicated by a confidence level of 0.75 (compared to 0.95 in other cases).¹¹

In terms of content, it is important to highlight that CCP applied a relatively broad understanding of "academic freedom provision," which includes, for example, references to the freedom of education. CCP operates a message board, which team members use to deliberate and reach consensus regarding cases and issues that are not self-interpreting from their coding manual. Using this process, the following phrases were determined to qualify for:

- "Yes" (1) coding: "freedom to impart knowledge and information", "right to freely engage in teaching", "freedom of creative, scientific and technical work", "exercise of art and scientific research are free", "liberty of teaching", "instruction is free", "educational freedom", "freedom of education under state supervision".
- "Other" (97) coding: "neutrality in teaching", "right to learn/teach", "inviolability of places of learning", "freedom of intellectual creativity".

Note that this list only serves to give a broad understanding of the coding approach and is not a complete enumeration of terms included in either category, given that these are only the phrases that were considered contentious.

The second variable, on states' **international legal commitment**, was put together by Janika Spannagel and Alicja Polakiewicz. It indicates whether the country is party to the covenant without having made explicit reservations to its Article 15 (right to science), which stipulates, among other things, that states parties "undertake to respect the freedom indispensable for scientific research". The indicator covers the years since 1966, when the treaty was adopted and opened for signature; only states with UN member status or UN non-member observer status that allows treaty participation are coded.¹² Note that we coded the ratification status as of December 31st of each year.

The coding distinguishes between the following: (0) State not a party to ICESCR, or made reservations to Article 15; (1) State is party to ICESCR without reservations to Article 15, but treaty not yet in force; (2) ICESCR in force and signed without

¹¹In addition to this basic confidence level, CCP estimates the reliability of their data using a more complex model (see Melton, Elkins, Ginsburg and Leetaru, 2013). It may be interesting to note here that the reliability of the academic freedom variable is slightly lower (at 75%) than the average reliability across all variables of their dataset (including more than 600 questions about the content of constitutional systems). According to CCP, this higher discrepancy among coders indicates that the interpretation of the line between the provision of the right and the lack thereof proved to be uncharacteristically complex and multidimensional.

¹²The only exception to this rule applies to Hong Kong since 1997, which is coded as "ratified" (3) because of the special agreement in the handover treaty between Great Britain and China. Furthermore, the V-Dem dataset distinguishes between Palestine/Gaza and Palestine/West Bank, which as the State of Palestine share UN observer status since 2012 and accessed the ICESCR in 2014; they were both coded accordingly.

reservations to Article 15; (3) ICESCR in force and ratified without reservations to Article 15. Cells are left blank for country-years for which the indicator is not applicable, i.e. states or jurisdictions with neither UN member nor observer status.¹³

It should be noted that, although the language of the coding suggests otherwise, we found that no state has so far made any explicit reservation to Article 15. The variable can therefore also be used as an indicator for states' general ICESCR ratification status. Nevertheless, we decided to leave the indicator's wording unchanged to highlight states parties' specific – and unqualified – commitment to the right to science and, thereby, academic freedom.

Regarding states emerging from dismemberment or secession, we treated cases differently depending on whether the respective new state eventually declares treaty *succession* or *accession*. If a state breaks away from a previous entity that had signed or ratified the treaty and the state later declares succession to the treaty, then the predecessor state's status is coded without interruption. If a state breaking away later declares accession to the treaty (or signs and ratifies; or declares nothing at all), then the predecessor state's status ends with formally declared independence. The new state is not coded – i.e. blank – until it obtains UN membership, and then coded "not state party" (0) until accession is declared or the treaty is signed/ratified.

2.4 Complementary Measure: Academics as Critics (Expert-Coded)

In addition to the indicators assessing academic freedom that constitute the *Academic Freedom Index*, we added a fifth expert-coded indicator to the new set of variables on academic space. It is also pre-coded with the v2cauni variable and coded according to a pre-defined scale from 0 to 4. It captures to what extent scholars and university students publicly criticize government policies. The scale differentiates between the extent of such criticism, from no such public expression (0), to minor (1), moderate (2), substantive (3), and fundamental (4) criticism of government policies (for details see Codebook in Coppedge and al., 2020a).

