Article:
Yoon, H orcid.org/0000-0003-1423-9808, Belkhouja, M, Wei, Y orcid.org/0000-0003-2556-880X et al. (1 more author) (2021) Born to be similar? Global isomorphism and the emergence of latecomer business schools. International Business Review, 30 (5). 101863. ISSN 0969-5931

https://doi.org/10.1016/j.ibusrev.2021.101863

Born to be similar? Global isomorphism and the emergence of latecomer business schools

Hyungseok (David) Yoon
Leeds University Business School
University of Leeds
Maurice Keyworth Building
Leeds LS2 9JT, United Kingdom
Email: h.yoon@leeds.ac.uk

Mustapha Belkhouja
Grenoble Ecole de Management
Univ Grenoble Alpes ComUE
12 rue Pierre Sémard
38000 Grenoble, France
Email: mustapha.belkhouja@grenoble-em.com

*Yingqi Wei
Leeds University Business School
University of Leeds
Maurice Keyworth Building
Leeds LS2 9JT, United Kingdom
Email: Y.Wei@leeds.ac.uk

Sangho Lee
College of Business
KAIST (Korea Advanced Institute of Science and Technology)
335 Gwahangno, Yuseong-gu
Daehak-ro, Yuseong-gu
Daejeon 34141, Republic of Korea
Email: shlee83@kaist.ac.kr

*Corresponding author

Acknowledgements: The authors acknowledge valuable suggestions and comments from the editor, Professor Roger Strange, and three anonymous reviewers. The usual disclaimers apply.

Born to Be Similar? Global Isomorphism and the Emergence of Latecomer Business Schools

Abstract

By building on insights from institutional isomorphism, this paper investigates the development paths of latecomer business schools in Hong Kong, (South) Korea, Singapore, and Taiwan. The global isomorphic pressure prevalent in higher education (e.g. the global regime of rankings) drives latecomers to imitate the practices of incumbents in order to enhance their academic impact through business and management research. Our study argues that latecomers respond to global isomorphism by forging their own paths. Our analysis shows that business knowledge production in Hong Kong and Singapore was more responsive to coercive (research strategy) and normative (faculty recruitment strategy) isomorphic pressure than Korea and Taiwan. The response to mimetic isomorphic pressure (co-authorship strategy) was less salient in Hong Kong and Taiwan than in Singapore and Korea. Further, we find that research, faculty recruitment, and co-authorship strategies affect the academic impact (citations) of the higher education institutions across each country differently. Our study sheds new light on the role of global isomorphism in the emergence of latecomer business schools.

Keywords: business school, catch up, citations, isomorphism, latecomer

1. Introduction

A growing number of international business (IB) studies using neo-institutional theory has advanced our understanding of organisational isomorphism and corporate reputation and legitimacy (Marano and Tashman, 2012; Marano et al., 2017; Martínez-Ferrero and García-Sánchez, 2017; Tashman et al., 2019; Yi et al., 2018). Although prior studies are insightful, they have paid little attention to the context for examining international comparisons of particular kinds of institutions and their influence on particular kinds of organisations (Deephouse et al., 2016; Jackson and Deeg, 2019). For instance, prior studies tend to focus on national institutions: those of the home country, those of the host country, and the similarity or the difference between the two (Ahmadjian, 2016; Kostova, Roth, & Dacin, 2008). Few studies have considered the institutional forces and norms set by supranational organisations such as the World Trade Organization, the World Bank, and UNESCO (Cai, 2010).

This global isomorphic pressure is well-established in higher education, in which global university rankings provide a powerful impetus for market competition (Collet and Vives, 2013; Collins and Park, 2016; Hazelkorn, 2015; Stensaker et al., 2019; Wilson and McKiernan, 2011). For universities, the pursuit of academic and research excellence increasingly involves benchmarking against regional and international competitors (Thomas and Wilson, 2011). Being recognised for research (e.g. the academic impact of research) is important, because tuition and research funding are progressively channelled to institutions that rank the highest with their peers (Mudambi et al., 2008). For instance, many universities play by the rules (i.e. evaluation criteria) set by global university rankings (e.g. provided by Times Higher Education, Quacquarelli Symonds, and Shanghai Jiao Tong University). Whereas the global rankings remain dominated by universities in countries in North America and Western Europe, Asian institutions of higher education institutions(HEIs) (especially business schools

and management departments[1]) have been catching up rapidly (Collet & Vives, 2013). Some of the younger business schools[2] have been performing well in global university and business school research rankings (Antunes and Thomas, 2007; Thomas and Wilson, 2011; Mudambi et al., 2008). As part of a ranking exercise conducted in 2019, *Financial Times* even published a news article titled 'Asian Business Schools Outpace Rest of the World'[3], in sharp contrast to the first FT ranking published in 1999, when no Asian business schools made the grade.

Against this backdrop, the purpose of this paper is to understand the different responses of Asian business schools to global isomorphic pressures in order to enhance their academic impact through business and management research (i.e. citations). Citations are the 'frozen footprints on the landscape of scholarly achievements' (Cronin, 1984) that capture the degree to which HEIs receive large-scale collective recognition in their field (Judge et al., 2007; Rindova et al., 2005). In the growing expectation that HEIs should be more accountable to society (Buckley et al., 2017; Rafols et al., 2012), citations have become an important metric of research excellence (Judge et al., 2007). Drawing on institutional

[1] For example, according to University of Texas at Dallas (UTD) Top 100 Business School Research Ranking 2011-2015, which takes into account the publications in 24 leading business and management journals (i.e. the 'UTD journal list') by author affiliations, there are nine from the four 'dragons (i.e. Hong Kong, [South] Korea, Singapore, and Taiwan)' in the top 100 ranking. Together, they published more than 800 research articles, representing 7.5% of the articles published by the top 100 business schools. In comparison, there are seven business schools in continental Europe in the ranking, which published around 700 articles.

[2] Whereas the very first generation of business schools was established in the US (Wharton in 1881, Louisiana in 1851, and Wisconsin in 1852) and Europe (ESCP in 1819) (Kaplan, 2014; Masrani et al., 2011; Spender, 2008), the oldest business schools in East Asia were established in the mid- to late 1900s (Seoul National University in 1946, National University of Singapore in 1961, City University of Hong Kong in 1990, Nanyang Technological University in 1991, Hong Kong University of Science and Technology in 1991, and Korea Advanced Institute of Science and Technology in 1996).

[3] https://www.ft.com/content/6dfc1752-df9d-11e9-b8e0-026e07cbe5b4/.

isomorphism, our framework explains the catch up of Asian HEIs, in particular, business schools, as evidenced from their citations. Business schools have now become a global sector and are subject to global, as well was national, forces that shape their strategies (Kothiyal et al., 2018). The neo-institutional theory (DiMaggio and Powell, 1983; Kolk and Perego, 2010) expects similarity in the catch-up process (e.g. building and maintaining academic legitimacy and reputation) resulting from isomorphic forces. However, as highlighted by Oliver (1991: 175), 'organizations do not invariably conform to rules, myths or expectations of their institutional environments'. In the same vein, some recent studies show that latecomers have emerged by forging their own paths (Enderwick and Buckley, 2021; Lee, 2019; Lee and Lim, 2001). Thus, our framework helps shed light on the strategies adopted by latecomer business schools in response to global isomorphic pressures enabling them to catch up, as evidenced by an increase in their academic impact.

Specifically, our framework theorises the effects of a response to coercive (research strategy), mimetic (co-authorship strategy), and normative (faculty recruitment strategy) isomorphic pressures on the academic impact (measured by the number of forward citations[4]) of HEIs in Asia's four dragons—Hong Kong, (South) Korea, Singapore, and Taiwan—in a comparative manner. As coercive isomorphic pressure refers to the rules of the game (DiMaggio and Powell, 1983), we assess the research strategy reflected in the volume and journal ranking of publications that can subsequently influence the academic impact of HEIs. In addition, given that mimetic isomorphism drives individuals to imitate others (Croucher and Woelert, 2016), we operationalise mimetic isomorphism as international co-authorship (especially with North American institutions), which has become a prevalent practice that exposes many latecomer HEIs to the state-of-the-art research paradigm and fosters them to exchange ideas with

[4] The number of forward citations is considered one of the most popular research performance metrics that represent the academic impact of HEIs (Aksnes and Rip, 2009; Zaggl, 2017).

preeminent scholars. Furthermore, as normative isomorphism addresses professionalisation (Levinson, 1989), we assess the role of faculty internationalisation in reaching out to a wider range of audiences in order to expand the academic impact.

To test our conjectures, we collected business and management journal articles produced by indigenous HEIs in Asia's four dragons over the period from 1996 to 2016. This empirical context is chosen for reasons related to the comparability of the countries. These locations have all emerged as high-performing, vibrant economies despite some economic and political turbulence from time to time. Their catching up began in the 1960s. Two other latecomer catch-up Asian countries with successful business schools are China and India, but their development occurred much later—China in the 1980s and India in the 1990s. In addition to their rapid industrialisation and economic development, the four societies have many common features, in terms of their socioeconomic structure, cultural characteristics, and human development (Chia et al., 2007). This commonality helps ensure the validity of our cross-country comparative analysis. Thus, our research context provides an ideal setting for offering insights into national variations in the strategic choices made by organisations in response to global institutional norms.

Our analysis based on the aggregation of bibliometric data at the country level shows that the response by Hong Kong and Singapore to coercive (research strategy) and normative (faculty recruitment strategy) isomorphic pressure was more salient than by Korea and Taiwan. The response by Hong Kong and Taiwan to mimetic (co-authorship strategy) isomorphic pressure was less salient than that by Singapore and Korea. Furthermore, our panel data regression analysis using a sample of 95 HEIs shows that research, faculty recruitment, and co-authorship strategies affect the academic impact (citations) of the HEIs in each country differently. Taken together, our comprehensive analysis not only explores the status of latecomer HEIs in terms of three dimensions of isomorphism but also tests their effects on the academic impact of HEIs in Asia's four dragons in a comparative manner.

Our contributions are twofold. First, our study adds theoretical value to the neo-institutional literature on organisational strategy by accounting for global isomorphism in the context of the emergence of latecomers. Although institutional theory has been widely adopted in the field of IB, the explanations on the catch-up strategies of manufacturing firms in latecomer countries (Enderwick and Buckley, 2021; Kumaraswamy et al., 2012; Meyer, 2018; Miao et al., 2018) often focus on the economic aspect of institutional forces (e.g., import duties, R&D subsidies, technology standardisation and adoption). Limited attention has been paid to sociological forces (e.g. legitimacy, reputation) that have important implications for the development and growth of latecomers' industries (Markard et al., 2016). Prior studies offer little guidance on how to conceptualise the catch-up strategies and outcomes (e.g. academic impact signalling reputation) of HEIs, which are different types of organizations from manufacturing firms (Seeber et al., 2015) and one of the key challenges in their catching up is managing complex institutional logics and legitimacy. Subsequently, we argue that the sociological perspective of global institutional forces is an important additional element for latecomers to consider in a challenging institutional environment filled with incompatible institutional logics by multiple stakeholders (Etzkowitz, 2003; Greenwood et al., 2011; Seeber et al., 2015; Townley, 1997; Vican et al., 2020). Organisations' strategic choices thus need to be investigated with an integrative institutional framework under the influence of global forces as well as global resources. In this sense, by investigating the responses by latecomer HEIs to isomorphic pressures and the effects on their academic impact, our study not only introduces fresh ideas that enrich the literature on catching up but also addresses the recent call for understanding national variations in response to common exogenous global pressures (Campbell, 2004; Jackson and Deeg, 2019).

Second, although much has been written on how technologically laggard Asian firms [5] successfully competed with incumbents in developed countries (for a literature review, see Miao, Song, Lee, & Jin, 2018), little attention has been paid to the catching up of their universities. The need to develop a knowledge-based economy has made 'building world-class universities' high on the policy agenda of global organisations, such as the World Bank and national governments (Salmi, 2009). For instance, despite the rapidly improving research reputation of HEIs in Asia (Leung, 2007; Tsui, 2007), we still lack understanding on their research production scene and strategies (Mudambi et al., 2008). As Richard Levin, the president of Yale, put it, the East is rising and the West needs to be prepared for competition and collaboration (Levin, 2010). In this sense, our focus on the HEIs in Asia's four dragons enriches understanding on how these latecomer HEIs are coping with the isomorphic pressures set by forerunners to them and other stakeholders (e.g. government, accreditation bodies, and research communities). Our findings should also be of value to hybrid organisations that combine the features of public, private, and non-profit organisations (as universities have increasingly become) (Jongbloed, 2015) and knowledge-intensive service firms (as universities resemble, with their provision of knowledge-intensive services) that face international competition either on their home turf or in an international market, and therefore under the influence of globalisation.

2. Theoretical Foundation and Hypotheses Development

HEIs have many more stakeholder groups than for-profit organisations (Bingham et al., 2001), including university administrators, faculty, funding organisations, accreditation bodies, governors, state legislators, students, alumni, unions, and local community members (Palmer and Short, 2008), which

[5] Only a few latecomer economies, particularly Asia's four dragons, have achieved an unprecedented level of growth and catch-up by escaping the middle-income trap (Lee, 2013; Moon et al., 1998).

may advocate different institutional logics, defined 'as the socially constructed, historical pattern of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organise time and space, and provide meaning to their social reality' (Thornton & Ocasio, 1999: 804). The strategic choices of organisations are influenced by the institutional logics to which they are exposed. Because the logics define legitimacy (Greenwood et al., 2011), HEIs face particular challenges in responding to multiple stakeholder groups that may have incompatible institutional logics.

