



Imagining the World: Conceptions and Determinants of Internationalization in Higher Education Curricula Worldwide

Mike Zapp¹  and Julia C. Lerch²

Abstract

Cross-national analyses of university curricula are rare, particularly with a focus on internationalization, commonly studied as impacting higher education through the mobility of people, programs, and campuses. By contrast, we argue that university knowledge shapes globalization by producing various sociopolitical conceptions beyond the nation-state. We examine variants of such a globalized society in 442,283 study programs from 17,129 universities in 183 countries. Three variants stand out, which vary across disciplines: an interstate model (prevalent in business and political science), a regional model (in political science and law), and a global model (in development studies and natural sciences). Regression models carried out on a subset of these data indicate that internationalized curricula are more likely in business schools, in universities with international offices, in those with a large number of social science offerings, and in those with membership in international university associations. We discuss these findings and their links to changes in universities' environment, stressing the recursive relationship between globalization and higher education.

Keywords

higher education, curriculum, internationalization, regionalization, globalization, world society

Higher education internationalization has been among the most salient topics in the higher education literature in the past two decades (Kosmützky and Putty 2016). Surprisingly absent amid this explosion of scholarship are analyses of how internationalization phenomena relate to the substance of the university, meaning teaching, study courses, and degrees. In part, this omission stems from a lack of empirical data on the content of university curricula, especially cross-nationally. In general, the substance of higher education is oddly underresearched, an omission that is all the more striking considering that more than a third of the global cohort is now being exposed to university knowledge (Schofer and Meyer 2005; UNESCO

Institute of Statistics [UIS] 2018). And yet we know little about how internationalization processes have changed universities' operational core, that is, what kind of knowledge they teach about the world. We do not know how “the world” looks through the academic eye or even

¹University of Luxembourg, Luxembourg

²University of California–Irvine, Irvine, CA, USA

Corresponding Author:

Mike Zapp, Institute of Education and Society, University of Luxembourg, 11, Porte des Sciences, L-4366 Esch-sur-Alzette, Luxembourg, 1511, Luxembourg.

Email: mike.zapp@uni.lu

whether such images of the world exist in the first place.

Drawing on the World Higher Education Database (WHED) from the International Association of Universities (IAU), we present the first large-*N* cross-national analysis of postsecondary curriculum internationalization and offer new insight into the substance and determinants of contemporary university curricula worldwide. We carry out a content analysis of 442,283 study programs in 17,129 higher education institutions from 183 countries to explore thematic variants of curriculum internationalization and their disciplinary contexts. We then use a subset of these data to test propositions about what features of universities and countries facilitate both generic and more specific variants of curriculum internationalization.

Our empirical analyses document three distinctive forms of internationalization, or conceptions of the world, in the higher education curriculum. These revolve around an *interstate* or *comparative* model,¹ a *regional* or *area* model, and a *global* or *earth* model. These three models resonate with conceptual debates in international relations and have previously been identified in secondary school curricula (Bromley and Cole 2016). Findings show that models are differentially distributed across disciplines, with the interstate model prevalent in business, political science, and sociology; the regional model dominant in political science and law; and the global or earth model prevailing in development studies and the natural sciences.

Our regression models analyze what factors predict such internationalized higher education curricula in general and the specific conceptions in particular. We find little support for the idea that universities are internationalizing their curricula as a response to globalizing economies or student demographics—a dominant narrative in the existing literature (e.g., Marginson and van der Wende 2007). We develop an alternative account rooted in the neoinstitutionalist tradition (Meyer et al. 1997) and suggest that internationalization is linked to changing world cultural models, which increasingly see higher education as serving not only a national society and economy but also a global one. Indeed, our findings indicate that universities are likely to adopt internationalized study programs if they have organizational features (principally, an international office) that make them receptive to cultural models of a more globalized role in society. In addition, membership in an international university

association matters, signaling linkages to global higher education discourses. Importantly, universities' disciplinary portfolio matters. The number of social science programs within a university positively predicts all types of curricular internationalization and has especially strong effects on interstate and regional foci. In contrast, the number of natural science programs increases internationalization only of the global variant, and the number of humanities programs positively predicts the regional variant. This suggests that different disciplinary fields are variably receptive and conducive to curricular internationalization and particular types of frames.

Our findings contribute to multiple research strands. In advancing an account of curricular change that enriches the largely economic arguments dominating the literature, we expand our understanding of the meso- and macrolevel factors that shape university knowledge (e.g., Brint et al. 2011; Cole 2011). We also shed light on the important role of university knowledge in contemporary globalization processes (Frank and Meyer 2007) by highlighting the university as a generative force in globalization, not only through its role in supplying global labor markets but also through promulgating globalized visions of the world, especially in the social sciences.

INTERNATIONALIZATION AND THE HIGHER EDUCATION CURRICULUM

The study of higher education internationalization has become a core research area. In their review of almost 2,000 publications since the late 1990s, Kosmützky and Putty (2016) document an expansive scholarship chronicling the internationalization pressures descending on universities today: growing mobility of students, staff, and campuses; the emergence of global higher education markets, rankings, and governance; and accelerating regional integration (Elken et al. 2011; Hazelkorn 2015; Knight 2014; Komljenovic and Robertson 2016; Verger 2009; Zapp and Ramirez 2019).

Strikingly, however, their review found that curriculum questions are among the least investigated topics (see also Leask 2015). Besides isolated case studies of single institutions or disciplines, most contributions dealing with university curricula are concerned with technical questions (e.g., program reforms, evaluations) or reflect

normative calls to internationalize curricula. Scott (2006), for example, sees internationalization as the primary mission of the modern American university. In the same vein, Brustein (2007:382) wants colleges to become a “global campus” where “globally competent students” graduate. Despite such agreement on the importance of internationalization, research has focused on its “institutional shell,” that is, its governance and management (Friedman and Miller-Idriss 2014). As a consequence, we have little systematic insight into the extent to which universities around the world internationalize their curricular offerings.

In our view, this is unfortunate, given that university knowledge immerses students and faculty into a universal collective reality and legitimates specialized personnel and indeed entire social sectors within a rationalized cosmological frame (Baker 2014; Meyer 1977; Meyer et al. 2007). We argue that studying the academic and cognitive structure of universities, and the degrees they confer, is essential for understanding how knowledge is ordered, legitimized, certified, and applied—ultimately shaping our worldviews (Stevens, Miller-Idriss, and Shami 2018). Such formal academic structure influences the production, legitimation, and symbolization of knowledge and its representation outside the sites of knowledge production (Gumport and Snyderman 2002). Importantly, degrees work as much inward—that is, influencing the curriculum, teaching, and research—as they work outward—that is, symbolizing universities’ and disciplines’ scope and ambition.