This variable deliberately measures the *de facto* level of dissent expressed by scholars and university students as opposed to their freedom to do so, which is broadly captured by other variables in the V-Dem dataset, including the above-mentioned v2clacfree indicator ("Is there academic freedom and freedom of cultural expression related to political issues?") or by indicators on freedom of expression or assembly. Note that the *de facto*

¹³States and jurisdictions coded as blank include: People's Republic of China up until 1970, Taiwan (Republic of China) since 1971, Hong Kong up until 1996, Kosovo since 1999, former USSR states between independence and UN recognition, Somaliland and Zanzibar. These coding decisions were based on an assessment of whether or not the respective territory was in a position to officially sign or ratify the covenant in its own right.

levels of dissent and mobilization do not follow the typical distribution of freedom levels across different regime types (see Figure 6 in the Data Validation section below). We hope this indicator will open new avenues for further research into the topic of academic freedom, and are ourselves investigating the relationship between levels of dissent among academics or students and preceding or subsequent increases in levels of repression against the academic sector.

3 Data Validation

With the expert-coded indicators on academic space, we aim to measure abstract concepts whose true values are unknown. To review the data's validity, we use content and convergent validation approaches (Adcock and Collier, 2001). Content validation serves to evaluate whether a given indicator adequately captures the full content of a systematized concept, largely by determining whether it captures empirically relevant variation across countries and time. Convergent validation serves to investigate whether alternative indicators of a given concept are empirically associated, i.e. convergent, and thus really point to the same concept.

3.1 Global Trends of Academic Freedom Over Time

Figure 1 depicts global average levels of the Academic Freedom Index' five constituent indicators over time. The trends are similar between the indicators – with some important exceptions. Overall we see a small dip in global levels on all academic freedom indicators during World War I (1914-1918) and a very substantial dip during World War II (1939-1945). Furthermore, all indicators show a slow degradation between the early 1960s and the late 1970s – likely associated with repressive policies in the Soviet Union, the installment of several military dictatorships in Latin America, as well as Cold War– related pressures on academia in other parts of the world. The 1980s are a period of slow improvements, which accelerate in the early 1990s with the third wave of democratization before stabilizing at a relatively high level (though not at the top of the scale). Since 2013, we see a slight decline in several variables.

The comparison between indicators suggests that institutional autonomy is more inert than other indicators when sudden changes occur, and we can see that since 1990 it has settled at a substantially lower level on average than other indicators. Although we are measuring the *de facto* level of institutional autonomy, this is consistent with the expectation that institutional processes are slower to change than those affecting other indicators, which are thus more sensitive to sudden events or their absence.

The freedom of academic and cultural expression, on the other hand, shows similar levels of fluctuation as the non-autonomy indicators. While it is consistently lower than

Figure 1: Global Trends in Indicators of Academic Freedom 1900-2019. Note that the full scale is 0–4, truncated here to highlight changes over time.



all four indicators until the late 1970s, from this point onward its global average values rise steeply to reach similar levels as the three indicators other than institutional autonomy. It shows the clearest decline in recent years, while institutional autonomy hardly shows notable changes. Given that academics' freedom of expression should be more sensitive to changes in a country's political environment than the other academic freedom indicators, these patterns appear plausible.