Laden with such institutional complexity specific to higher education, as well as the broadly unique institutional setting of Asian latecomer economies (Oehmichen, 2018), it is not difficult to make the case that a latecomer's strategic choices for catching up are influenced by global isomorphism and constrained by incumbents' resources and talent. In addition, the strategic decisions of a latecomer are constrained by its resources and local institutional environment (Darley and Luethge, 2019; Mathews, 2002). Its response to the institutional landscape is broadly in line with the acquiescence strategy described by Oliver (1991), which takes the form of habits (following invisible, taken for granted norms), imitation (mimicking institutional models), and compliance (obeying rules and accepting norms). This strategy offers added value for Asian business schools to gain legitimacy in the eyes of national and international stakeholders because it sets rules for those with limited ability and credibility to contest the global institutional norm due to reliance on incumbents' resources.

Accordingly, the overarching reasoning in our framework relies on isomorphism, which is 'a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions' (Lieberman & Asaba, 2006: 371). Isomorphism helps latecomer organisations to flatten their learning curve and reduce outcome uncertainty (Li and Kozhikod, 2008). The role of institutional isomorphism in higher education was first suggested by Riesman (1956: 25), who observed that 'there is no doubt that colleges and universities in this country model themselves upon each other'.

Whereas Riesman (1956)'s isomorphism was limited to a within-country phenomenon, the context of our research encompasses a cross-national phenomenon in which latecomer business schools in Asia are following the path mainly set by business schools in North America, particularly the US, the leader in the field, but that has attained global popularity (Mangematin and Baden-Fuller, 2008).

We apply three social mechanisms to our study context in which the institutional pressures for latecomer HEIs to become similar in perception and action are coercive, mimetic, and normative (Scott, 2001). The analytical lens focuses on their separate operation, but from an organisational perspective, they face these institutional demands simultaneously. D'Aunno et al. (1991) note that multiple, concurrent institutional pressures drive organisations to focus on the most pressing demands. Clemens and Douglas (2006) argue that coercive pressures are the strongest because they cannot be resisted. The alignment between coercive institutional pressure and other types of pressures is important, because the support of coercive pressure helps to avoid the rhetorical handling of or 'ceremonial conformity' with institutional pressures. This justifies our multi-dimensional approach, which helps disentangle the role of institutional isomorphism in the emergence of latecomer business schools by investigating their responses to common global pressure and examining the performance (i.e. academic impact) implications of their strategic responses.

Coercive isomorphic pressure occurs through informal rules (e.g. conventions, codes of conduct, and norms of behaviour) and formal rules (e.g. laws, regulations, and sanctions) (DiMaggio and Powell, 1983). Business schools exist in a complex legal and political environment in which they are expected to conform to a wide range of externally mandated expectations, practices, and regulations of economic and non-economic agencies, including the government, ranking agencies, universities, and professional associations (e.g. the Chartered Association of Business Schools [CABS], the Academy of Management, the European Academy of Management, and the British Academy of Management) (Finch et al., 2017; Wilson and McKiernan, 2011). The government's role in providing financial aid and funding research,

the expectations of accreditation agencies, legal decisions on affirmative action and desegregation, competition for scarce resources, and a host of other externally generated regulatory processes have produced a web of 'rule-setting, monitoring, and sanctioning activities' (Scott, 2001). Research-intensive business schools have increasingly engaged in benchmarking and accreditation exercises so as to gain legitimacy and improve their reputation, which helps them to attract students and research funding (Mudambi et al., 2008).

The research strategy reflected in research evaluation systems for benchmarking and accreditation usually assesses the volume and journal ranking of publications. Research volume–based evaluation considers the number of publications, whereas journal ranking–based assessment counts the number of top journal publications (McDermott et al., 1994; Mingers and Xu, 2010). In fact, inspired by the American system, British business schools have used publication in top-tier journals to evaluate research outputs since 1986 (Macdonald and Kam, 2007). In addition, several prestigious universities and business schools (e.g. University of Texas Dallas' Naveen Jindal School of Management, Hautes Études Commerciales [HEC] Paris, and École Supérieure des Sciences Economiques et Commerciales [ESSEC]) compile their own list of journal rankings, and many business schools evaluate research outputs by referring to existing national or media journal rankings (e.g. British Chartered Association of Business Schools Ranking, Australian Business Deans Council, French Centre National de la Recherche Scientifique Ranking, and Financial Times Top 50 Journal Ranking) (Mingers and Harzing, 2007). Despite various criticisms, these lists have been widely used in research evaluation (Walker, Fenton, Salter, & Salandra, 2019). This journal ranking–based research evaluation helps latecomer HEIs to benchmark the academic impact of their research outputs.

Hypothesis 1. *Journal ranking–based research evaluation (i.e. top journal publications) that reflects latecomer HEIs' response to coercive isomorphic pressure influences their academic impact (i.e. citations).*

Individuals/organisations interpret the physical world around them through pre-existing frames of reference concerning compliance with coercive pressure and resource constraints in their development (DiMaggio and Powell, 1983). Mimetic isomorphism has its roots in environmental uncertainty, which leads to imitation and drives individuals and organisations to emulate others (Croucher and Woelert, 2016). Because of the uncertainty embedded in academia, scholars in latecomer countries, like their manufacturing counterparts (Chen et al., 2016; Lee and Yoon, 2015), complement missing or inadequate resources, such as skills, experience, and knowledge, through international collaboration (Baden-Fuller and Ang, 2001; De Filippo et al., 2016; Eisend and Schmidt, 2014). This practice, though it offers latecomers opportunities to learn from and to mimic their international peers, causes a degree of reliance on incumbents.

On the research front, mimetic isomorphic pressure leads researchers at latecomer HEIs to rely on the research paradigm of global talent and global networks in North America (particularly the US) through co-authorship (Baden-Fuller and Ang, 2001; Eisend and Schmidt, 2014). This is because imitating leaders in the field offers a 'rational' strategy and provides 'positive pay-offs' to organisations when they confront ambiguous goals and an uncertain environment (Ordanini, Rubera, and DeFillippi, 2008). North American scholars and institutions have gained and/or maintained academic impact worldwide and are de facto leaders in research communities (Burgess and Shaw, 2010). At the North American institutions where the new public management movement originated, performance-based reward and funding programmes that provide strong incentives for their scholars to publish in top journals have been widely adopted. Additionally, academic education and training at North American institutions might better prepare their PhD students andholders as researchers (Vogel et al., 2017). In this sense, co-authoring with North American scholars helps researchers in latecomer HEIs to increase their likelihood of publishing in top journals, which are mostly US-based outlets, thereby enhancing the propensity of their research to be cited (Meyer and Boxenbaum, 2010). Moreover, co-authorship also provides rich

access to databases, expertise, prestige, funds, equipment, and language skills that latecomer HEIs might lack, enabling them to produce high-impact outputs (Eisend and Schmidt, 2014). Nevertheless, this collaboration acts as a coercive mechanism which compels academics based at latecomer business schools to focus on the academic impact and to design processes and products that align with global practices. This is manifested at the strategy level to adjust planning and resource allocation and respond to the mimetic pressure (Ordanini, Rubera and DeFillippi, 2008).

Hypothesis 2. *Co-authorship with North American institutions that reflects latecomer HEIs' response to mimetic isomorphic pressure influences their academic impact (i.e. citations).*

In addition, normative isomorphism reflects the perceptions and taken-for-grantedness of actors that stem primarily from professionalisation (Levinson, 1989). Normative isomorphism emphasizes the importance of formal educational credentials for faculty members with legitimate areas of specialisation (DiMaggio and Powell, 1983). On this premise, filtering and hiring faculty members through a limited number of universities and business schools results in shared values and norms that are the product of common socialisation experience (Finch et al., 2017) as well as acquisition of foreign knowledge (Chen et al., 2016; Tzeng, 2018). In particular, graduates of North American universities are socialised in the dominant research culture, and those trained at the dominant research-intensive HEIs have more opportunity to be hired in the global labour market. Although graduates of a few foreign universities (particularly, those in North America) are preferred in the academic job market, business schools have been increasingly diversifying the ethnicity and nationality of their faculty members in response to the demands of accreditation bodies (Richardson and Zikic, 2007).

Because of the globalised contemporary business environment and operating model for business schools, accreditation bodies (e.g. the Association to Advance Collegiate Schools of Business [AACSB], the European Quality Improvement System [EQUIS] and the Association of MBAs [AMBA]) encourage HEIs to increase the internationalisation of their faculty members. When foreign scholars relocate, they

bring with them a unique set of knowledge and skills that they acquired during their prior training, when they worked in somewhat separate academic communities (Tzeng, 2018). Finally, the internationalisation of faculty recruitment helps research outputs to be transmitted to a wider audience through ethnic networks (Breschi et al., 2017), thereby enhancing the awareness and diffusion of research outputs.

Hypothesis 3. *The internationalisation of faculty recruitment reflecting latecomer HEIs' response to normative isomorphic pressure influences their academic impact (i.e. citations).*

3. Methods

3.1. Data and sample

To test our hypotheses in a comparative manner (**see Figure 1**), we collected journal articles in the broad subject area of 'business, management and accounting'[6] that were written by scholars affiliated with local institutions in Hong Kong, Korea, Singapore, and Taiwan from 1996 to 2016. We relied on bibliometric data from Scopus, one of the most widely used databases for analysis of publications and bibliometric information (Ebadi and Schiffauerova, 2016; Frietsch et al., 2009). The bibliometric details of the papers include the names and affiliation of all authors, journal names, citation data, and other information, such as publisher details, abstract, and keywords. We focused on peer-reviewed journal articles in English, yielding 33,691 papers. This secondary data was re-arranged at the HEI-year level for each country. We limited our sample to HEIs that published at least 100 articles over the sample period so as to focus on HEIs that are committed to research and view research communities as their most important stakeholder. After filtering the data and standardising the names of HEIs, we end

Insert Figure 1 here[7]

[6] Most of the journal articles are in 16 subject areas proposed in Harzing's Journal Quality List.

[7] We are indebted to an anonymous reviewer for this figure.

up with 95 institutions: 12 HEIs in Hong Kong (231 observations), 25 HEIs in Korea (509 observations), 9 HEIs in Singapore (133 observations), and 49 HEIs in Taiwan (901 observations).

3.2. Variable Measurement and Empirical Model

3.2.1. Dependent Variable

Our dependent variable *Academic impact* is the yearly number of (forward) citations received by each HEI. As noted by Leahey et al. (2017), the citation count is an important measure of the academic impact.

3.2.2. Explanatory Variables

To operationalise the organisational response to coercive isomorphic pressure, we used *Percentage of publications in top journals,* which is the ratio of the cumulative annual publications in the UTD journal list to the cumulative overall publications of an institution. Despite the potential concerns over reliance on such a restricted set of publication outlets, these journals are perceived to be of high calibre and factored into the rankings of business schools and the promotion of faculty members (Jensen and Wang, 2018; Mingers and Xu, 2010). Nevertheless, we employed two alternative measures as robustness tests. The first calculates the yearly percentage of publications in top journals as the ratio of the cumulative number of publications in UTD journals to the cumulative number of publications in non-UTD journals. The second uses 4* journals in the CABS journal ranking list (i.e. Academic Journal Guide 2015)[8], as a reference for top publications, to calculate the yearly percentage of publications in top journals by dividing the cumulative number of publications in CABS 4* journals by the cumulative total publications.

[8] https://charteredabs.org/academic-journal-guide-2015-view/.

We measured the organisational response to mimetic isomorphic pressure by assessing the co-authorship strategy (*Percentage of collaborations with North America*), which is the yearly ratio of the cumulative number of collaborations with institutions in North America to the cumulative number of collaborations across all regions.

To operationalise the organisational response to normative isomorphic pressure, we assessed the internationalisation of faculty recruitment, measured by the diversity of ethnic groups in the faculty. To create this variable, *Ethnic diversification* of researchers, we first generated a list of authors affiliated with a given institution, based on their publications, that we update each year. Then, we used the IBM GNR (Global Name Recognition) database to determine the ethnic identification of each author. Despite the technical limitations on achieving a perfect ethnic identification of each author, prior studies showed that the accuracy of name-ethnicity matching is generally high and acceptable (Breschi et al., 2017; Nathan, 2015). The *Ethnic diversification* variable was then created using the Blau's index (= 1- $\sum_{i=1}^{I} f_i^2$ where f_i is the proportion of authors affiliated with the focal HEI in the i^{th} ethnic group, and $i = 1, \ldots I$) (Harrison and Klein, 2007).

3.2.3. Control Variables

Several control variables are included, based on prior studies; see Table 1 for variable definitions. The first set of control variables is for international collaboration; the construction of these variables—*Percentage of collaborations with Europe*, *Percentage of collaborations with Asia*, *Percentage of collaborations with RoW* (the rest of the world), and *Percentage of domestic collaborations*—is similar to that of *Percentage of collaborations with North America*.