We focus on this underexplored territory, theorizing and examining internationalized university programs as an instance of curricular innovation. Sociological scholarship points to higher education as a rich site for studying the diffusion of curricular innovations. For example, the spread of women’s, ethnic, and African American studies in U.S. colleges is well documented (Brint et al. 2011; Cole 2011; Olzak and Kangas 2008; Rojas 2007). Cross-national studies of changing university curricula are less common, but the studies that exist suggest that curriculum innovations travel globally as well. For instance, reflecting disciplinary change, higher education faculty composition worldwide evolves in a similar manner (Frank and Gabler 2006), and novel fields, such as women’s studies and environmental studies, have diffused to universities across the globe (Frank, Robinson, and Olesen 2011; Wotipka and Ramirez 2008).

We contribute to this literature by examining the extent to which universities around the world have incorporated internationalized study fields. While extant research on the issue is scant, some studies point to internationalization as a fruitful domain for investigating curricular diffusion. For example, in a cross-national study, Frank, Wong, and colleagues (2000) found that early in the twentieth century, a mere 5 percent of the average university history curriculum focused on globalized forms of history (e.g., world history), but by the end of the century, this percentage had climbed above 20 percent. Internationalizing trends have also been reported in cross-national studies of secondary education curricula (Bromley and Cole 2016; Rauner 1998; Wong 1991). We expand on these studies with novel data on degree programs, capturing internationalization across a vast population of universities worldwide and in all fields of study.

In addition to analyzing the extent of internationalization, we examine its shape. Anecdotal evidence suggests that we should expect variants of internationalization in the curriculum, reflecting diversity in the ontological orientations of different fields of study. A first variant captures interstate (or comparative) foci, which have a long history in university teaching; international relations as a subfield of political science, for instance, jolted into prominence in the aftermath of World War I (Knutsen 2016). A second variant captures regional foci, as in area studies, which became more prominent in the post–World War II era (Stevens et al. 2018). A third strand of internationalized study programs embraces a truly global (or earth) model, as is common in environmental studies programs (Frank et al. 2011), global studies, and human rights programs (Suárez and Bromley 2012). To add nuance to our analysis, we thus examine patterns and predictors of these three variants and their distribution across disciplines.

The following section develops our theoretical arguments and hypotheses about the organizational and country-level factors predicting curriculum internationalization.

THEORETICAL ARGUMENTS AND HYPOTHESES

Higher education curriculum formation is a complex process involving multiple actors and mechanisms (for a review, see Slaughter 1997). We reflect this complexity in our hypotheses.

Economic Arguments

Conventional arguments about curricular change in the higher education sector tend to emphasize demographic and economic factors, including economic competition among universities and the demands of changing student demographics (for an overview, see Brint et al. 2011). A similar emphasis on economic dynamics characterizes dominant accounts of university internationalization, which is often seen as an obvious response to the demands of globalizing student bodies and economies. We consider both arguments in our hypotheses.

Demographic pressures: Student demand for internationalized curricula. A core theme in the literature is that classroom composition shapes the content of the university curriculum (Slaughter 1997). For example, work in the United States has shown that the racial composition of student enrollments affects the likelihood that universities will offer African American studies (Olzak and Kangas 2008; Rojas 2007; for other fields, see Brint et al. 2011 and Kraatz and Zajac 1996). The posited mechanism is that changing student bodies trigger demands for a curriculum that reflects the experiences of these students. While rooted in demographics, the imagery is economic, described by Cole (2011:387) as the “logics of academic consumerism” wherein “faculty members are producers, students are consumers, and curricula are commodities that reflect changes in students’ interests.”

Applied to our case, this explanation suggests that we should expect an internationalized student body to cause curricular adaptations toward more international foci by faculty and institutional decision makers. International students represent an important source of revenues for universities. This applies not only to highly privatized higher education systems (such as the United States). Even in a growing number of European countries with strongly state-backed university systems, international, that is, non-European, students pay considerably higher fees (Organisation for Economic Co-operation and Development 2017).

Hypothesis 1: Higher education institutions in countries with highly internationalized student bodies are more likely to have an internationalized curriculum.²

Economic changes: Internationalized curricula as a response to globalized economies. A second economic argument centers on the idea that internationalization is best seen as a response to real economic changes (Dodds 2008; Komljenovic and Robertson 2016; Verger 2009). Traditionally, these arguments are rooted in functionalist theories, which see the university as a technical-functional institution that responds to the needs of society and the economy (Durkheim 1956; Kerr 1972). The advent of large-scale economic globalization in recent decades is thought to have transformed the kinds of skills demanded by labor markets, with the university today catering to the need for an internationally competent labor force in real-world “knowledge economies” (Taylor, Webber, and Jacobs 2013; for a review, see Buckner 2019). Building on these arguments, we hypothesize that internationalized study programs are most likely to be adopted in universities that cater to globalized labor markets, that is, those located in countries with more globalized economies.

In addition, we develop a university-level hypothesis built around the idea that universities with a disciplinary specialization focused on the economy, that is, business schools, might be most likely to incorporate internationalized offerings. Indeed, the sociological literature suggests that the professions of economics (and management) have developed global orientations, operating across internationally permeable professional boundaries (Fourcade 2006; Sahlin-Andersson and Engwall 2002). We recognize that these global orientations do not simply reflect economic processes but are themselves cultural constructions that have diffused worldwide and supplanted earlier, more nationally bound, economic models. At the same time, if internationalization can be theorized as driven by globalizing economies, it makes sense to surmise that universities specializing in economics might be most prone to internationalize.

Hypothesis 2: Higher education institutions in countries with more globalized economies are more likely to have an internationalized curriculum.

Hypothesis 3: Business higher education institutions are more likely to have an internationalized curriculum.

Institutional Arguments

While we expect these economic factors to be important, we argue for a broader understanding of the issue. Our core argument is that universities are embedded in a global institutional environment. This environment specifies models of higher education, by which we mean cultural principles and templates regarding the role of universities in society (Frank and Meyer 2007). An extensive body of evidence indicates that schools, universities, and nation-states are strongly shaped by prevailing world models (Benavot et al. 1991; Frank and Gabler 2006; Meyer et al. 1997). We see internationalization as arising from a change in these models. While universities had become “nationalized” with nineteenth- and early-twentieth-century nation-state building (Riddle 1993), the idea that society was exclusively national lost purchase as a distinctly global social order emerged in the second half of the twentieth century, to which the university was central (Buckner 2019; Frank and Meyer 2007; Meyer et al. 1997). By the 1990s and 2000s, global discourses charged universities with “contributing to human development worldwide” (Buckner 2016:487), echoing their medieval roots as transnational institutions. The university became integral to constructing a more globalized world, for instance, by training and legitimating global professions (see, e.g., Chabbot 2003; Fourcade 2006; Heilbron 2014) and producing scientific evidence for global debates, from the rights of dolphins to climate change.