3.2 Country-Level Trends of Academic Freedom Over Time

In terms of country-level trends, a comparison of the *Academic Freedom Index* between select countries (Figure 2) reveals strongly diverging trends that are consistent with empirically important periods. In Germany, we see a level of academic freedom just below the global average during the time of the German Empire, which then rises above



Figure 2: Trends on Academic Freedom in Select Countries 1900–2019 (AFi).

average during the Weimar Republic and drops to a near-absence of academic freedom during the Nazi regime. Post-War Germany (representing only West Germany until 1990) starts off with high levels of academic freedom and step-like improvements in the late 1960s and at the end of the Cold War, which then stabilize at a very high level. Ireland starts off with relatively high levels of academic freedom and gradual improvements over time, coinciding with factors including the gradual reduction in Church influence, and improvements in formal university autonomy in the early 1970s.¹⁴ In contrast, Turkey's levels of academic freedom have been more volatile over time. With the introduction of the multiparty system after 1945, academic freedom increases. The years leading up to the 1960 military coup, sometimes referred to as the "progressive coup," show lower levels of academic freedom. They increase again with the return to civilian rule. The coup in 1971 briefly has a negative effect on levels of academic freedom in Turkey, but it is the 1980 military coup that hit universities particularly hard, as shown by the index' sudden drop. The steep increase to levels near the (overall also increased) global average in the early 2000s coincides with the beginning of a so-called liberal era in Turkish politics, though individual academics continued to be targeted. Since 2010, authoritarian measures have accelerated and we see levels of academic freedom drop to a level of nearabsence alongside the pressures that followed the 2016 coup attempt.¹⁵ In Egypt, a steep decline from middle-range levels of academic freedom can be observed with Nasser's coup in 1952, which slowly improve thereafter under Sadat (1970s) and Mubarak (1981-2011) - though remaining at a relatively low level overall. After a brief and small spike after the 2011 revolution and the first free elections, academic freedom drops to Sadat-era levels after the military coup that removed Mohamed Morsi from power, and thereafter declines to a historic low.

These country graphs illustrate that the *Academic Freedom Index* captures important periods in countries' histories. In terms of data quality, we find differences in the granularity of scores between countries and across time, however, which is determined by the attention to detail provided by individual coders.

In addition, we have reason to believe that recent worrisome developments tend to be overly reflected in the data. Figure 3 shows the development of the *Academic Freedom Index* in Brazil and India over the past four decades. While there is definitely evidence of a deteriorating condition for academics in both countries (cf. Hübner Mendes and al, forthcoming; SAR, 2019, 22–24), the extent of the score's decline over the last three to six years seems somewhat disproportional in comparison to earlier periods in each country's history, as well as in comparison to other countries in the world over the same period. We believe that such tendencies are an intrinsic feature of expert-coded data that need to be acknowledged and openly discussed. As many expert contributors are themselves

 $^{^{14}\}mathrm{We}$ thank Kirsten Roberts Lyer for sharing her assessment on Ireland with us.

¹⁵We thank Olga Selin Hünler for sharing her assessment on Turkey with us.



Figure 3: Trends on Academic Freedom in Select Countries 1980–2019 (AFi).

part of the respective country's academic system and are currently experiencing a period of deterioration and major uncertainty, their concerns are reflected in the data. Rather than considering this as problematic per se, we believe that these trends should be read as important warning signs that depict the current climate in the country. However, we also encourage continuous critical engagement with the data, as well as additional expert assessments in future rounds of data collection that allow for a retrospect evaluation of the situation.

3.3 Country-Level Variation Between Academic Space Indicators

The scatter plots in Figure 4 illustrate the relationships between various pairs of the five academic freedom indicators for 2019 (red lines show the respective mean). In the upper left plot, we find that the two indicators that are most closely associated are *freedom to research and teach* (Fres, variable v2cafres) and *freedom of academic exchange and dissemination* (Fexch, variable v2cafexch). The correlation across the dataset is very high at 0.94. Given the close association of the two concepts, this meets our expectations.

Between Fres and universities' *institutional autonomy* (Insaut, variable v2cainsaut), the indicators seem more closely associated at very low levels: in the absence of Fres, there is typically no Insaut, and vice-versa. High levels of Fres do, however, coexist with middle-range levels of Insaut, and vice-versa. The correlation between the two is at 0.86 across the dataset, supporting the idea that institutional autonomy overall facilitates freedom to research and teach.