As academics' past success breeds future success, i.e. the so-called Matthew effect (Merton, 1968), frequently cited researchers generally are more likely to be cited in the future (Belkhouja and Yoon, 2018; Judge et al., 2007). If we assume that a similar self-reinforcing mechanism exists at an

aggregate level, HEIs that perform better are likely to obtain more resources, produce higher-quality research, and have a greater academic impact (Confraria et al., 2016). Therefore, we included *Prior academic impact*, which is a one-year lagged dependent variable, i.e. the number of citations received by each HEI in the previous year. Including this variable is also an effective and common way to control for unobserved heterogeneity (Heckman & Borjas, 1980). This variable is log transformed because it is highly skewed. This transformation creates a log-log relationship with the dependent variable (*Academic impact*).

We also control for the AACSB accreditation (*Accreditation*), as a signal of academic recognition, with is a dummy variable that equals 1 (one) if the focal institution is accredited, and 0 otherwise.

As prior studies show that being exposed to diverse knowledge domains affects the novelty and impact of research (Dell'Era and Verganti, 2010; Wang et al., 2017), the degree of diversification in business and management research (*Research diversification*) by the focal HEI is taken into account. To operationalise this variable, we first assigned each article to one of the 22 subject areas in the 'Academic Journal Guide 2015' according to the publication outlet and, then, computed a yearly score of research diversification for each HEI by using the Blau's index (= 1- $\sum_{j=1}^{J} p_j^2$ where p_j is the proportion of articles published by the focal HEI in the j^{th} subject area and $j = 1, \ldots J$) (Harrison and Klein, 2007).

We control for research-intensive institutions (*Elite institution*) by referring to the annual UTD top 100 worldwide business school research ranking[9]. This dummy variable is coded as 1 (one) if the focal institution was in the UTD ranking in a given year, and 0 otherwise.

Finally, we included fixed effects for the year and HEIs.

Insert Table 1 here

[9] https://jindal.utdallas.edu/the-utd-top-100-business-school-research-rankings/.

3.2.4. Empirical Estimation

Because the dependent variable is a nonnegative count variable, we may use either Poisson or negative binomial regressions for the panel data regression analysis. Although the Poisson estimators are more consistent than the negative binomial distribution estimators (Gourieroux et al., 1984), the negative binomial specification is better at dealing with the over-dispersion issue (Wooldridge, 2002). Therefore, we adopted the fixed-effects (HEIs and year) Poisson model with robust standard errors in our main analysis (see Section 4.2**)** and used the negative binomial model for a robustness check. Our results obtained from both models remain qualitatively similar.

As the parameters are scaled in terms of the natural logarithm of the (count) dependent variable, the interpretation of a Poisson (or negative binomial) regression coefficient is as follows, '*the exponent of the regression coefficient, e^{β}, provides the expected multiplicative effect for a one-unit change in the independent variable scaled in terms of the original dependent variable, conditional on all independent variables being at their mean*' (Seibert et al., 2017, p. 1117). An alternative interpretation is that a change in the independent variable of one standard deviation (SD) is associated with a conditional expected multiplicative change in the dependent variable at the scale of $e^{\beta*SD}$ (i.e. exponential product of the coefficient and the standard deviation) (Long, 1997). The latter approach enables standardised comparisons across independent variables with different scales.

4. Results

In accordance with a number of studies on latecomers' catching up (Figueiredo and Cohen, 2019; Lee and Ki, 2017; Wu and Mathews, 2012), we assess the catching up by latecomer business schools as a multi-faceted phenomenon because this transition is characterized by interactions among multiple actors (e.g. business schools, national governments, accreditation bodies, and professors). Subsequently,

although our descriptive analysis aggregates the data at the country level (Section 4.1), the regression analysis uses the data at the organisational (i.e. HEI) level in each country (Section 4.2).

4.1. Descriptive Evidence

To understand the role of coercive isomorphism, we assessed the research volume and the percentage of publications in top journals (UTD journal list) that are aggregated at the country level on a yearly basis. Figure 2 shows that the research volume in Hong Kong and Singapore has grown steadily. Taiwan has accelerated its business knowledge production since 2004, followed by Korea since 2007. Regarding the percentage of top journal publications (publications in the UTD journal list), Hong Kong and Singapore have taken the lead since 2001 and show a similarly increasing trend. Although Korea and Taiwan have led in research volume over the past decade, the percentage of their top journal publications is lower. This shows that top journal publication pressure has long been higher in Hong Kong and Singapore than in Korea and Taiwan.

Insert Figure 2

Academics in Hong Kong and Singapore aim to publish in the narrow list of the leading journals in the West (UTD journal list), whereas those in Korea and Taiwan prefer to publish in a broad list of internationally recognised journals. This difference in academic behaviour can be explained by the framework on the evolution of business schools and associated legitimacy providers as proposed by Thomas and Wilson (2011). Most of the HEIs in Hong Kong and Singapore are considered more established, with their legitimacy granted by global ranking and international accreditation bodies that focus on maintaining the global research standard. The legitimacy of Korean and Taiwanese HEIs is bestowed by national governments, which focus on identifying national role models and establishing corporate linkages (Choung and Hwang, 2000). These different institutional configurations offer some clues for our quest to understand the influence of coercive isomorphism (research strategies) on the catching up (academic impact) by HEIs in each country.

The role of mimetic isomorphism is examined by plotting the evolution of co-authorship strategies by scholars. To understand the patterns of international collaboration, we show the geographic distribution of international co-authors by region (Figure 3). For instance, if a scholar in Hong Kong has two co-authors, one in France and the other in Italy, we count this as two collaborations with Europe for Hong Kong. Figure 3 clearly demonstrates that scholars in Asia's dragons mainly collaborated with peers who were affiliated with North American institutions at the beginning of the sample period. Although the patterns changed in Taiwan in 2003 (domestic collaborations have become much more prevalent) and in Hong Kong in 2008 (collaborations with Asian institutions have taken the lead), Singapore and Korea remained dependent on collaborations with North American institutions until 2015.

Insert Figure 3

To examine the role of normative isomorphism, we manually collected the data on educational background of academics from the websites of several leading business schools[10] and searched academic journal articles on faculty hiring practices. Although Asia's four dragons nowadays have globally well-ranked universities whose reputation keeps improving, many Asians still prefer to obtain their advanced (master's or doctoral) degrees from globally renowned universities, particularly in the West (Shin, Jung, Postiglione, & Azman, 2014). They still perceive the local university system as a less advanced version of the Western university system (Lee and Roberts, 2015). Under this prevalent perceived discount on Asian universities, regardless of whether an objective basis exists for this discount, graduates from globally renowned foreign institutions are held in extremely high esteem (Shin et al., 2014). An elite foreign qualification is seen as having a positive symbolic and substantial status among internal and

[10] We relied on the Eduniversal business school rankings to select the leading schools from each country (e.g. schools categorized as 5 Palms of Excellence or 4 Palms of Excellence).

external stakeholders that goes beyond the content knowledge people obtained at school (Lee and Roberts, 2015; Rhee and Lee, 2008).

Insert Table 2

In addition to positive emotional attachment to education in globally well-ranked universities, Asian HEIs have shown the same attitude in hiring US-educated scholars, in particular. As shown in Table 2, the proportion of the business school faculty members who were trained in the US is more than 70% at all organizations, except the Chinese University of Hong Kong (69%) and Nanyang Technological University (58%). The latecomer HEIs often rely on cognitive shortcuts, such as familiarity bias, to identify potential candidates (Ryazanova et al., 2017), which leads to hiring 'all but dissertation students' and academics from globally prominent institutions. By doing so, they expect to increase their institutional legitimacy with globally visible outputs of these academics and by transferring their knowledge to other peers to help them produce similarly valued outputs (Slavova et al., 2015).

Insert Figure 4

Nevertheless, international faculty hiring notably differs across countries. As shown in Figure 4, whereas the level of ethnic diversification in faculty staffing is relatively high in Hong Kong and Singapore, it is almost non-existent in Taiwan and Korea (i.e. Blau's index is nearly zero). Hong Kong and Singapore have been more successful in recruiting internationally mobile foreign academics, thanks to their strong infrastructure (e.g. highly globalised cosmopolitan cities, competitive salaries, and supportive research environment) and the adoption of English as a medium of academic communication in research. Korea and Taiwan focus on returnees (Shin et al., 2014). Although it is very hard to manage the visas and health insurance of foreign faculty members, because of constraints and bureaucracy embedded in government systems, many business school rankings and accreditation bodies emphasise the importance of workforce diversity, and many university leaders acknowledge the importance of faculty internationalisation in enhancing their global reputation and academic impact.

4.2. Regression Results

The summary statistics and bivariate correlations for each country are reported in Tables 3-6. To check whether multicollinearity is a concern, we calculated the variance inflation factor (VIF) scores for each variable that are well below the acceptable threshold of 10. Table 7 reports the results of fixed-effects Poisson regressions for the four countries separately. The Wald measures of overall fit indicate significant chi-square statistics for all models ($p < 0.01$), which confirms that the results are acceptable. All the models include fixed effects for HEIs and years.

Insert Tables 3-7 here

Starting with the coercive isomorphism (Hypothesis 1), the effect of *Percentage of publications in top journal publications* on an institution's academic impact is positive and significant for Hong Kong ($\beta = 0.39$, $p < 0.01$) and Singapore ($\beta = 1.42$, $p < 0.01$). Specifically, Hong Kong and Singapore receive respectively 104% and 189% more citations, on average, if they increase the percentage of publications in top journals by one SD. This finding supports Hypothesis 1. In contrast, the effect of *Percentage of publications in top journal publications* is not significant for either Taiwan ($\beta = -0.49$, $p > 0.10$) or Korea ($\beta = -0.31$, $p > 0.10$). These results are not surprising, because neither considers publishing in top journals a priority, as shown in Figure 2.

Turning our attention to mimetic isomorphism (Hypothesis 2), the results demonstrate that collaborations with North American institutions (*Percentage of collaborations with North America*) is significantly and positively associated with academic impact in Asia's four dragons. A comparison of the effects of the *Percentage of collaborations with North America* on the academic impact of HEIs across the four Asian countries reveals that Singapore obtains the most benefit ($\beta = 2.11$, $p < 0.01$), followed by Korea ($\beta = 1.92$, $p < 0.01$), Taiwan ($\beta = 1.56$, $p < 0.01$), and finally Hong Kong ($\beta = 1.14$, $p < 0.01$), which is paying increasingly attention to collaboration with Asian institutions, as shown in Figure 3. These findings indicate that a one-standard-deviation increase in *Percentage of collaborations*

with North America is associated with an increase in the number of citations received by institutions of 238% in Singapore, 233% in Korea, 181% in Taiwan, and 151% in Hong Kong. These results support Hypothesis 2.

Regarding the normative isomorphism (Hypothesis 3), the ethnic diversification in terms of faculty staffing seems to be an effective strategic response to enhance the academic impact of HEIs in Hong Kong ($\beta = 0.62$, $p < 0.01$) and Singapore ($\beta = 1.00$, $p < 0.01$), which validates Hypothesis 3 and corroborates our observations in Figure 4. That is, a one-standard-deviation increase in *Ethnic diversification* is associated with a 109% and 135% increase in the number of citations received by the HEIs in Hong Kong and Singapore, respectively. The results show also that *Ethnic diversification* has a significantly positive effect ($\beta = 0.33$, $p < 0.01$) on the academic impact of HEIs in Taiwan, even if they do not actively respond to the normative isomorphism pressure, as demonstrated in Figure 3. However, ethnic diversification has no effect on the academic impact of HEIs in Korea.

As for the control variables, particularly international collaboration variables, our results show that international co-authorship is beneficial for academic impact in general. For Hong Kong, collaboration with Asian institutions has the highest positive effect on academic impact ($\beta = 1.77$, $p < 0.01$). A one-standard-deviation increase in *Percentage of collaborations with Asia*' is associated with 210% increase in the yearly number of citations received by HEIs in Hong Kong, which is consistent with their particular interest in such collaboration, as shown in Figure 3. Regarding the Korean HEIs, collaboration with European institutions, even if it does not seem salient in Figure 3, has the highest positive effect on its academic impact ($\beta = 3.32$, $p < 0.01$). A one-standard-deviation increase in *Percentage of collaborations with Europe* is associated with a 581% increase in the yearly number of citations. Moreover, collaboration with both Asian and domestic institutions, as a substitute for collaborations with North American institutions over the past few years (see Figure 3), also significantly increase the academic impact of Korean HEIs ($\beta = 2.51$, $p < 0.01$; $\beta = 2.44$, $p < 0.01$). However, no

benefit materialised from collaboration with institutions in the RoW ($\beta = 0.03$, $p > 0.10$). The result for Singapore is similar to that of Hong Kong in terms of collaboration with Asian institutions as the most important partners ($\beta = 2.89$, $p < 0.01$), in which a one-standard-deviation increase in *Percentage of collaborations with Asia* is associated with a 412% increase in the yearly number of citations. Although domestic collaboration seems marginal, as shown in Figure 3, it has the second-largest effect on academic impact ($\beta = 2.52$, $p < 0.01$). European institutions seem to be the most important partners for Taiwan, with a 258% increase in the yearly academic impact of HEIs ($\beta = 1.68$, $p < 0.01$) for a one-standard-deviation increase in the percentage of their collaboration. Moreover, collaboration with Asian HEIs is as important as domestic collaboration ($\beta = 1.41$, $p < 0.01$; $\beta = 1.54$, $p < 0.01$), which has been dominant over the past decade (see Figure 3).