Despite this emphasis on world models, we recognize that not all universities are equally positioned to embrace this transformation. We develop several hypotheses suggesting that the adoption of internationalized study programs depends on universities’ receptiveness to this new global model and their embeddedness in the global institutional environment.

Variations in organizational receptiveness. It is clear from the literature that the characteristics of local settings condition the extent to which they are receptive to world models (Pope and Meyer 2016). Scholarship on curricular innovations in the U.S. context has shown that programs are more likely to be adopted if they are consistent with existing organizational practices, rules, and culture (Binder 2000). Drawing from these arguments, we develop two hypotheses.

Organizational structures: International office. We propose that universities with a formalized organizational unit in charge of internationalization are more likely to have an internationalized curriculum. Such a unit, often an international office, reflects a university’s international orientation, including attracting international students as well as positioning and marketing itself globally (Seeber et al. 2016). Establishing such an office implies top-level decision making, requires considerable operating costs, and displays an institution’s interest in the international higher education field. While we acknowledge that some strands of programs (e.g., area studies) predate widespread institutionalization of international offices, we argue that these units, once established, can seek to influence institutional decision making toward more internationalization, for example, through pushing for international partnerships, student recruitment, and curricular change (Hulme et al. 2014).

Disciplinary specializations. We, further, theorize that universities with certain disciplinary portfolios might be more likely to internationalize curricula. Our main expectation is that disciplinary groupings characterized by greater levels of scientization, and thus universalism, might be more receptive. Indeed, the relationship between scientization and globalization is well established (Drori et al. 2003). For one, this suggests that the natural sciences, with their universalist axioms at the core, might readily embrace an internationalized scope, as indicated by a large body of research pointing to the high degree of internationalization in research collaboration and organizational infrastructure (for a review, see UNESCO 2015). Similarly, contemporary social sciences are rooted in a universalistic (and scientized) conception of society (Wong 1991) and comprise some of the oldest international study fields, such as area studies, international studies, and development studies (see earlier discussion). In sharp contrast, the humanities are sometimes depicted as parochial and even resisting globalization pressures (Frank and Gabler 2006).

Hypothesis 4: Higher education institutions with an international office are more likely to have an internationalized curriculum.

Hypothesis 5: Higher education institutions with a strong social science or science

profile are more likely to have an internationalized curriculum.

Variations in structural embeddedness.

The final strand of our institutional arguments goes beyond organizational features and zooms in on universities' embeddedness in the global institutional environment. Structural embeddedness is well known to condition the uptake of global models, with diffusion more likely in organizations and countries that are more integrated in global organizations and discourses (Pope and Meyer 2016).

Membership in international university associations.

A vast network of university associations has emerged in the past two decades constituting a veritable global higher education regime that provides much discursive, normative, and regulative reembedding of higher education institutions in nested, that is, local, regional, and global, organizational fields (Brankovic 2018; Hüther and Krücken 2016; Zapp and Ramirez 2019). We theorize that memberships in such associations are correlated with internationalized curricular foci, as they establish institutional linkages to global higher education discourses. Universities with such linkages participate in international capacity building and conferencing; they signal their openness by hiring international faculty, enrolling international students, and internationalizing program offerings.

Country membership in international nongovernmental organizations (INGOs).

Our final hypothesis suggests that internationalized curricula are more likely in countries with greater ties to INGOs. Membership in INGOs has often been treated as a "receptor site" for global ideas (Frank, Hironaka, and Schofer 2000). Previous research on the expansion of postsecondary enrollment and women faculty, for example, has found strong support for the role of INGO ties in such expansion (Schofer and Meyer 2005; Wotipka, Nakagawa, and Svec 2018).

Hypothesis 6: Higher education institutions with membership in international university associations are more likely to have an internationalized curriculum.

Hypothesis 7: Higher education institutions from countries with strong linkages to

INGOs are more likely to have an internationalized curriculum.

DATA

We draw on data from the WHED maintained by the IAU. The WHED is the most comprehensive and authoritative database on higher education institutions worldwide (IAU 2018). Our descriptive analyses draw on the full database, which comprises information on 442,283 study programs in 17,129 colleges and universities (\geq International Standard Classification of Education 6) in 183 countries and territories for 2016–2017. Our regression analyses are constrained by the availability of data on independent variables and draw on a more limited sample of 9,963 colleges and universities in 107 countries.

Despite being the most comprehensive cross-national data set on universities, the WHED comes with some limitations. Public institutions might be overrepresented, as they more easily enter public records than private higher education institutions. The IAU depends on government and institutional sources for data collection. We also cannot ascertain to what extent the WHED is exhaustive. The IAU claims that the WHED is the most comprehensive data set, yet we assume some degree of missing data, particularly for countries where records of the burgeoning private sector are patchy. Finally, we provide only cross-sectional data. We cannot gauge how the conceptual portfolio has evolved over time.

Our analyses specifically draw on WHED data on study programs and their degree designations in English as provided by the IAU, which we use as a proxy for the higher education curriculum. Obviously, this strategy greatly underestimates the real degree to which postsecondary curricula are being transformed. A more accurate account would need to include additional teaching content, for example, syllabi, class readings, and textbooks. Many study programs, even if not explicitly designated as having an international or global focus, are likely to refer to universal theories and laws, international case studies, and the like. Unfortunately, cross-national data on these more fine-grained dimensions are extremely difficult to collect in a systematic fashion, which restricts us to the analysis of program designations. In fact, we consider degree programs a better indicator, as they involve official decision-making processes instead of individual faculty decisions.

Table 1. Analytical Categories and Coding (Example).

Institution	Country	Region	Field of study ^a			Degree ^b
			Level 1	Level 2	Level 3	
Alberoni University	Afghanistan	Asia	Social sciences	Political science	<i>International relations</i>	6C
				Sociology	Social work	
				Cultural studies	<i>Intercultural studies</i>	
			Law	Public law	Public law	7C
				<i>International law</i>	<i>International law</i>	
			STEM	Law	Law	6C
				Civil engineering	Civil engineering	
				Physical geography	<i>Earth science</i>	

Note: STEM = science, technology, engineering, and mathematics.

^aRepresents degree designation. Relevant codes in italics.