The relationship between Fres and *campus integrity* (Campint, variable v2casurv) is similar to that with institutional autonomy, except that at very high levels they seem to again closely associate. Since campus integrity violations tend to include relatively



Figure 4: Relationship Between Various Academic Freedom Indicators (2019). Red lines represent mean values.

drastic measures of policing and surveillance, this is not surprising. On the other hand, campus integrity is not necessarily absent in countries with very low Fres, as some outliers show. Since institutional autonomy is very low in those cases, campus integrity violations may not be necessary from an autocrat's perspective to keep those universities in check. Indeed, when comparing Insaut and Campint, we find more dispersion (correlation of 0.85 across the dataset – 0.81 in 2019), which would support the idea that institutional and physical control are distinct tactics of repression and may – but do not have to be – used alongside each other. The fact that the two concepts are not as closely associated is thus reflected in the data.

The freedom of academic and cultural expression (Expr, variable v2clacfree) shows a relatively consistent association with Fres (correlation of 0.83 across the dataset), in particular where both levels are high (see lower right plot). Around the mean value of Fres, however, we see a large range of values in Expr. The correlation of Expr and Insaut is overall substantially lower (0.76), reflecting the less close conceptual association of universities' institutional autonomy with freedom of expression. The generally middleto-high correlation with the new indicators makes sense, given our expectation that higher levels of overall freedom of expression (and in particular for academics) also means greater freedom in their scientific work. The divergences, however, also support our reservation regarding the use of the Expr variable as a valid exclusive measure of academic freedom – suggesting that the four new indicators provide more substance to the concept of academic freedom as a whole, as captured by the new Academic Freedom Index.

Further interesting observations concern the *Academics as critics* (Critic, variable v2cacritic) indicator, which is not included in the index but is of interest to research

into repression against the university sector. Similarly to Expr, Critic is less closely associated with the other four indicators than they are amongst themselves (across the dataset, correlation of 0.81 with Fexch, 0.80 with Fres, 0.78 with Insaut, and 0.74 with Campint). Figure 5 shows the distribution of cases between Critic–Fres and Critic–Insaut for 2019. The somewhat higher dispersion than seen in the other plots meets our expectation that levels of public criticism by academics and students should not linearly increase with levels of institutional autonomy or freedom to research and teach. If anything, the indicators seem more closely associated than expected.

Figure 5: Relationship Between *Critic* and Select Academic Freedom Indicators (2019). Red lines represent mean values.



Lastly, we can compare the Critic and Expr indicators. At first sight, the two indicators may seem to measure similar concepts. However, as noted above, the Critic variable seeks to depict the *de facto* levels of public criticism leveled by academics and students, as opposed to their freedom to do so. Though we expect the two indicators to correlate, we also expect to see some divergence, in particular in higher-freedom countries where academics might be less prompted to speak out about politics – and in mid-to-low-freedom countries, where academics take risks by speaking up, but do so anyway.

Since such occurrence of dissent in lower-freedom countries are likely to be periodic and not consistent, Figure 6 shows the distribution of *all* country-years in the dataset between Critic and Expr. We can already see that, while there is an obvious correlation between the two, the dispersion is also relatively high and many outliers exist (correlation at 0.71). We see that, as expected, there are quite a few outliers in both the upper left quadrant (representing high freedom and low dissent) and the lower right quadrant (representing low freedom and high dissent) – some of these outliers seem consistent across several years, judging by the opaqueness of the points. In addition, the coloring indicates regime type using V-Dem's *regimes of the world* indicator, scaled from 0 (closed autocracy) to 3 (liberal democracy). When comparing the coloring patterns across values of Expr and Critic respectively, we can see that Expr is more closely associated with regime



Figure 6: Relationship Between Critic and Expr (1900-2019). Color coding by regime type. Red lines represent mean values.

type: Beyond a certain threshold, we find mostly democratic countries (correlation of 0.75). In the Critic variable, we find a number of democratic countries with low levels of public criticism and many autocratic countries with high levels of dissent (correlation of 0.64). This finding is overall consistent with our theoretical expectations. In our ongoing research, we investigate these findings in greater detail, using both quantitative and qualitative approaches.