Our results show that *Prior academic impact* is significantly and positively associated with the future academic impact across the four Asian countries, confirming the Matthew effect. Regarding the status effect of HEIs, the AACSB accreditation (*Accreditation*) makes a difference in the academic impact only for Singaporean HEIs ($\beta = 0.05$, $p < 0.01$), where the yearly number of citations is 5% higher for accredited HEIs than non-accredited HEIs. In the same vein, being in the top-100 UTD ranking has a positive and significant effect on HEIs' academic impact only in Korea ($\beta = 0.08$, $p < 0.01$), where the yearly number of citations is 8% higher for elite institutions in the UTD ranking than non-elite institutions (not in the UTD ranking). The findings for Hong Kong and Singapore can be explained by the highly productive HEIs in our sample.

Finally, our results on *Research diversification* show that the HEIs in Hong Kong, Singapore, and Taiwan, but not Korea, can enhance their citations by diversifying their research domains.

4.3. Robustness Checks

We conducted several additional analyses as robustness checks. In addition to the fixed-effects Poisson models used in our main analysis, we employed the fixed-effects negative binomial model, in

Appendix Table 1. Moreover, we used two alternative measures for *percentage of publications in top journals*, as explained in Section 3.2. The results are in Appendix Tables 2 and 3. All the results from the additional analyses are qualitatively similar and consistent with our main results.

5. Discussions

Our study extends the existing IB studies and catch-up literature (e.g. Enderwick and Buckley, 2021; Kumaraswamy et al., 2012; Lee and Lim, 2001; Miao et al., 2018) by suggesting that the sociological forces of global institutions shape the collective behaviour of HEIs across countries. This focus on global isomorphism makes an important contribution to the literature, because whether organisations adopt global practice is not decided by only economic considerations; rather, their motivation to pursue global practices is a response to isomorphic pressures exerted by the collective norms and values of an industry (Davis et al., 2000; Kwak and Yoon, 2020; Kostova and Zaheer 1999). Our comprehensive analysis of the status of HEIs' isomorphic behaviours in the four Asian dragons and the effects of isomorphism on academic impacts shows that the four countries have responded to global isomorphic pressures in a heterogeneous manner. The finding of national variations in common global exogenous isomorphic pressure is consistent with the view that latecomers are not merely imitators of incumbents' practices but forge their own paths by taking 'similar yet different' approaches to catching up (Lee, 2019).

First, strong conformance with global coercive isomorphic pressure is found in all countries, but to a greater extent in Hong Kong and Singapore than in Korea and Taiwan as revealed in our descriptive analysis. The 'publish or perish' maxim now applies to Asia. Academics in Hong Kong and Singapore have set their sights on leading journals in the West. HEIs in Hong Kong and Singapore consider not only the number of papers published in high-status journals but also the number of citations received by targeting high-status journals. Their promotion and tenure systems are Americanised, with competition

and a risk-taking culture. In contrast, Korea and Taiwan have conflicting global and national coercive pressures. Faculty members in Korea and Taiwan are evaluated almost solely on publications in a broader set of journals included in the SCI (Science Citation Index) and SSCI (Social Sciences Citation Index). Additionally, the regression analysis finds a positive effect of increasing the proportion of top journal publications on the academic impact for HEIs in Hong Kong and Singapore, showing that their research strategy of focusing on top journal publications pays off.

Second, it is well known in the literature that the academic impact is greater when co-authorship is international (van Raan, 1998). International collaborations enable access to a larger social network, which consequently enhances academic impact (Goldfinch et al., 2003). It also magnifies knowledge diffusion, as foreign scholars (especially those based in North America) are more likely to be in the networks of elite research groups (Adams, 2013). Although our results are broadly consistent with these explanations, the level of mimetic isomorphism has fallen over time in these four countries. Specifically, it remains higher in Singapore and Korea than in Hong Kong and Taiwan, as revealed in our descriptive analysis of co-authorship strategy. In particular, HEIs in Hong Kong are now at the core of global business and management scholarship, and they are reaching out to the periphery, especially by collaborating with scholars affiliated with Asian institutions, particularly those in mainland China. Typically, high-status actors seek to preserve their rank by avoiding association with low-status actors (Podolny 1993) or divergent practices that threaten a loss of legitimacy (Zuckerman 1999). However, HEIs in Hong Kong with global recognition have become less path dependent by collaborating with institutions on the periphery. This may be due to Hong Kong's global talent recruitment strategy. Postiglione (2013: 353) noted that surveys show 75% of Hong Kong academics earned an overseas doctorate at a university, usually in the USA or the UK'. HEIs in Taiwan have been heavily involved in domestic collaborations since 2000, as a substitute for its collaboration with North America, by targeting a broader set of journals, as mentioned earlier. Historically, Singaporean and Korean HEIs have relied

on collaboration with scholars based at globally prominent institutions mainly in the US. However, more recently, in Singapore and Korea reliance on North American institutions has steadily decreased, and collaboration with Asian institutions and domestic institutions have increased. As expected, our regression analysis suggests that collaborating with North American institutions significantly enhances the academic impact. Collaborating with North American institutions provides competitive advantages for latecomer business schools, because English is the lingua franca of scientific research (Eisend and Schmidt, 2014). In this vein, more than half the influential business and management journals have Anglo-American origins (Üsdiken, 2014). Nevertheless, our analysis shows that collaborating with European and Asian institutions is more beneficial for the academic impact of the Hong Kong, Korean, and Taiwanese HEIs than collaborating with North American institutions. A similar observation holds for Singapore, where collaboration with Asian or domestic institutions is more rewarding than collaboration with North American institutions. Complementing the conventional wisdom underscoring the benefits of research collaboration with North American institutions (Eisend and Schmidt, 2014), our analysis shows that collaborating with institutions from other peripheral regions also reaps significant benefits.

In sum, the results, coupled with observations in Figure 3, suggest that: HEIs in small countries (Hong Kong and Singapore) turned to international collaboration because of limited human resources in domestic markets compared to those in larger countries and thus have a greater need for international research partners (Narin et al., 1991); and countries that rely on domestic collaboration (Korea and Taiwan) are likely to produce more publications in specific areas, in which researchers probably cite their compatriots more frequently, thereby increasing the number of citations (Confraria et al., 2016). Overall, these findings highlight that Asian business and management researchers need to learn from the North American hegemony but, at the same time, need to have self-confidence and courage in diversifying their

collaborators (e.g. Europe, Asia) and using the local context to leverage indigenous knowledge (e.g. domestic collaboration) to make contributions to theory building that are globally relevant (Fang, 2010).

Third, the recruitment strategy of leading HEIs shows the presence of a stronger conformance with normative isomorphism in Hong Kong and Singapore than in Korea and Taiwan. Hiring is a way to conform visibly to normative pressure and gain legitimacy. Whereas Hong Kong and Singapore can make the best use of human capital with diverse cultural origins and extend scientific frontiers with their merit-based recruiting system as global leaders, Korea and Taiwan are still catching up to forerunners with their aristocratic recruiting system mainly targeting locals who received their degree in foreign countries. Our regression analysis also shows that ethnic diversification in faculty staffing enhances the academic impact of HEIs, especially in Hong Kong and Singapore. This staffing strategy allows HEIs to enhance the publicity and diffusion of their research outputs through the multi-ethnic networks of their faculty members. This finding is consistent with Breschi et al. (2017), who showed the presence of a 'diaspora effect', where US-resident inventors with the same foreign origin have a higher propensity to cite one another's work. Moreover, this suggests that HEIs in Hong Kong and Singapore are more effective in attracting new hires with diverse ethnicity, thanks to their cosmopolitan and multi-cultural environment, than institutions in the other Asian countries. For foreign scholars, moving to Korea and Taiwan may entail a significant cultural change and integration challenges that could be detrimental to their research productivity. Even if they join the local HEIs, these academics may still prefer to work with their established external networks, rather than building new ones, which has only marginal benefit (Ryazanova et al., 2017). Interestingly, although the level of cultural diversity in faculty recruitment has decreased over time in Hong Kong, its effect on academic impact is significant and positive. This implies that HEIs in Hong Kong should review their international faculty recruitment strategy to take better advantage of Hong Kong's cosmopolitan and multi-cultural environment. Above all, hiring faculty members of diverse ethnicities helps sustain intellectual creativity as homophilic research networks

without an external stimulus can create an environment in which scientists do not think 'out of the box': new problems cannot be addressed by the current scientific paradigm (Kuhn, 2015; Celis and Kim, 2018). It can also avoid the backlash of homophilic networks in which the recruitment and promotion process could become political (Celis and Kim, 2018).

6. Conclusions

In light of the rise of latecomer HEIs in global business knowledge production, this paper seeks to advance our understanding of their catch-up process. Drawing on insights from institutional isomorphism, we investigate the responses of latecomer HEIs to global isomorphic pressures. Our efforts fill an important theoretical gap, as the existing IB studies applying institutional theories tend to focus on national institutions and overlook the role of global institutions. By paying greater attention to efforts by latecomer universities to develop world-class universities and rapidly catch up, our study examines the predictive power of neo-institutional theory in a unique context. Our analysis based on the investigation of four Asian dragons shows why and how the different strategies adopted by latecomer HEIs in response to global isomorphic pressures influence their academic impact. Although the HEIs in Hong Kong and Singapore are now regarded as world-class universities that are forging their own paths and dealing with global isomorphic pressure, in the past they actively implemented a strategy of acquiescence, imitating and complying with the global standards set by forerunners. At the same time, Korea and Taiwan are still catching up by passively adopting a strategy of acquiescence.

Our study contributes to institutional theory by showing that institutional forces drive the emergence of latecomers at different levels: individuals, universities, and sector or country. Prior studies on the emergence of latecomers in global industrial leadership have focused on initial conditions, national innovation capability, and science and public institutions, as well as government industrialisation policies (Lee and Malerba, 2017; Miao et al., 2018). However, our findings show that organisation- and

individual-specific efforts to align organisations with global isomorphic pressures are an important driving force in the efforts by latecomer HEIs to become new leaders in global higher education. This micro-foundational and bottom-up approach appears effective in helping latecomers design long-term strategic initiatives to pursue global standards in research and faculty hiring, promote collaboration with both international and local scholars, and create networks to encourage knowledge production and diffusion.

The heterogeneous approaches taken by the HEIs in the Asian dragons have practical implications for other developing countries in the process of catching up, as well as for one another. In all four countries, the catch-up strategies of HEIs resemble the acquiescence strategy described by Oliver (1991), and compelling evidence indicates that they have overcome latecomer disadvantages and gained legitimacy by taking into account global isomorphism and taking advantage of global resources. Although global resources have been highlighted in the discussion of technological catching up for manufacturing firms, with an emphasis on their complementary relationship to the development of internal capability and organizational learning (Chen, et al., 2016; Miao et al., 2018; Tzeng, 2018), global isomorphism has received limited attention in the existing literature. Our study shows the importance of paying attention to global isomorphism, in additional to global resources, by managers of latecomer organisations and policymakers in latecomer countries.

At the same time, as shown by our analyses, HEIs and scholars in the Asian dragons have pursued a path-dependent evolution in response to global isomorphic pressures, cautiously raising questions about the generalizability of lessons to be taken from their experience. Many world-class HEIs now in Hong Kong and Singapore have a new generation of researchers and academic communities that are reshaping the landscape for business knowledge production (Leung, 2007; Mangematin and Baden-Fuller, 2008). In contrast to HEIs in Hong Kong and Singapore, which have mounted the academic pyramid with a strong research orientation, Korean and Taiwanese institutions, despite their breakthroughs, still have a

way to go before reaching the peak. Nonetheless, the Korean and Taiwanese governments have made significant efforts at boosting universities' global competitiveness and attaining higher rankings in global ranking tables through investment in internationalisation and research. For example, the Ministry of Education in Taiwan launched the 'Enhancing Global Competitiveness Plan' in 2002, aimed at fostering international exchanges to improve HEIs' international competitiveness, and the 'Five-Year, (NT$)50 Billion Program for Developing First-Class University and Top Research Centers' in 2005, helping nationally leading universities to become global leaders.

HEIs face a future challenge: the risk of homogenization due to their conformance with global institutional forces. Latecomer HEIs should consider that progress in building a body of global business knowledge could be enhanced by encouraging high-quality indigenous research in these novel contexts and constructing a unique identity (Nkomo, 2009; Tsui, 2004). Some HEIs in the UK and continental Europe (e.g. Erasmus, Nottingham, Tilburg, and Warwick) have done this by focusing on customised research activities and academic programmes to meet local needs and reducing dependence on US-trained faculties. These institutions have some of the most influential scholars in the field who were locally trained but are exposed to advanced business and management knowledge through visiting scholarships and research consortium with US institutions. These HEIs have a much smaller resource base than the top US schools and approach the research paradigm with a greater sense of eclecticism and value the use of a wider range of methods. In turn, some of these approaches have been adopted by the incumbent forerunners in the US (Mangematin and Baden-Fuller, 2008). A further challenge that is more specific to Korea and Taiwan is the significant shrinking domestic cohort of 18-year-olds, due to the low fertility rate and the small number of incoming migrants. To survive, HEIs in these countries have to internationalise and attract more foreign faculty members and students. However, many universities in Korea and Taiwan have opted for state-of-the-art technology-enabled campuses rather than focusing on internationalisation as their main strategy.