^bInternational Standard Classification of Education.

MEASURES AND METHODS

First Step: A Grounded Theory of Curriculum Internationalization

In a first step, we analyze curricular content as derived from the degree list of the complete WHED. Degree designations contain spatial or conceptual variations of internationalization reflecting the transposition of curricula to the global level. Thus, a, in principle, substantively empty spatial frame (e.g., area) becomes a conceptually relevant and meaningful signifier when linked to its disciplinary context (e.g., Middle East area studies; Stevens et al. 2018).

We used the tripartite distinction between interstate, regional, and global forms of internationalization as the basis of our theoretical sensitivity yet remained open to and actively searched for an extended set of concepts (Strauss and Corbin 2008). We extended on these frames inductively through a case-by-case analysis of geographic (e.g., Asian) and/or conceptual (e.g., intercultural) references. We present all frames in our descriptive findings.

The spatial frames were then linked to the disciplinary categories in which they appear (e.g., social science) and further specified whenever possible. WHED information contains three levels of depth for disciplinary and program categories (Table 1). These levels encompass an aggregated disciplinary frame (e.g., social sciences), a subdiscipline (e.g., political science), and a field of study with its

associated degree (e.g., international relations). Doing a line-by-line analysis of 10 percent of randomly selected fields of study and their degrees based on a constant comparison of concepts (e.g., intercultural versus interstate), we gathered all non-national frames around key categories (Strauss and Corbin 2008). These codes were then automatically assigned to the remaining material.

Second Step: Identifying Determinants of Curriculum Internationalization

We, here, identify the determinants of internationalization in general and of the most important variations. Because of limited data availability for key independent variables, the sample used for these regression analyses is smaller (9,963 universities in 107 countries; Table A1 in the online appendix details the distribution of universities per country). To ensure that our findings are robust to nonrandom differences between the composition of this smaller sample and the full WHED data, we ran several robustness checks (see the online appendix).

Dependent Variables

We run several models with varying binary outcome variables. These variables are coded at the university level as the presence of internationalized study programs within the entire degree

portfolio.³ In the general model, we aggregate all forms of international designations into one variable measuring whether or not a given university has any internationalized study programs. The variable has a mean of 0.4, indicating that 40 percent of universities in our data have at least one internationalized study program. We then specify more fine-grained outcomes by the main frames found in the content analysis: an interstate model (mean = 0.29), a regional model (mean = 0.12), and a global model (mean = 0.12). This generates three additional binary dependent variables.

Table A2 in the online appendix provides a snapshot of country means for each of the dependent variables. Contrasting the top 20 with the bottom 20 countries, there are no clear regional patterns. This is somewhat surprising. One would expect European countries to dominate the top, considering the extensive internationalization processes linked to the European Union. In contrast, it seems that internationalization of curricula is not limited to a particular world region. Our regression analyses include regional controls to assess this explicitly.

Predictors

We include several independent variables based on our hypotheses.

International student mobility rate. As a country-level measure for an internationalized student body, we use the “inbound mobility rate” provided by the UIS. It measures the number of students from abroad studying in a given country, expressed as a percentage of total tertiary enrollment in that country (UIS 2018). We log this variable because of its skewed distribution.

Economic globalization. To capture economic globalization, we use the KOF Globalization Index, which measures financial and trade globalization indicators (e.g., foreign direct investments, trade in services; Gygli et al. 2019).

Business school. We used data on institutions’ title and degree offerings from the WHED to code business schools. The resultant variable is a binary measure capturing whether a higher education institution is a business school.

International office. Presence/absence of an international office is a binary variable from the

WHED, measuring whether a university has a formal organizational unit in charge of internationalization.

Disciplinary groups. We group universities’ academic portfolio according to Frank and Gabler’s (2006) three branches of learning, that is, the humanities, social sciences, and sciences—as detailed in Table A3 in the online appendix. Using the WHED data on degree programs, we construct three measures of how many degree programs a given university has in each of the three areas, as a proxy for university specialization.

Membership in international or regional university associations. We constructed a binary measure using information from the WHED as well as from regional university associations to capture whether a given institution is a member of the IAU and/or any of the 11 existing regional university associations.

INGO membership. We use a logged measure of membership ties to INGOs held by citizens of a given nation, coded from the *Yearbook of International Organizations* (Union of International Associations 1907–2020).

Controls

All our models include standard controls. As larger institutions may reasonably be expected to have more types of programs in general, we control for an institution’s student enrollment (WHED; logged). As the literature indicates that historical traditions and university missions shape curriculum, we also control for an institution’s age (logged) and type (public vs. private based on legal status; WHED). Finally, given that higher education is known to be regionally diverse, we also control for location based on the standard United Nations regional classification (United Nations Statistics Division 2018). Our models use western Europe as the reference category.⁴

Table 2 presents descriptive statistics for each of our predictor variables and controls.

Model

We are working with a multilevel data structure, with universities (level 1) nested in countries (level 2). A common issue with such data

Table 2. Sample Description.

Variable	Mean	Standard deviation	Minimum	Maximum
Controls				
N of students (log)	3.68	0.66	1.30	6.46
Public institution	0.54	—	0	1.00
Age (log)	1.68	0.37	0.30	3.11
North America	0.20	—	0	1.00
Sub-Saharan Africa	0.03	—	0	1.00
Asia	0.30	—	0	1.00
Eastern Europe	0.13	—	0	1.00
Middle East and North Africa	0.06	—	0	1.00
Latin America and Caribbean	0.13	—	0	1.00
Australasia	0.01	—	0	1.00
Predictors				
International student mobility rate (log)	0.21	0.67	−1.67	1.67
KOF Globalization Index	60.40	13.63	0	93.94
Business school	0.02	—	0	1.00
International office	0.16	—	0	1.00
N of social sciences programs (log)	0.90	0.44	0	2.33
N of science programs (log)	0.88	0.51	0	2.48
N of humanities programs (log)	0.58	0.47	0	2.19
University association membership	0.16	—	0	1.00
International nongovernmental organization memberships (log)	3.30	0.29	2.14	3.64

Note: $N = 9,963$.

structures is that standard errors are likely correlated at the country level, reflecting commonalities among universities within the same country. To account for this, we use multilevel models (Raudenbush and Bryk 2002), which allow us to explicitly model variation in our outcome as being shaped by both university-level and country-level variations. We use random intercept models, which adjust the intercept by including a random effect for each group (in this case, country), allowing each country to have its own intercept. Multilevel models also account for the fact that we have varying numbers of universities per country (Snijders and Bosker 1999). The intraclass correlations from unconditional models of our dependent variables are between 0.10 (all internationalization) and 0.23 (global), indicating the appropriateness of using multilevel modeling. Given that our dependent variables are binary, we use a multilevel logit model and model the logged odds that a given university has any internationalized programs (or any programs of a specific variant). Our model specification is

$$\text{logit}(\pi_{ij}) = \log\left(\frac{\pi_{ij}}{1 - \pi_{ij}}\right) \\ = \beta_0 + \beta_1 X_{ij} + \beta_2 Z_j + u_j + \epsilon_{ij},$$

where i is university; j is country; π_{ij} is the probability of internationalization for university i in country j , conditional on X and Z ; β_0 is the average intercept; β_1 is a vector of university-level regression coefficients; β_2 is a vector of country-level regression coefficients; X_{ij} is the matrix of observations for university-level variables; Z_j is the matrix of observations for country-level variables; u_j is the country-level random effect; and ϵ_{ij} is the error term for each case.