3.4 Comparison with Freedom House Indicator on Academic Freedom

By comparing the new academic freedom indicators with the Expr variable, we already tested their association with a measure that is external to our own expert survey. The analysis of global trends between the five indicators confirmed the expectation that Expr is more closely aligned with a country's overall political environment,¹⁶ while showing middle-to-high correlations with the new indicators.

The only other existing global measure of academic freedom to date is provided by Freedom House. As discussed in section 1.1, it also focuses on political expression and additionally includes primary and secondary education in its measurement. We thus expect that the correlation of Freedom House's D3 measure should be highest with Expr. Though this is the case (at 0.84), the correlations with Fres, Fexch and Campint are

¹⁶This is also reflected in a stronger correlation in Expr with regime type (at 0.75) than in the other variables (between 0.68 and 0.72).

practically at the same level (0.84, 0.83 and 0.81). Institutional autonomy is correlated with Freedom House's measure at 0.79.¹⁷

Figure 7 illustrates the relationship between Freedom House's indicator and the new *Academic Freedom Index* for 2019. Although we see that there is overall a clear relationship, many countries are only roughly located at the same level between the two indicators, if at all. The top left outlier, for example, is Brazil, which is given a medium rating on the AFi at a time of heightened political pressure on the academic sector and some direct interference with universities' autonomy,¹⁸ while the Freedom House score remains at the highest level. The assessment by V-Dem experts may be overly pessimistic (see above), but the lack of visibility of such changes in the Freedom House score is at least equally problematic. While in some cases, the divergence between the two measures may relate to different assessments of the situation, in other cases it is likely to be an artifact of the inclusion of primary and secondary education in Freedom House's measure, as well as its exclusive focus on political expression.

Figure 7: Relationship Between Academic Freedom Index and Freedom House's Indicator on Academic Freedom (2019). Red lines represent mean values. Compared are data for 2019 from V-Dem's v10 dataset and data for 2019 from Freedom House's 2020 report edition.



¹⁷Correlations are calculated across all country-years for which Freedom House data on indicator D3 is available (2012–2019).

¹⁸See case study by Hübner Mendes and al (forthcoming).

Conclusion

Academic freedom is fundamental for scientific progress, the pursuit of truth, research collaboration, and quality higher education. Despite many self-commitments by universities and states to safeguard academic freedom, it is under attack in many places. The lack of adequate data has so far impeded efforts by policymakers and advocates to monitor and act on such violations, as it has prevented researchers from studying the phenomenon more systematically.

The new dataset introduced in this paper includes nine indicators related to academic freedom and academic space, as well as one aggregate *Academic Freedom Index*. Building on V-Dem's well-established expert surveys and measurement model, this dataset represents a major new resource of conceptually sound and empirically valid measures of academic freedom and its different dimensions. The *Academic Freedom Index* and its indicators will thus help to close the existing knowledge gap and facilitate action to defend academic freedom around the world. In a separate policy paper, we discuss the potential use of the data by multiple stakeholders in the higher education area (Kinzelbach, Saliba, Spannagel and Quinn, 2020).

We encourage new studies into the topic of academic freedom on the basis of the new data, and see a number of promising directions this could take. Possible research avenues could, for example, be to examine the relationship between the different dimensions of academic freedom over time, an analysis of the association between academic freedom and the quality of higher education, as well as a critical review of the data itself.

As mentioned above, an important omission in the data remains the within-country variation. Thus, we also encourage scholars to contribute more country case studies on the topic.¹⁹ In the same vein, we appeal to country experts and higher education experts to participate in future rounds of V-Dem's data collection on the topic to help fill remaining gaps, capture nuances between years and consolidate the dataset.

¹⁹Research guidelines designed to streamline such studies will soon be available together with the first case studies at gppi.net/academicfreedom.

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