Finally, our findings should be of value to hybrid organisations and knowledge-intensive service firms that are similar to HEIs and face multiple institutional logics and are exposed to the influence of globalisation. For instance, in the context of higher education at the global level, the institutional landscape has become increasingly filled with tension about the market logic (e.g. knowledge transfer mission and university spin-off firms; Etzkowitz, 2003), managerialism logic espoused by university leaders and administrators, professionalism logic guiding academics, and stakeholder logic (Seeber et al., 2015; Townley, 1997; Vican et al., 2020). This institutional complexity creates the need for latecomer HEIs to think carefully about the organisational strategy for catching up. Their experience offers insights for hybrid organisations and knowledge-intensive firms as they consider their responses to global isomorphism and understand the isomorphic spread of organisational and institutional structures comprehensively through the lens of three isomorphic dimensions. Hybrid organisations are actively engaged in social innovation, aimed at creating both shareholder and social value, and knowledge-intensive firms focus on R&D activities to create and introduce breakthrough innovation, in addition to economic returns. These organisations commonly need to take advantage of an existing paradigm or create a disruptive paradigm to survive. Along these lines, although at the early stage isomorphism may be one of the key ingredients of their successful emergence, it might introduce a lock-in problem, which can discourage or even prevent further development (Dolfsma and Leydesdorff, 2009). As these organisations mature, it is critical to involve local stakeholders to combine the resources at hand and reconfigure the existing paradigms and trajectories (Dionisio and de Vargas, 2020).

We suggest several opportunities for future work. Our empirical analysis is based on Asia's four dragons. Although the sample choice is justified, and many HEIs in other latecomer countries follow the practices of these four countries (Lee et al., 2011), our findings need to be contextualised within the limitations of the data collected. Incorporating other latecomer countries in East Asia (e.g. China and India) could enrich the analysis and make the findings more compelling. In addition, because of data

availability constraints, we could not consider exactly when the researchers were hired by HEIs when the measurement on the response to normative isomorphism was operationalised. Future studies could use additional data to identify the entry and exit date of their researchers. Furthermore, future studies could build upon the typology of catching up (see Enderwick and Buckley, 2021; Lee & Lim, 2001; Lee, 2019) to understand the different trajectories taken by latecomer organisations[11]. Finally, it is important to note that university leaders (e.g. vice-chancellors, deans) have overall responsibility for the university and its academic divisions by allocating resources across various ranges of activities. Given their salience in the decision-making process, future studies could take a micro-foundational perspective to investigate the research performance implications for university leaders by considering their academic background, career path, and other upper-echelon characteristics.

REFRENCES

Adams, J. (2013). Collaborations: The fourth age of research. Nature, 497(7451), 557–560.

Ahmadjian, C. L. (2016). Comparative institutional analysis and institutional complexity. Journal of Management Studies, 53(1), 12-27.

Aksnes, D. W., & Rip, A. (2009). Researchers' perceptions of citations. Research Policy, 38(6), 895-905.

Antunes, D., & Thomas, H. (2007). The competitive (dis)advantages of European business schools. Long Range Planning, 40(3), 382-404.

Baden-Fuller, C., & Ang, S. H. (2001). Building reputations: The role of alliances in the European business school scene. Long Range Planning, 34(6), 741-755.

[11] We thank an anonymous reviewer for this insight.

Belkhouja, M., & Yoon, H. D. (2018). How does openness influence the impact of a scholar's research? An analysis of business scholars' citations over their careers. Research Policy, 47(10), 2037-2047.

Bingham, F. G., Jr., Quigley, C. J., Jr., & Murray, K. B. 2001. A response to 'Beyond the mission statement: Alternative Futures for Today's Universities.' Journal of Marketing for Higher Education, 11(4), 19-27.

Breschi, S., Lissoni, F., & Miguelez, E. (2017). Foreign-origin inventors in the USA: testing for diaspora and brain gain effects. Journal of Economic Geography, 17(5), 1009-1038.

Buckley, P. J., Doh, J. P., & Benischke, M. H. (2017). Towards a renaissance in international business research? Big questions, grand challenges, and the future of IB scholarship. Journal of International Business Studies, 48(9), 1045-1064.

Burgess, T. F., & Shaw, N. E. (2010). Editorial board membership of management and business journals: A social network analysis study of the Financial Times 40. British Journal of Management, 21(3), 627-648.

Cai, Y. (2010). Global isomorphism and governance reform in Chinese higher education. Tertiary Education and Management, 16(3), 229-241.

Campbell, J. L. 2004. Institutional Change and Globalization. Princeton: Princeton University Press.

Celis, S., & Kim, J. (2018). The making of homophilic networks in international research collaborations: A global perspective from Chilean and Korean engineering. Research Policy, 47(3), 573-582.

Chen, P. L., Tan, D. & Jean, R.J. (2016). Foreign knowledge acquisition through inter-firm collaboration and recruitment: Implications for domestic growth of emerging market firms. International Business Review, 25(1), 221-232.

Chia, H. B., Egri, C. P., Ralston, D. A., Fu, P. P., Kuo, M. H. C., Lee, C. H., Li, Y., & Moon, Y. L. (2007). Four tigers and the dragon: values differences, similarities, and consensus. Asia Pacific Journal of Management, 24, 305-320.

Choung, J. Y., & Hwang, H. R. (2000). National systems of innovation: Institutional linkages and performances in the case of Korea and Taiwan. Scientometrics, 48(3), 413-426.

Clemens, B., & Douglas, T. J. (2006). Does coercion drive firms to adopt 'voluntary' green initiatives? Relationships among coercion, superior firm resources, and voluntary green initiatives. Journal of Business Research, 59(4), 483-491.

Collet, F., & Vives, L. (2013). From preeminence to prominence: The fall of US business schools and the rise of European and Asian business schools in the Financial Times Global MBA Rankings. Academy of Management Learning & Education, 12(4), 540-563.

Collins, F. L., & Park, G. S. (2016). Ranking and the multiplication of reputation: reflections from the frontier of globalizing higher education. Higher Education, 72(1), 115-129.

Confraria, H., Godinhob, M. M., & Wang, L. (2017). Determinants of citation impact: A comparative analysis of the Global South versus the Global North. Research Policy, 46(1), 265–279.

Cronin, B. (1984). The Citation Process: The Role and Significance of Citations in Scientific Communication. Taylor Graham, London.

Croucher, G., & Woelert, P. (2016). Institutional isomorphism and the creation of the unified national system of higher education in Australia: An empirical analysis. Higher Education, 71(4), 439-453.

Darley, W. K., & Luethge, D. J. (2019). Management and business education in Africa: A post-colonial perspective of international accreditation. Academy of Management Learning & Education, 18(1), 99-111.

D'Aunno, T., Sutton, R. I., & Price, R. H. (1991). Isomorphism and external support in conflicting institutional environments: A study of drug abuse treatment units. Academy of Management Journal, 34(3), 636-661.

Davis, P. S., Desai, A. B., & Francis, J. D. (2000). Mode of international entry: An isomorphism perspective. Journal of International Business Studies, 31(2), 239-258.

De Filippo, D., Casani, F., & Sanz-Casado, E. (2016). University excellence initiatives in Spain, a possible strategy for optimising resources and improving local performance. Technological Forecasting and Social Change, 113, 185-194.

Deephouse, D. L., Newburry, W., & Soleimani, A. (2016). The effects of institutional development and national culture on cross-national differences in corporate reputation. Journal of World Business, 51(3), 463-473.

Dell'Era, C., & Verganti, R. (2010). Collaborative strategies in design-intensive industries: Knowledge diversity and innovation. Long Range Planning, 43(1), 123-141.

DiMaggio, P., & Powell, W. W. (1983). The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields. American Sociological Review, 48(2), 147-160.

Dionisio, M., & de Vargas, E. R. (2020). Corporate social innovation: A systematic literature review. International Business Review, 29(2), 101641.

Dolfsma, W., & Leydesdorff, L. (2009). Lock-in and break-out from technological trajectories: Modeling and policy implications. Technological Forecasting and Social Change, 76(7), 932-941.

Ebadi, A., & Schiffauerova, A. (2016). How to boost scientific production? A statistical analysis of research funding and other influencing factors. Scientometrics, 106(3), 1093-1116.

Eisend, M., & Schmidt, S. (2014). The influence of knowledge-based resources and business scholars' internationalisation strategies on research performance. Research Policy, 43(1), 48-59.

Enderwick, P., & Buckley, P. J. (2021). The role of springboarding in economic catch-up: A theoretical perspective, Journal of International Management, 100832.

Etzkowitz, H. (2003). Research groups as 'quasi-firms': the invention of the entrepreneurial university. Research Policy, 32(1), 109-121.

Fang, T. (2010). Asian management research needs more self-confidence: Reflection on Hofstede (2007) and beyond. Asia Pacific Journal of Management, 27(1), 155-170.

Figueiredo, P. N., & Cohen, M. (2019). Explaining early entry into path-creation technological catch-up in the forestry and pulp industry: Evidence from Brazil. Research Policy, 48(7), 1694-1713.

Finch, D., Deephouse, D.L., O'Reilly, N., Foster, W.M., Falkenberg, L., & Strong, M. (2017). Institutional biography and knowledge dissemination: An analysis of Canadian business school faculty. Academy of Management Learning & Education. 16(2), 237-256.

Frietsch, R., Haller, I., Funken-Vrohlings, M., & Grupp, H. (2009). Gender-specific patterns in patenting and publishing. Research Policy, 38(4), 590-599.

Goldfinch, S., Dale, T., DeRouen, K., Jr. (2003). Science from the periphery: collaboration, networks and periphery effects in the citation of New Zealand crown research institutes articles, 1995–2000. Scientometrics, 57(3), 321–337.

Gourieroux, C., Monfort, A., & Trognon, A. (1984). Pseudo maximum likelihood methods: Applications to Poisson models. Econometrica, 52(3), 701–720.

Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. (2011). Institutional complexity and organizational responses. Academy of Management Annals, 5(1), 317-371.

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. Academy of Management Review, 32(4), 1199-1228.

Hazelkorn, E. (2015). Ranking and the Reshaping of Higher Education: The Battle for World-Class Excellence (2nd ed.). Basingstoke, UK: Palgrave Macmillan.

Heckman, J. J., & Borjas, G. J. (1980). Does unemployment cause future unemployment? Definitions, questions and answers from a continuous time model of heterogeneity and state dependence. Economica, 47(187), 247–283.

Jackson, G., & Deeg, R. (2019). Comparing capitalisms and taking institutional context seriously. Journal of International Business Studies, 50(1), 4-19.

Jensen, M., & Wang, P. (2018). Not in the same boat: how status inconsistency affects research performance in business schools. Academy of Management Journal, 61(3), 1021–1049.

Jongbloed, B. (2015). Universities as hybrid organizations: Trends, drivers and challenges for the European University. International Studies of Management & Organization, 45(3), 207-225.

Judge, T.A., Cable, D.M., Colbert, A.E., & Rynes, S.L. (2007). What causes a management article to be cited: Article, author, or journal? Academy of Management Journal, 50(3), 491–506.

Kaplan, A. (2014). European management and European business schools: Insights from the history of business schools. European Management Journal, 32(4), 529-534.

Kolk, A., & Perego, P. (2010). Determinants of the adoption of sustainability assurance statements: An international investigation. Business Strategy and the Environment, 19(3), 182-198.

Kostova, T., Roth, K., & Dacin, M. T. (2008). Institutional theory in the study of multinational corporations: A critique and new directions. Academy of Management Review, 33(4), 994-1006.

Kostova, T., & Zaheer, S. (1999). Organizational legitimacy under complexity. Academy of Management Review, 24(1), 64-81.

Kothiyal, N., Bell, E., & Clarke, C. (2018). Moving beyond mimicry: Developing hybrid spaces in Indian business schools. Academy of Management Learning & Education, 17(2), 137-154.

Kuhn, T. S. 2015. The Structure of Scientific Revolutions. Chicago: University of Chicago Press.

Kumaraswamy, A., Mudambi, R., Saranga, H., & Tripathy, A. (2012). Catch-up strategies in the Indian auto components industry: Domestic firms' responses to market liberalization. Journal of International Business Studies, 43(4), 368-395.

Kwak, K., & Yoon, H. D. (2020). Unpacking transnational industry legitimacy dynamics, windows of opportunity, and latecomers' catch-up in complex product systems. Research Policy, 49(4), 103954.

Leahey, E., Beckman, C. M., & Stanko, T. L. (2017). Prominent but less productive: The impact of interdisciplinarity on scientists' research. Administrative Science Quarterly, 62(1), 105-139.

Lee, J. H., & Roberts, M. J. (2015). International returnees as outside directors: A catalyst for strategic adaptation under institutional pressure. International Business Review, 24(4), 594-604.

Lee, J. J., & Yoon, H. (2015). A comparative study of technological learning and organizational capability development in complex products systems: Distinctive paths of three latecomers in military aircraft industry. Research Policy, 44(7), 1296-1313.