FINDINGS

Grounded Theory Findings: The World(s) in University Curricula

Table 3 shows the distribution of international orientations in the total sample of internationalized

Table 3. Types of International Orientations in Study Programs.

Orientation	<i>n</i>	% of internationalized programs
Interstate	11,226	50.0
International	10,598	47.2
Comparative	628	2.8
Global	5,027	22.4
Global	3,505	15.6
Earth	1,522	6.8
Regional	4,012	17.9
Asian	1,379	6.1
European	1,162	5.2
African	515	2.3
Middle East and North Africa	384	1.7
Latin America	300	1.3
Supranational (e.g., European Union law)	190	0.8
General/nonspecified	52	0.2
North America	30	0.1
Other	2,186	9.7
Foreign (languages)	1,817	8.1
Cross-/intercultural	369	1.6
Internationalized programs total <i>N</i>	22,451	
% of all programs (<i>N</i> = 442,283)	5.1	

Source: International Association of Universities (2018).

Note: Whenever two frames were mentioned (e.g., international and comparative education), we opted to code according to the first term.

programs. The number of study programs with an explicitly internationalized orientation stands at *N* = 22,451, or just above 5 percent of all study programs from the WHED. Although such a proportion might seem low, recall the fact that study programs enter our count only if they explicitly refer to any of the international conceptions.

The patterns of cognitive structure depicted in Table 3 point to distinctive variants in how university curricula conceptualize the world. Some programs conceive of the world in terms of the collection, coexistence, and collaboration of nation-states—an interstate (or international) system—as suggested in our “international” and “comparative” frames, which make up 47.2 percent and 2.8 percent of internationalized programs, respectively. A second set of programs posit, and presumably analyze, a unified global entity—our “global” and “earth” frames capture such a focus, accounting for 15.6 percent and 6.8 percent of internationalized programs, respectively. A third conception is reflected in programs that emphasize regional configurations, as in area studies, in particular those with a European or Asian

focus, as well as supranational regional studies (e.g., European law). While such regional studies collectively account for 17.9 percent of internationalized programs, most of this is due to area studies, with supranational regional studies proper accounting for only 0.8 percent. A small set of internationalized programs (9.7 percent) falls short of articulating a truly internationalized frame, even as they focus on social or individual entities other than one’s own (our “foreign” and “cross-/intercultural” categories).

Table 4 presents totals and percentages for international curricula by scientific (sub)discipline. The table points to substantial differences in the extent to which different fields have embraced an internationalized focus, suggesting that not all disciplines are equally poised to construct non-national visions of society. The social sciences lead the field far ahead of all other disciplines, accounting for almost 70 percent of all study programs with some form of international framing. Within the social sciences, area studies are the most important subdiscipline, accounting for 17.9 percent, followed by business administration

Table 4. Disciplines and Their Contribution to Curriculum Internationalization.

Discipline	<i>n</i>	% of all internationalized programs
Social sciences	15,338	67.8
Area studies (political science)	4,013	17.9
Business administration	3,270	14.6
International relations (political science)	2,445	10.9
International studies (sociology)	1,592	7.1
Development studies	1,220	5.4
Economics/trade	1,187	5.3
Education	866	3.9
Cross-/intercultural studies/communication	375	1.7
Sociology/social studies/social welfare	266	1.2
Humanities/languages	2,551	11.4
Tourism (including transport/logistics)	1,755	7.8
STEM	1,522	6.8
Law	1,181	5.3
Health	104	0.5
Internationalized programs total <i>N</i>	22,451	
% of all programs (<i>N</i> = 442,283)	5.1	

Source: International Association of Universities (2018).

Note: Since we removed languages from area studies, we code area studies as part of the social sciences despite their strong proximity to the humanities (Stevens, Miller-Idriss, and Shami 2018). STEM = science, technology, engineering, and mathematics.

(14.6 percent) and international relations (10.9 percent). International studies, development studies, and economics show shares of 10.9 percent, 7.1 percent, and 5.4 percent, respectively. At the lower bottom of the social science subsample, we find education, intercultural studies, and sociology, all below 4 percent of the total sample. The humanities come second (11.4 percent), vastly aided by the inclusion of languages, which account for 74 percent within the humanities. The humanities are followed by tourism (7.8 percent), an academic and professional field that is almost by definition international. The sciences (including science, technology, engineering, and mathematics; computer science; agriculture; and transport) account for 6.8 percent of all internationalized programs, a share that is lower than we expected, suggesting that this field is characterized by built-in universalistic knowledge (we discuss this later). Finally, law and health appear at the end, with only 5.3 percent and 0.5 percent, respectively.

Table 5 depicts the main disciplines that dominate the different internationalization frames and

describes the prevalence of internationalized curricula in these disciplines as a percentage of entire respective disciplinary category (right column). Development studies is now the most internationalized field (51 percent), followed by law and political science (8.5 percent and 7.9 percent, respectively). Within the social sciences, the distribution remains stable, revealing similarly large disparities between, for example, political science and sociology.

Adding the specific variants further refracts curricular visions of the world through the prisms of subdisciplines as conceptions vary across these more fine-grained cognitive domains. While political science is divided into regional and interstate views (area studies and international relations), business and economics each prefer an interstate designation, although *global* does appear as both a singular and an additional designation. *Interstate* also dominates sociology and social studies as well as education and law. The only areas where a comprehensive global notion is dominant are development (with a striking 51 percent) and the sciences (mostly as “earth” references).

Table 5. Types of Internationalization by Main Disciplines.

Orientation	Main discipline	<i>n</i>	% within entire discipline/field
Interstate			
International (and global)	Business	2,944	5.8
International	Political science	2,445	4.8
International (and global)	Sociology and social studies	1,592	0.4
International (and global)	Economics (and trade)	1,040	2.4
International (and comparative)	Law	991	8.5
International (and comparative)	Education	801	2.3
Regional			
Area	Political science	4,013	7.9
Supranational (e.g., European Union law)	Law	190	1.2
Global			
Earth (and global)	Sciences	1,522	1.3
Global	Development	977	51.0
Global	Business	326	0.6
Foreign	Languages (humanities)	1,817	3.5

Source: International Association of Universities (2018).

Note: Parentheses indicate the occasional use of multiple terms in the same program. *N* of international programs = 18,658 (lower *N* since we focus on main disciplines only). Total *N* of study programs = 442,283.

Regression Findings: What Drives Curriculum Internationalization?

Table 6 presents the results of our first set of regression analyses, with the dependent variable measuring whether a given university has any internationalized study program. The first model includes only controls; each subsequent model corresponds to one set of hypotheses, with the final model including all predictors. We report odds ratios (ORs).

Model 1 includes our controls, which show few interesting results. Larger universities are more likely to have an internationalized curriculum, reflecting greater program capacity in general. However, the variable loses significance once we include our disciplinary predictors, which collectively can be conceptualized as an alternative measure for program capacity (more on this later), in the later models. Similarly, we see a positive association for older universities, but this disappears once we include disciplinary predictors, suggesting that the association is due to these institutions' disciplinary makeup. Other controls show no significant associations.

Model 2 shows mixed support for the economic factors tested in Hypotheses 1 to 3. We find little support for the idea that an internationalized student body increases the odds for an

internationalized curriculum; the variable for student mobility shows no significant effect. Hypothesis 1 is not supported. Similarly, our measure of economic globalization shows no significant association, leaving Hypothesis 2 unsupported: Curricular internationalization does not appear to be associated with a globalized economy. At the same time, we do find support for Hypothesis 3: The variable for business schools is significant and positive (OR = 1.742). These findings are consistent throughout the models.

Model 3 tests Hypotheses 4 and 5, which are largely supported. The association between our outcome and the international office variable is positive and significant (OR = 1.542), supporting Hypothesis 4. Similarly, the variable capturing the logged number of social science programs has a positive and statistically significant association with our outcome (OR = 92.337), lending partial support to Hypothesis 5.⁵ These findings are consistent throughout the models. We had also hypothesized that universities with a strong science profile would be more likely to have an internationalized curriculum. However, this variable actually shows a negative association, which is statistically significant; again, this persists in the full model. While this indicates that internationalization in the sciences largely takes the form of universalization rather than explicit international

Table 6. Multilevel Models Predicting Internationalization in University Curricula: Odds Ratios.

Variable	Model 1: Controls	Model 2: Economic factors	Model 3: Organizational receptiveness	Model 4: Structural embeddedness	Model 5: All predictors
Economic factors					
International student mobility rate (logged)		1.090 (0.200)			0.771 (0.139)
KOF Globalization Index		1.013 (0.008)			1.002 (0.007)
Business school		1.742*** (0.278)			2.240*** (0.431)
Organizational receptiveness					
International office			1.542*** (0.117)		1.517*** (0.116)
N of social sciences programs (logged)			92.337*** (11.438)		89.122*** (11.119)
N of science programs (logged)			0.790*** (0.058)		0.811** (0.061)
N of humanities programs (logged)			1.077 (0.087)		1.089 (0.089)
Structural embeddedness					
University association membership				2.366*** (0.168)	1.386*** (0.116)
International nongovernmental organization memberships (logged)				1.012 (0.298)	0.743 (0.204)
University-level controls					
N of students (logged)	2.365*** (0.096)	2.376*** (0.097)	1.061 (0.054)	2.188*** (0.090)	1.046 (0.054)
Public institution	0.977 (0.052)	0.978 (0.052)	0.954 (0.061)	0.917 (0.049)	0.906 (0.059)
Age (logged)	1.782*** (0.131)	1.805*** (0.133)	0.968 (0.089)	1.570*** (0.118)	0.942 (0.088)

(continued)

Table 6. (continued)

Variable	Model 1: Controls	Model 2: Economic factors	Model 3: Organizational receptiveness	Model 4: Structural embeddedness	Model 5: All predictors
Regional controls (reference: western Europe)					
North America	1.991 (0.929)	2.367 (1.064)	0.814 (0.338)	2.541 (1.216)	0.887 (0.377)
Sub-Saharan Africa	1.429 (0.371)	2.332* (0.788)	1.086 (0.275)	1.310 (0.466)	0.732 (0.295)
Asia	1.212 (0.286)	1.863* (0.550)	1.356 (0.297)	1.481 (0.464)	0.963 (0.330)
Eastern Europe	1.149 (0.270)	1.290 (0.299)	1.120 (0.248)	1.243 (0.327)	0.979 (0.244)
Middle East and North Africa	0.766 (0.207)	1.114 (0.343)	0.834 (0.212)	0.712 (0.229)	0.618 (0.210)
Latin America	1.135 (0.311)	1.835 (0.623)	1.478 (0.371)	1.385 (0.429)	1.074 (0.381)
Australasia	1.118 (0.593)	1.270 (0.668)	0.753 (0.384)	1.104 (0.603)	0.791 (0.420)
Constant	-4.727***	-5.871***	-5.017***	-4.577***	-3.877***
Variance of the constant	(0.249)	(0.597)	(0.277)	(1.065)	(1.134)
Deviance statistic	0.355***	0.315***	0.257***	0.372***	0.257***
Akaike information criterion statistic	(0.073)	(0.068)	(0.062)	(0.077)	(0.063)
Bayesian information criterion statistic	12,320	12,303	9,254	12,169	9,219
	12,344	12,333	9,286	12,197	9,261
	12,431	12,441	9,401	12,298	9,413

Note: N = 9,963.

* $p < .05$. ** $p < .01$. *** $p < .001$.

references, our regression analyses of the specific variants (presented later) add nuance to the finding. As expected, the variable for humanities has no significant effect.

Model 4 tests our Hypotheses 6 and 7. We find support for Hypothesis 6; membership in international university associations has a statistically significant and positive association with curriculum internationalization (OR = 2.366). The variable for INGO membership, however, does not show a statistically significant result, leaving Hypothesis 7 unsupported. These findings are consistent throughout the models, suggesting that organization-level embeddedness in a global environment matters more for our outcome than the country-level measure of INGO embeddedness.

Model 5 presents the full model and shows much consistency with the individual models. It reports the lowest deviance statistic, making it our preferred model.