Lee, K. (2013). Schumpeterian analysis of economic catch-up: Knowledge, path-creation, and the middle-income trap. Cambridge University Press.

Lee, K. (2019). The Art of Economic Catch-Up: Barriers, Detours and Leapfrogging in Innovation Systems. Cambridge: Cambridge University Press.

Lee, K., & Ki, J. H. (2017). Rise of latecomers and catch-up cycles in the world steel industry. Research Policy, 46(2), 365-375.

Lee, K., & Lim, C. (2001). Technological regimes, catching-up and leapfrogging: Findings from the Korean industries. Research Policy, 30(3), 459-483.

Lee, K., & Malerba, F. (2017). Catch-up cycles and changes in industrial leadership: Windows of opportunity and responses of firms and countries in the evolution of sectoral systems. Research Policy, 46(2), 338-351.

Leung, K. (2007). The glory and tyranny of citation impact: An East Asian perspective. Academy of Management Journal, 50(3), 510-513.

Levin, R. C. (2010). Top of the class: The rise of Asia's universities. Foreign Affairs, 89(3), 63-75.

Levinson, R. M. (1989). The faculty and institutional isomorphism. Academe, 75(1), 23-27.

Li, J., & Kozhikode, R. K. (2008). Knowledge management and innovation strategy: The challenge for latecomers in emerging economies. Asia Pacific Journal of Management, 25(3), 429-450.

Lieberman, M. B., & Asaba, S. (2006). Why do firms imitate each other? Academy of Management Review, 31(2), 366-385.

Long, J. S. (1997). Regression models for categorical and limited dependent variables. Thousand Oaks, CA: Sage.

Macdonald, S., & Kam, J. (2007). Ring a ring o' roses: Quality journals and gamesmanship in management studies. Journal of Management Studies, 44(4), 640-655.

Mangematin, V., & Baden-Fuller, C. (2008). Global contests in the production of business knowledge: Regional centres and individual business schools. Long Range Planning, 41(1), 117-139.

Marano, V., & Tashman, P. (2012). MNE/NGO partnerships and the legitimacy of the firm. International Business Review, 21(6), 1122-1130.

Marano, V., Tashman, P., & Kostova, T. (2017). Escaping the iron cage: Liabilities of origin and CSR reporting of emerging market multinational enterprises. Journal of International Business Studies, 48(3), 386-408.

Markard, J., Wirth, S., & Truffer, B. (2016). Institutional dynamics and technology legitimacy–A framework and a case study on biogas technology. Research Policy, 45(1), 330-344.

Martínez-Ferrero, J., & García-Sánchez, I. M. (2017). Coercive, normative and mimetic isomorphism as determinants of the voluntary assurance of sustainability reports. International Business Review, 26(1), 102-118.

Masrani, S., Williams, A. P., & McKiernan, P. (2011). Management education in the UK: The roles of the British Academy of Management and the Association of Business Schools. British Journal of Management, 22(3), 382-400.

Mathews, J. A. (2002). Competitive advantages of the latecomer firm: A resource-based account of industrial catch-up strategies. Asia Pacific Journal of Management, 19(4), 467-488.

McDermott, D. R., Urban, D. J., & Wayland, J. P. (1994). Formalizing evaluation procedures for marketing faculty research performance. Journal of Education for Business, 70(1), 48-53.

Merton, R.K. (1968). The Matthew effect in science. The reward and communication systems of science are considered. Science 159(3810), 56–63

Meyer, K. E. (2018). Catch-up and leapfrogging: Emerging economy multinational enterprises on the global stage. International Journal of the Economics of Business, 25(1), 19-30.

Meyer, R. E., & Boxenbaum, E. (2010). Exploring European-ness in organization research. Organization Studies, 31(6), 737-755.

Miao, Y., Song, J., Lee, K., & Jin, C. (2018). Technological catch-up by East Asian firms: Trends, issues, and future research agenda. Asia Pacific Journal of Management, 35(3), 639-669.

Mingers, J., & Harzing, A. W. (2007). Ranking journals in business and management: a statistical analysis of the Harzing data set. European Journal of Information Systems, 16(4), 303-316.

Mingers, J., & Xu, F. (2010). The drivers of citations in management science journals. European Journal of Operational Research, 205(2), 422-430.

Moon, H. C., Rugman, A. M., & Verbeke, A. (1998). A generalized double diamond approach to the global competitiveness of Korea and Singapore. International Business Review, 7(2), 135-150.

Mudambi, R., Peng, M. W., & Weng, D. H. (2008). Research rankings of Asia Pacific business schools: Global versus local knowledge strategies. Asia Pacific Journal of Management, 25(2), 171-188.

Narin, F., Stevens, K., Whitlow, E.S. (1991). Scientific co-operation in Europe and the citation of multinationally authored papers. Scientometrics, 21(3), 313–323.

Nathan, M. (2015). Same difference? Minority ethnic inventors, diversity and innovation in the UK. Journal of Economic Geography, 15(1), 129-168.

Nkomo, S. M. (2009). The seductive power of academic journal rankings: Challenges of searching for the otherwise. Academy of Management Learning & Education, 8(1), 106-121.

Oehmichen, J. (2018). East meets west—Corporate governance in Asian emerging markets: A literature review and research agenda. International Business Review, 27(2), 465-480.

Oliver, C. (1991). Strategic responses to institutional processes. Academy of Management Review, 16(1), 145-179.

Ordanini, A., Rubera, G., & DeFillippi, R. (2008). The many moods of inter-organizational imitation: A critical review. International Journal of Management Reviews, 10(4), 375-398.

Palmer, T. B., & Short, J. C. (2008). Mission statements in US colleges of business: An empirical examination of their content with linkages to configurations and performance. Academy of Management Learning & Education, 7(4), 454-470.

Podolny, J. M. (1993). A status-based model of market competition. American Journal of Sociology, 98(4), 829-872.

Postiglione, G. A. (2013). Anchoring globalization in Hong Kong's research universities: network agents, institutional arrangements, and brain circulation. Studies in Higher Education, 38(3), 345-366.

Rafols, I., Leydesdorff, L., O'Hare, A., Nightingale, P., & Stirling, A. (2012). How journal rankings can suppress interdisciplinary research: A comparison between innovation studies and business & management. Research Policy, 41(7), 1262-1282.

Rhee, M., & Lee, J. H. (2008). The signals outside directors send to foreign investors: Evidence from Korea. Corporate Governance: An International Review, 16(1), 41-51.

Richardson, J., & Zikic, J. (2007). The darker side of an international academic career. Career Development International, 12(2), 164-186.

Riesman, D. 1956. The Academic Procession: Constraint and Variety in American Higher Education. Lincoln: University of Nebraska Press.

Rindova, V. P., Williamson, I. O., Petkova, A. P., & Sever, J. M. (2005). Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation. Academy of Management Journal, 48(6), 1033-1049.

Ryazanova, O., McNamara, P., & Aguinis, H. (2017). Research performance as a quality signal in international labor markets: Visibility of business schools worldwide through a global research performance system. Journal of World Business, 52(6), 831-841.

Salmi, Jamil (2009). The Challenge of Establishing World-Class Universities. Washington, DC: World Bank.

Scott, W.R. (2001). Institutions and Organizations. Thousand Oaks: CA: Sage.

Seeber, M., Lepori, B., Montauti, M., Enders, J., de Boer, H., Weyer, E., Bleiklie, I., Hope, K., Michelsen, S., Mathisen, G. N., Frølich, N., Scordato, L., Stensaker, B., Waagene, E., Dragsic, Z., Kretek, P., Krücken, G., Magalhães, A., Ribeiro, F. M., Sousa, S., Veiga, A., Santiago, R., Marini, G., & Reale, E. (2015). European universities as complete organizations? Understanding identity, hierarchy and rationality in public organizations. Public Management Review, 17(10), 1444-1474.

Seibert, S. E., Kacmar, K. M., Kraimer, M. L., Downes, P. E., & Noble, D. (2017). The role of research strategies and professional networks in management scholars' productivity. Journal of Management, 43(4), 1103–1130.

Shin, J. C., Jung, J., Postiglione, G. A., & Azman, N. (2014). Research productivity of returnees from study abroad in Korea, Hong Kong, and Malaysia. Minerva, 52(4), 467-487.

Slavova, K., Fosfuri, A., & De Castro, J. O. (2015). Learning by hiring: the effects of scientists' inbound mobility on research performance in academia. Organization Science, 27(1), 72-89.

Spender, J. C. (2008). The business school in America: a century goes by, in T. Durand and S. Dameron (eds.), The Future of Business Schools: Scenarios and Strategies for 2020, pp. 9–18. Basingstoke, UK: Palgrave Macmillan.

Stensaker, B., Lee, J. J., Rhoades, G., Ghosh, S., Castiello-Gutiérrez, S., Vance, H., Çalıkoğlu, A., Kramerb, V., Liu, S., Marei, M. S., O'Toole, L., Pavlyutkin, I. & Peel, C. (2019). Stratified university

strategies: The shaping of institutional legitimacy in a global perspective. Journal of Higher Education, 90(4), 539-562.

Tashman, P., Marano, V., & Kostova, T. (2019). Walking the walk or talking the talk? Corporate social responsibility decoupling in emerging market multinationals. Journal of International Business Studies, 50(2), 153-171.

Thomas, H., & Wilson, A. D. (2011). 'Physics envy', cognitive legitimacy or practical relevance: dilemmas in the evolution of management research in the UK. British Journal of Management, 22(3), 443-456.

Thornton, P. H., & Ocasio, W. (1999). Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958–1990. American Journal of Sociology, 105(3), 801-843.

Townley, B. (1997). The institutional logic of performance appraisal. Organization Studies, 18(2), 261-285.

Tsui, A. S. (2004). Contributing to global management knowledge: A case for high quality indigenous research. Asia Pacific Journal of Management, 21(4), 491-513.

Tsui, A. S. (2007). From homogenization to pluralism: International management research in the academy and beyond. Academy of Management Journal, 50(6), 1353-1364.

Tzeng, C. H. (2018). How foreign knowledge spillovers by returnee managers occur at domestic firms: An institutional theory perspective. International Business Review, 27(3), 625-641.

Üsdiken, B. (2014). Centres and peripheries: Research styles and publication patterns in 'top' US journals and their European alternatives, 1960–2010. Journal of Management Studies, 51(5), 764-789.

van Raan, A.F.J. (1998). The influence of international collaboration on the impact of research results. Scientometrics, 42 (3), 423–428.

Vican, S., Friedman, A., & Andreasen, R. (2020). Metrics, money, and managerialism: Faculty experiences of competing logics in higher education. Journal of Higher Education, 91(1), 139-164.

Vogel, R., Hattke, F., & Petersen, J. (2017). Journal rankings in management and business studies: What rules do we play by? Research Policy, 46(10), 1707-1722.

Walker, J. T., Fenton, E., Salter, A., & Salandra, R. (2019). What influences business academics' use of the Association of Business Schools (ABS) list? Evidence from a survey of UK academics. British Journal of Management, 30(3), 730-747.

Wang, P., Van De Vrande, V., & Jansen, J. J. (2017). Balancing exploration and exploitation in inventions: Quality of inventions and team composition. Research Policy, 46(10), 1836-1850.

Wilson, D., & McKiernan, P. (2011). Global mimicry: Putting strategic choice back on the business school agenda. British Journal of Management, 22(3), 457-469.

Wooldridge, J. M. (2002). Econometric Analysis of Cross Section and Panel Data. Cambridge, MA: MIT Press.

Wu, C. Y., & Mathews, J. A. (2012). Knowledge flows in the solar photovoltaic industry: Insights from patenting by Taiwan, Korea, and China. Research Policy, 41(3), 524-540.

Yi, J., Teng, D., & Meng, S. (2018). Foreign ownership and bribery: Agency and institutional perspectives. International Business Review, 27(1), 34-45.

Zaggl, M. A. (2017). Manipulation of explicit reputation in innovation and knowledge exchange communities: The example of referencing in science. Research Policy, 46(5), 970-983.

Zuckerman, E. W. (1999). The categorical imperative: Securities analysts and the illegitimacy discount. American Journal of Sociology, 104(5), 1398-1438.