Table 7 turns our attention to the disaggregated dependent variables. We begin with Model 1, testing predictors for the likelihood of interstate (international or comparative) conceptions in the curriculum. Next, Model 2 concentrates on regional (or area) conceptions. Last, Model 3 shows findings for universities embracing an explicitly global (or earth) model.

The regressions show much consistency with the overall models but also point to some instructive differences. As far as economic arguments are concerned, the most interesting finding is in relation to the business school variable. In the general models in Table 6, this variable was positively and significantly associated with general internationalization. The specific models indicate that this is true only for interstate conceptions, probably explained through the large numbers of degrees in international business administration. However, it turns out to be negatively associated with the other two variants, indicating that business schools are actually less likely to embrace regional or global foci in their curricula. Our variable for international student mobility continues to report mostly insignificant associations, although it correlates negatively and significantly with global foci, indicating perhaps a trade-off between student mobility as one form of internationalization and certain types of curricular internationalization. Economic globalization does not show any impact throughout the models.

The models also show interesting differences in relation to organizational receptiveness as well

as some consistency. The most interesting findings emerge for the disciplinary predictors. As in the general models from Table 6, the social sciences turn out to be a strong positive and significant predictor for all frames.⁶ However, the effect is largest for the interstate variant, followed by the regional one, indicating that the social sciences are especially receptive to these forms of curricular internationalization. The models also add nuance to our previous findings regarding a university's science profile. While the variable is negatively and significantly associated with the interstate variant, it is actually positively associated with the global (or earth) variant (this association is significant; there is no effect for regional studies). This suggests that the sciences are receptive to at least one form of explicit internationalization, namely, a truly global frame—as indicated by the fact that earth studies are anchored in the sciences. The humanities also show an interesting positive and significant association with the regional variant, reflecting the presence of regional foci in studies of culture and languages. These differences in the effects of our disciplinary variables vis-à-vis the general internationalization outcome provide evidence for our earlier assertion: The diversity of internationalization frames reflects in part diversity in the ontological orientations of different fields of study. Findings for our international-office variable are rather consistent with the general model; office presence increases the odds for both interstate and global variants, but it does not seem to have an impact on the regional variant.

Shifting to measures of global embeddedness, membership in international associations correlates positively and significantly with all three outcomes. INGO membership, albeit positive for regional and global studies, does not reach significance.

Finally, our regional controls show some interesting regional patterns; for instance, regional variants of curricular internationalization are more likely in Asia, where recent economic success might fan strong identity, while global variants are more likely in sub-Saharan Africa, where past and ongoing crises might lead countries to organize their curriculum more directly around world models.⁷ University size does not seem to matter, but public universities seem to be less likely to embrace interstate conceptions and more likely to embrace regional and global variants; the latter is also true of older institutions.

Table 7. Multilevel Models Predicting Variants of Internationalization in University Curricula: Odds Ratios.

Variable	Model 1: Interstate variant	Model 2: Regional variant	Model 3: Global variant
Economic factors			
International student mobility rate (logged)	1.017 (0.210)	0.747 (0.187)	0.547* (0.148)
KOF Globalization Index	0.995 (0.008)	1.015 (0.011)	1.021 (0.011)
Business school	3.763*** (0.738)	0.309* (0.154)	0.284* (0.153)
Organizational receptiveness			
International office	1.539*** (0.115)	1.034 (0.094)	1.337** (0.122)
N of social sciences programs (logged)	87.622*** (11.851)	30.790*** (5.276)	10.118*** (1.621)
N of science programs (logged)	0.654*** (0.052)	0.962 (0.102)	2.116*** (0.237)
N of humanities programs (logged)	1.046 (0.090)	1.501*** (0.174)	1.107 (0.132)
Structural embeddedness			
University association membership	1.304** (0.112)	1.316* (0.142)	1.316** (0.138)
International nongovernmental organization memberships (logged)	0.596 (0.186)	1.078 (0.401)	1.333 (0.574)
University-level Controls			
N of students (logged)	1.103 (0.060)	1.022 (0.080)	0.908 (0.068)
Public institution	0.519*** (0.036)	1.697*** (0.160)	2.355*** (0.216)
Age (logged)	0.788* (0.077)	1.012 (0.133)	1.593*** (0.205)
Regional controls (reference: western Europe)			
North America	0.686 (0.336)	1.305 (0.696)	1.660 (1.031)
Sub-Saharan Africa	0.226** (0.104)	1.757 (0.951)	7.543*** (4.452)
Asia	0.724 (0.282)	3.215** (1.451)	0.981 (0.505)
Eastern Europe	1.052 (0.297)	1.889 (0.629)	0.371* (0.144)
Middle East and North Africa	0.397* (0.154)	1.223 (0.577)	1.297 (0.670)
Latin America	0.989 (0.401)	1.527 (0.746)	1.321 (0.711)
Australasia	1.106 (0.647)	3.051 (1.969)	1.507 (1.113)
Constant	-2.684* (1.286)	-8.429*** (1.546)	-8.846*** (1.749)
Variance of the constant	0.363*** (0.081)	0.411** (0.114)	0.596* (0.152)
Deviance statistic	8,569	5,367	5,384
Akaike information criterion statistic	8,611	5,409	5,426
Bayesian information criterion statistic	8,762	5,560	5,577

Note: N = 9,963.

* $p < .05$. ** $p < .01$. *** $p < .001$.

We ran a series of additional analyses to check the robustness of the findings reported in Tables 6 and 7, which can be found in Tables A4 through A7 in the online appendix.

DISCUSSION AND CONCLUSION

While the national era presented the university with a clear entity to celebrate, that is, the nation-state, the shift toward internationalization has left the form of sociopolitical order constructed by the university somewhat indeterminate: Many different conceptions of a globalized society can be found in contemporary university knowledge. Despite the variety, university curricula imagine the world beyond the nation-state mainly through three different models. These are, first, an interstate or comparative model anchored in a state-centric paradigm inherited from realist international relations scholarship and most prominent in political science, business/economics, sociology, law, and education. Second, our analysis finds a global and earth model, which is prevalent in development studies and the natural sciences and echoes shifts toward deterritorialized emphases in secondary textbooks and the globalization of scientific and professional fields (Heilbron 2014; Rauner 1998; Wong 1991). Third, we identify a clustered or regional model that reflects both older notions of area studies and more recent notions of supranational identity and governance and is dominant in political science and law.