Figure 1. Conceptual framework

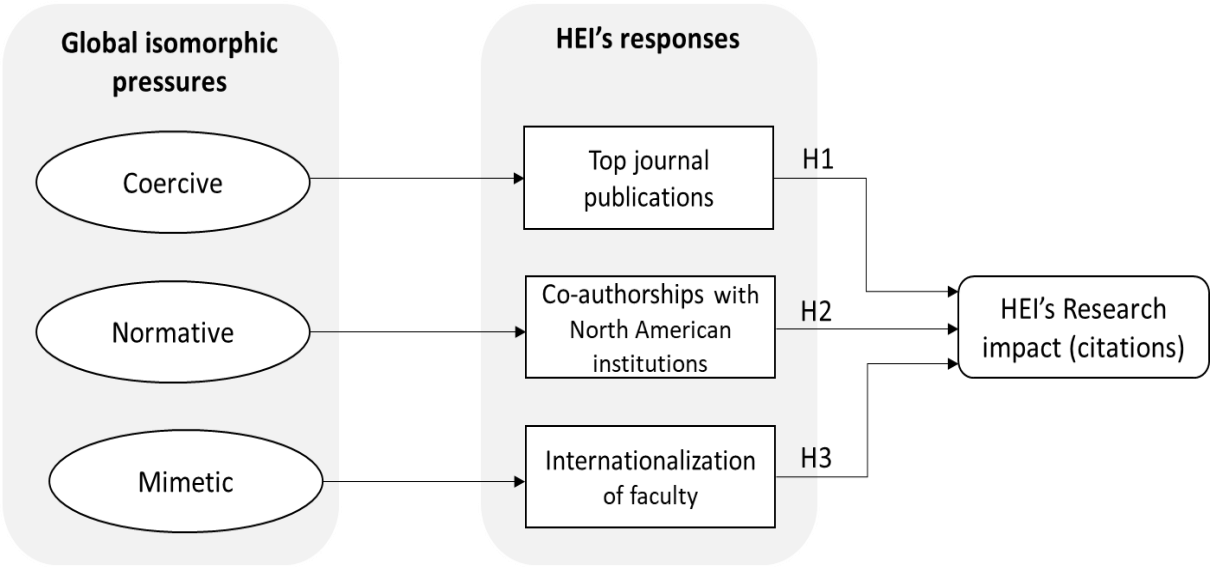
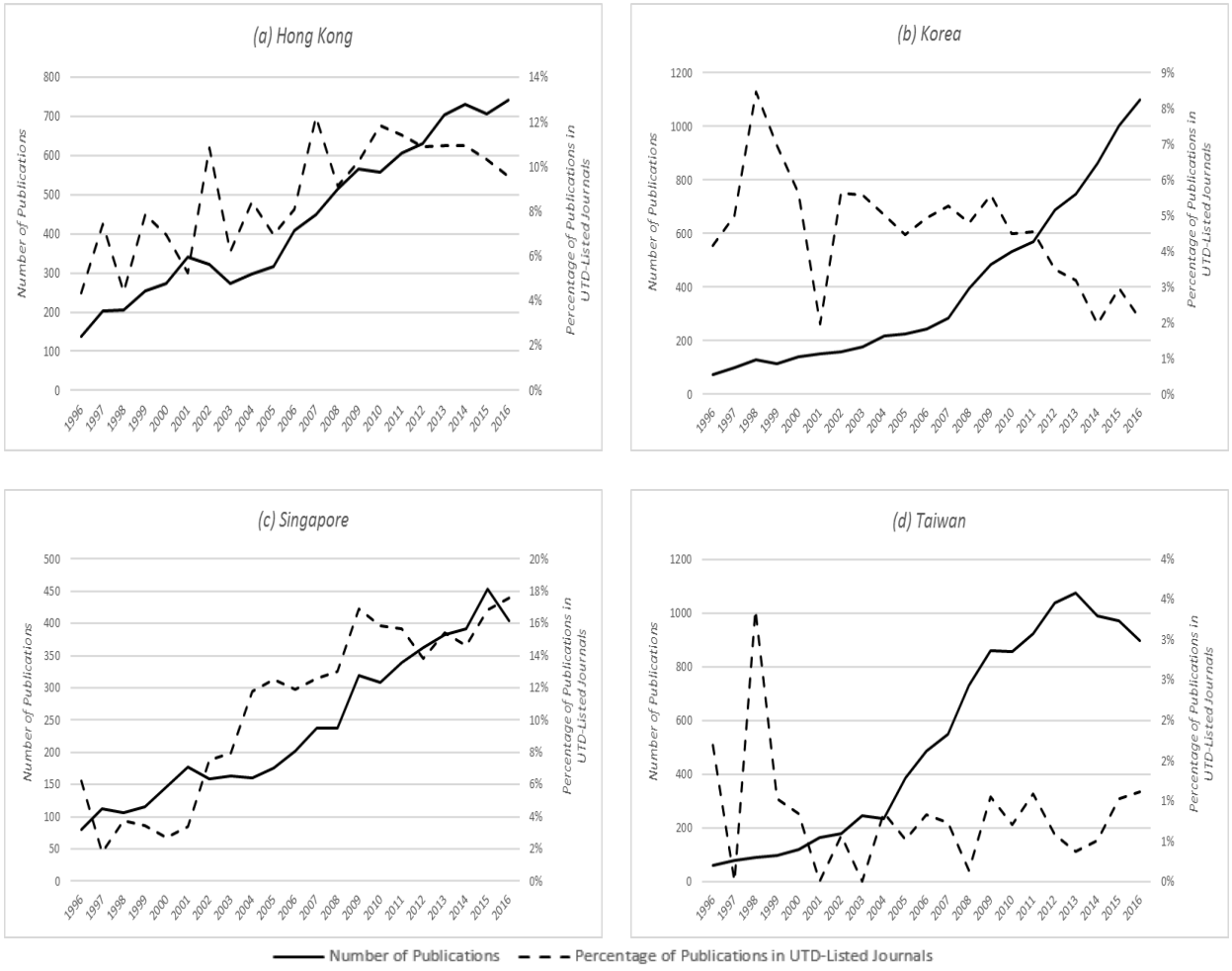
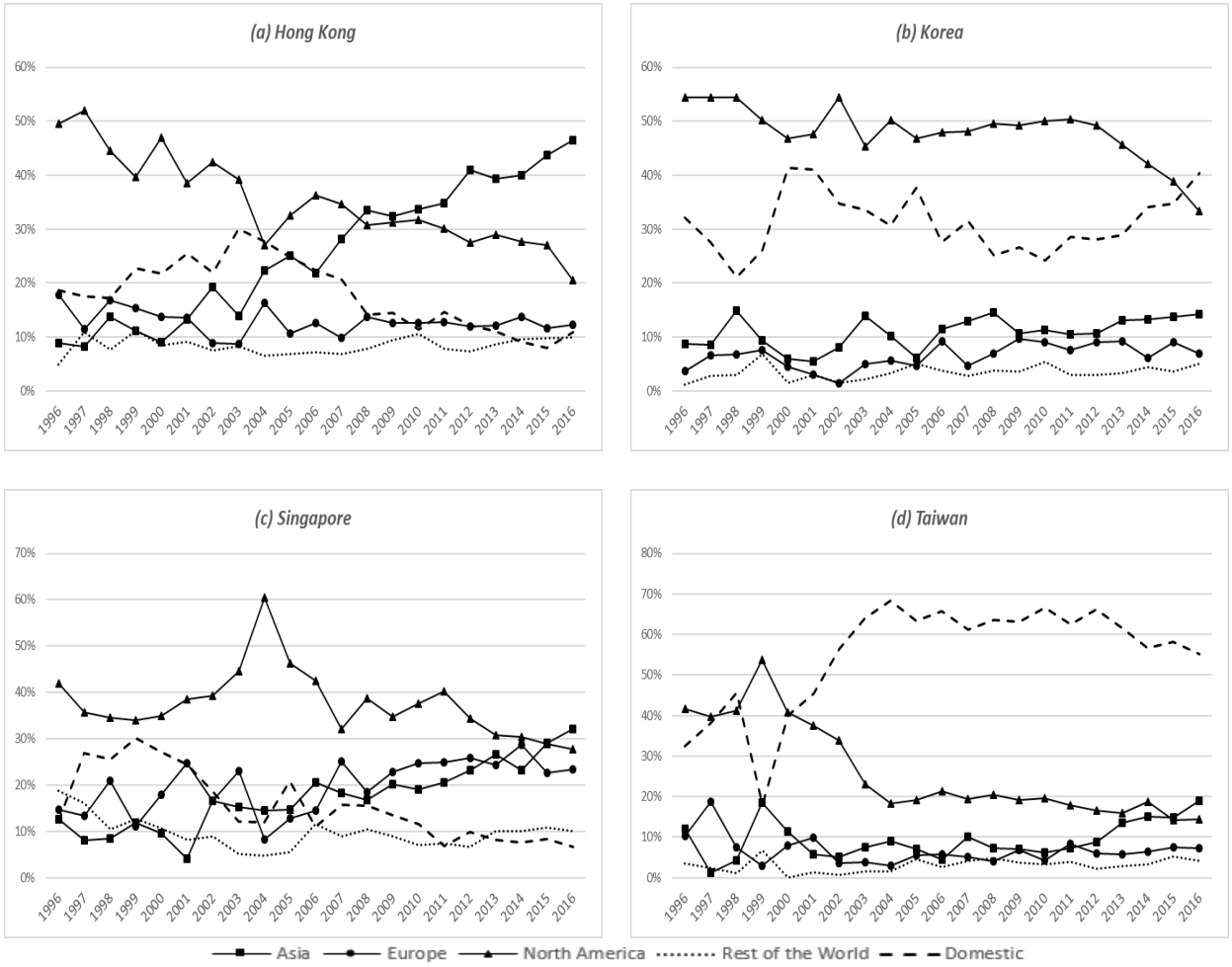


Figure 2. Research volume and top journal publications



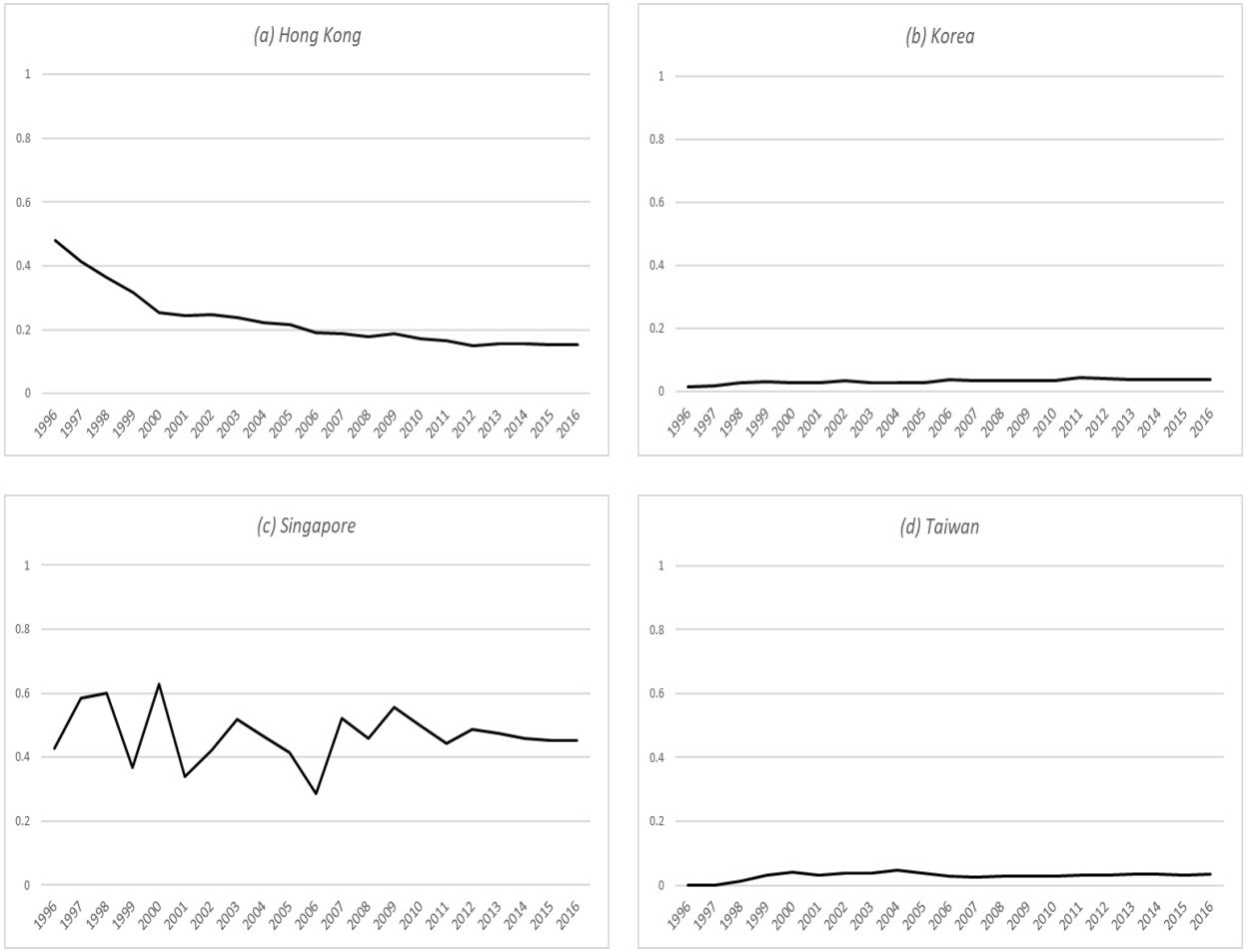
Source: Authors' calculation based on data from Scopus.
Notes: Research volume refers to the annual number of publications. Top journal publication is measured by the number of publications in the 24 business and management academic journals in the UTD journal list.

Figure 3. Share of international research collaborations by region



Source: Authors' calculation based on data from Scopus.

Figure 4. Ethnic diversification in faculty staffing by region



Source: Authors' calculation based on data from Scopus and IBM GNR (Global Name Recognition).
Note: Blau's index of the diversity used to calculate ethnic diversification.