Despite varying degrees, virtually all academic disciplines are becoming internationalized, with the social sciences far ahead. Although we cannot ascertain the beginning of the process without longitudinal data, we assume periodized cognitive changes with interstate/comparative frames being a traditional, and global/earth frames a more recent, phenomenon in university curricula. Thus, while some classic study fields remain important (e.g., area studies, foreign languages), numbers indicate that new ones are being catalyzed by several processes. Among these, the global triumph of capitalism after the Cold War and the proliferation of neoliberal policies accompanied by a thorough institutionalization of the economic profession (Fourcade 2006) have catapulted international business administration into university curricula everywhere in the world. In general, new professionalized fields such as

development studies, international studies, and international education are training a new generation of global experts hosted by international organizations (Boli and Thomas 2008; Chabbot 2003; Zapp 2017). Last, ongoing regional integration projects are reflected in strong attention to regional processes (area studies) and the emergence of supranational studies (e.g., European law) (Elken et al. 2011).

The fact that our findings show explicit internationalized frames to be relatively rare in the natural sciences does not mean that these fields are not internationalized. It is clear from our data that they are particularly likely to embrace the most globally unified, earth, frame. More importantly, their inherent universality (e.g., physical laws) does not require an explicit reference to a rescaled geographic frame in program descriptions.

Beyond empirically documenting the internationalization of university curricula, our study contributes to the sociological literature on curricular change by shedding light on the mechanisms of curriculum formation. We found only mixed support for the kinds of economic arguments dominating the literature (Dodds 2008; Komljenovic and Robertson 2016; Marginson and van der Wende 2007). Our models show no evidence that globalized economies are linked to an internationalized curriculum, challenging the idea that internationalization is a straightforward response to the demands for an internationally competent labor force. At the same time, we do find that institutions focused on the economy (i.e., business schools) have embraced internationalization to a greater extent. However, as noted earlier, this embrace might reflect not purely economic processes but also the extent to which business and management have succeeded in constructing myths of globalized labor markets and professional expertise.

Importantly, our analyses did not find the demography of students to be linked to an internationalized curriculum (e.g., Brint et al. 2011). International student mobility mostly showed no effects and even had a negative association with our global variant, pointing perhaps to a trade-off between different types of internationalization (curriculum vs. student mobility). Teachers or program directors apparently do not adapt their study profile to international students, nor do students seem to be attracted by an international offering. It is important to note that our measure for an

internationalized student body was at the country level. Future research could improve on the issue with organization-level, and ideally, longitudinal, data—which would also be helpful in addressing concerns of reverse causality.

Contrasting these functionalist imageries, our findings point to the usefulness of situating internationalization in the context of evolving blueprints in world society, which increasingly emphasize higher education for a globalized rather than purely national society. Our findings indicate that universities with certain organizational structures and linkages to international networks are more receptive to these models. In this, we confirm previous studies that identify an “internationalist” type of university (Seeber et al. 2016). Such universities have a formalized institutional strategy, that is, an international office, and are embedded in regional and global networks of university cooperation. The fact that they also display a more outward-looking curriculum should not come as a surprise, as these institutions seem to have made deliberate decisions to internally internationalize. Unlike prior cross-national research on university innovations (e.g., Wotipka et al. 2018), we did not find evidence for the impact of INGO ties, suggesting that in this case, organizational linkages seem to matter more than national ones.


Finally, our study points to the importance of disciplinary configurations. The number of social science programs in a given university positively and strongly predicted the likelihood of internationalized curricula in general and in each of the specific variants. This supports previous research that stresses the growing international and, indeed, global outlook of the social sciences over time—facilitated, perhaps, by their scientized conception of society (Heilbron 2014; Knutsen 2016). We found the sciences and humanities to be less and more distinctively linked to internationalized foci compared with the social sciences. Concretely, the sciences signal their globe-spanning focus through earth studies programs, reminiscent of earlier findings about the diffusion of environmental programs, for example (Frank et al. 2011). In turn, the humanities—reflecting an older era of university knowledge—show little contribution to international programs yet positively affect the adoption of regional foci (Frank and Gabler 2006). Future studies could examine these disciplinary differences in more detail to understand whether there might be trade-offs among these heterogeneous visions of the world.

Our study shows how millions of university students around the world are taught to think of the international arena. We show that the nation-state remains an important reference in university knowledge, yet roughly 5 percent of degrees worldwide already make an explicit reference to some form of international frame. In general, our findings point to a multidimensional set of factors shaping such internationalized curricula, contributing to the sociological theorization of curriculum formation. Empirically, future research might greatly benefit from longitudinal data in order to gauge the beginning, spread, and relative changes of internationalized conceptions or, more grimly, the suppression of such global curricula in light of illiberal voices recently gaining support in many countries around the world (Schofer, Lerch, and Meyer 2018). Together, these insights may help improve our understanding of the university’s dynamic and central role in globalization processes.

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ORCID ID

Mike Zapp  <https://orcid.org/0000-0002-1055-1936>

SUPPLEMENTAL MATERIAL

Supplemental material for this article is available online.

NOTES

1. The *interstate* focus might be more accurately described as an *international* focus. However, we use *interstate* to avoid confusion with general internationalization emphases.
2. We recognize that this hypothesis should ideally be formulated at the organization level. However, reliable cross-national data on international student enrollment at the university level do not exist. We also point to the possibility of reverse causality, which we are unable to assess in our cross-sectional design yet discuss further later.
3. An alternative measure would be the proportion of international programs. We opted for a binary measure because our analyses showed that around 60 percent of universities did not have any internationalized

programs, suggesting that the mere presence of a program is a meaningful divide. A binary measure is also less prone to measurement error.

4. Our main models do not control for a country's economic development or democracy, as these measures are highly correlated with key predictors (economic globalization, student mobility, international nongovernmental organizations). However, we report on robustness analyses including these variables in the online appendix.
5. Given the rather large odds ratio for this variable, we carefully checked it for outliers. However, dropping these from the analyses left the odds ratio almost unchanged.
6. We followed the same strategy to check for outliers given large odds ratios (see note 5).
7. We thank a reviewer for this point.

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Author Biographies

Mike Zapp is postdoctoral researcher at the Department of Social Science at the University of Luxembourg. He is interested in worldwide institutional change in education and the role of international organizations in world society. His research has appeared in *Comparative Education Review*, *International Journal of Educational Development*, and *International Sociology*.

Julia C. Lerch is an assistant professor in the Department of Sociology at the University of California–Irvine, where she studies the impact of global cultural principles and organizations on social domains of life around the world, especially education. Current projects focus on changes to educational curricula wrought by globalization, changing conceptions of human needs in the humanitarian aid sector, and contemporary resistance to global culture and institutions. Recent publications appear in *International Journal of Comparative Sociology*, *Comparative Education Review*, and *Gender and Society*.