Table 1. Variables and measures

Variable	Measure
Dependent variable	
Academic impact	Yearly number of (forward) citations each HEI has received
Explanatory variables	
Percentage of publications in top journals	Ratio of the cumulative number of publications in UTD journals to the cumulative overall number of publications.
Percentage of collaborations with North America	Yearly ratio of the cumulative number of collaborations with HEIs located in North America to the cumulative number of collaborations across all regions
Ethnic diversification	Yearly Blau's index of the diversity of faculty members' ethnic origins at the HEI level
Control variables	
Percentage of collaborations with Europe/Asia/RoW (rest of the world)	Yearly ratio of the cumulative number of collaborations with HEIs located in Europe/Asia/RoW (rest of the world) to the cumulative number of collaborations across all regions
Percentage of domestic collaborations	Yearly ratio of the cumulative number of collaborations with domestic HEIs to the cumulative number of collaborations across all regions
Prior academic impact	One-year lagged number of citations received by each HEI, in logarithm
Accreditation	A dummy variable coded as 1 if the focal HEI is accredited by the AACSB in the focal year, and 0 otherwise
Research diversification	Yearly Blau's index of the diversity of knowledge domains at the HEI level
Elite institution	A dummy variable coded as 1 if the focal HEI is in the UTD Top 100 worldwide business school research ranking in the focal year, and 0 otherwise

Table 2. Hiring practices at leading Asian business schools

Business Schools	Continent and country of institutions where business school faculty members received their doctoral training					
	North America		Europe		Asia Pacific	
	USA	Canada	UK	Continental Europe	Asia	Oceania
The Chinese University of Hong Kong (HK)	68.87%	8.49%	2.83%	0.94%	16.98%	1.89%
University of Hong Kong (HK)	76.47%	9.80%	1.96%	4.90%	5.88%	0.98%
Seoul National University (KR)	96.43%	0%	0%	1.79%	1.79%	0%
Korea University (KR)	86.75%	4.82%	2.41%	2.41%	2.41%	1.20%
National University of Singapore (SG)	75.00%	4.00%	6.00%	8.00%	4.00%	3.00%
Nanyang Technological University (SG)	57.80%	11.01%	4.59%	9.17%	16.51%	0.92%
National Taiwan University (TW)	77.88%	0%	11.54%	0%	9.62%	0.96%
National Chengchi University (TW)	70.16%	1.61%	12.90%	2.42%	11.29%	1.61%

Source: Authors' calculation of data on the business school websites. HK = Hong Kong, KR = South Korea, SG = Singapore, TW = Taiwan.

Table 3. Pairwise correlations matrix and descriptive statistics (Hong Kong, N=231)

		1	2	3	4	5	6	7	8	9	10	11	12
1	Academic impact	1.00											
2	Percentage of publications in top journals	0.36***	1.00										
3	Percentage of collaborations with North America	0.24***	0.65***	1.00									
4	Ethnic diversification	0.12*	0.44***	0.65***	1.00								
5	Percentage of collaborations with Europe	-0.03	-0.11	-0.27***	-0.10	1.00							
6	Percentage of collaborations with Asia	0.59***	0.29***	0.16**	0.24***	-0.13*	1.00						
7	Percentage of collaborations with RoW	0.06	-0.05	0.06	0.06	-0.13*	-0.08	1.00					
8	Percentage of domestic collaborations	-0.50***	-0.55***	-0.73***	-0.64***	-0.17**	-0.50***	-0.13*	1.00				
9	Prior academic impact	0.72***	0.50***	0.44***	0.38***	-0.02	0.68***	-0.02	-0.67***	1.00			
10	Accreditation	0.63***	0.61***	0.55***	0.30***	-0.12*	0.49***	-0.05	-0.59***	0.73***	1.00		
11	Research diversification	0.20***	0.32***	0.33***	0.51***	0.04	0.55***	-0.13*	-0.48***	0.60***	0.36***	1.00	
12	Elite institution	0.56***	0.47***	0.61***	0.32***	-0.08	0.30***	0.11	-0.66***	0.64***	0.56***	0.32***	1.00
	Mean	1058.81	0.05	0.23	0.31	0.09	0.13	0.06	0.48	5.15	0.33	0.77	0.38
	S.D.	1920.42	0.08	0.16	0.19	0.07	0.09	0.11	0.22	2.93	0.47	0.25	0.49
	Min.	0	0	0	0	0	0	0	0	0	0	0	0
	Max.	12159	0.35	1	0.72	0.40	0.50	1	1	10.2	1	0.93	1

Notes: Significance tests are two tailed. * p < .10, ** p < .05, *** p < .01.

Table 4. Pairwise correlations matrix and descriptive statistics (South Korea, N = 509)

		1	2	3	4	5	6	7	8	9	10	11	12
1	Academic impact	1.00											
2	Percentage of publications in top journals	0.00	1.00										
3	Percentage of collaborations with North America	-0.15***	0.04	1.00									
4	Ethnic diversification	0.24***	-0.03	0.01	1.00								
5	Percentage of collaborations with Europe	0.02	0.06	0.02	-0.01	1.00							
6	Percentage of collaborations with Asia	0.06	-0.07	-0.13***	-0.00	-0.07	1.00						
7	Percentage of collaborations with RoW	0.00	-0.05	-0.04	0.11**	-0.02	0.02	1.00					
8	Percentage of domestic collaborations	0.10**	-0.02	-0.66***	-0.05	-0.31***	-0.25***	-0.01	1.00				
9	Prior academic impact	0.69***	-0.11**	-0.18***	0.29***	-0.04	0.09*	0.06	0.13***	1.00			
10	Accreditation	0.62***	0.02	-0.04	0.18***	0.01	0.09**	-0.03	0.01	0.61***	1.00		
11	Research diversification	0.24***	0.09**	0.09**	0.23***	0.12**	-0.00	0.01	-0.14***	0.46***	0.25***	1.00	
12	Elite institution	0.12**	0.14***	0.02	0.10**	0.02	0.04	0.02	-0.04	0.13***	0.20***	0.09*	1.00
	Mean	219.12	0.05	0.34	0.06	0.03	0.05	0.02	0.56	3.99	0.19	0.72	0.01
	S.D.	452.01	0.10	0.22	0.08	0.06	0.09	0.07	0.23	2.42	0.39	0.24	0.10
	Min.	0	0	0	0	0	0	0	0	0	0	0	0
	Max.	3034	1	1	0.50	1	1	1	1	8.88	1	0.93	1

Notes: Significance tests are two tailed. * p < .10, ** p < .05, *** p < .01.

Table 5. Pairwise correlations matrix and descriptive statistics (Singapore, N = 133)

		1	2	3	4	5	6	7	8	9	10	11	12
1	Academic impact	1.00											
2	Percentage of publications in top journals	0.04**	1.00										
3	Percentage of collaborations with North America	0.09**	0.70***	1.00									
4	Ethnic diversification	-0.14	0.57***	0.63***	1.00								
5	Percentage of collaborations with Europe	-0.09	0.36***	0.00	0.36***	1.00							
6	Percentage of collaborations with Asia	0.52***	-0.29***	-0.18*	-0.62***	-0.49***	1.00						
7	Percentage of collaborations with RoW	0.01	-0.12	-0.18*	-0.23**	-0.30***	0.15	1.00					
8	Percentage of domestic collaborations	-0.30***	-0.65***	-0.71***	-0.41***	0.01	-0.15	-0.03	1.00				
9	Prior academic impact	0.73***	0.27***	0.42***	-0.05	-0.23**	0.47***	-0.06	-0.51***	1.00			
10	Accreditation	0.73***	-0.03	0.17*	-0.19**	-0.26***	0.48***	0.01	-0.32***	0.67***	1.00		
11	Research diversification	0.35***	0.27***	0.67***	0.39***	-0.16*	-0.05	-0.08	-0.53***	0.55***	0.43***	1.00	
12	Elite institution	0.52***	-0.01	0.32***	-0.14	-0.36***	0.44***	0.01	-0.44***	0.62***	0.71***	0.57***	1.00
	Mean	744.22	0.11	0.35	0.54	0.13	0.13	0.07	0.28	4.69	0.25	0.76	0.39
	S.D.	1493.32	0.19	0.21	0.20	0.12	0.10	0.16	0.18	2.78	0.43	0.24	0.49
	Min.	0	0	0	0	0	0	0	0	0	0	0	0
	Max.	7963	0.66	1	0.86	1	0.50	1	0.73	9.89	1	0.92	1

Notes: Significance tests are two tailed. * p < .10, ** p < .05, *** p < .01.

Table 6. Pairwise correlations matrix and descriptive statistics (Taiwan, N = 901)

		1	2	3	4	5	6	7	8	9	10	11
1	Academic impact	1.00										
2	Percentage of publications in top journals	0.01	1.00									
3	Percentage of collaborations with North America	-0.14***	0.07**	1.00								
4	Ethnic diversification	0.21***	-0.01	-0.00	1.00							
5	Percentage of collaborations with Europe	0.02	0.04	0.02	0.11***	1.00						
6	Percentage of collaborations with Asia	-0.00	0.04	-0.08**	-0.03	-0.08**	1.00					
7	Percentage of collaborations with RoW	0.06	-0.03	0.02	-0.00	0.06*	-0.03	1.00				
8	Percentage of domestic collaborations	0.12***	-0.08**	-0.73***	0.00	-0.24***	-0.31***	-0.09**	1.00			
9	Prior academic impact	0.73***	-0.04	-0.30***	0.22***	-0.02	-0.02	0.08**	0.28***	1.00		
10	Accreditation	0.60***	0.03	-0.03	0.07**	0.00	0.01	0.09***	0.01	0.40***	1.00	
11	Research diversification	0.30***	0.03	0.03	0.19***	0.11***	-0.05	0.11***	0.01	0.47***	0.20***	1.00
	Mean	198.56	0.01	0.16	0.05	0.03	0.04	0.01	0.74	3.93	0.10	0.74
	S.D.	333.85	0.02	0.17	0.06	0.09	0.08	0.04	0.23	2.49	0.30	0.23
	Min.	0	0	0	0	0	0	0	0	0	0	0
	Max.	2452	0.33	1	0.45	1	1	0.50	1	8.57	1	0.93

Notes: Significance tests are two-tailed. * p < .10, ** p < .05, *** p < .01. The elite institution variable is absent, because no academic institutions in Taiwan in our sample appeared in the UTD top 100 business school ranking.

Table 7. Predicting academic impact (yearly citations) with the fixed-effects Poisson model

Variable	Hong Kong		Korea		Singapore		Taiwan	
	β	e^{β}	β	e^{β}	β	e^{β}	β	e^{β}
Explanatory variables								
Percentage of publications in top journals	0.39***	1.48	-0.31	0.73	1.42***	4.14	-0.49	0.61
	(0.09)		(0.23)		(0.45)		(0.82)	
Percentage of collaborations with North America	1.14***	3.13	1.92***	6.82	2.11***	8.25	1.56***	4.76
	(0.36)		(0.44)		(0.41)		(0.38)	
Ethnic diversification	0.62***	1.86	-0.00	1.00	1.00***	2.72	0.33**	1.39
	(0.14)		(0.13)		(0.30)		(0.15)	
Control variables								
Percentage of collaborations with Europe	1.05**	2.86	3.32***	27.66	0.93*	2.53	2.31***	10.07
	(0.43)		(0.53)		(0.56)		(0.41)	
Percentage of collaborations with Asia	1.77***	5.87	2.51***	12.30	2.89***	17.99	1.41***	4.10
	(0.42)		(0.53)		(0.49)		(0.39)	
Percentage of collaborations with RoW	0.38***	1.46	0.03	1.03	0.38***	1.46	0.33***	1.39
	(0.07)		(0.10)		(0.10)		(0.10)	
Percentage of domestic collaborations	0.80**	2.23	2.44***	11.47	2.52***	12.43	1.54***	4.66
	(0.35)		(0.47)		(0.46)		(0.37)	
Prior academic impact	0.78***	2.18	0.80***	2.23	0.57***	1.77	0.70***	2.01
	(0.03)		(0.02)		(0.03)		(0.01)	
Accreditation	0.02*	1.02	0.05**	1.05	0.05	1.05	0.01	1.01
	(0.01)		(0.02)		(0.04)		(0.01)	
Research diversification	0.49**	1.63	0.03	1.03	1.64***	5.16	1.48***	4.39
	(0.19)		(0.12)		(0.45)		(0.12)	
Elite institution	-0.03	0.97	0.08***	1.08	0.12	1.13		
	(0.04)		(0.02)		(0.08)			
HEI fixed effects	Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes	
Number of observations	231		509		133		901	
Number of institutions	12		25		9		49	
Min number of observations per institution	6		17		8		11	
Max number of observations per institution	21		21		21		21	
Log-likelihood statistic	-892.99		-1882.04		-489.51		-3183.63	
Wald chi^2 statistic	137190.73***		66555.89***		48597.06***		99827.12***	

Notes: Robust standard errors in parentheses. Significance tests are two tailed. * p < .10, ** p < .05, *** p < .01. The coefficient for elite institutions is absent for Taiwan, because no academic institutions in Taiwan in our sample appeared in the UTD top 100 business school ranking.

Appendix Table 1. Predicting academic impact (yearly citations) with the fixed-effects negative binomial model

Variables	Hong Kong	Korea	Singapore	Taiwan
Explanatory variables				
Percentage of publications in top journals	0.26**	0.39	0.53***	0.76
	(0.12)	(0.41)	(0.18)	(0.79)
Percentage of collaborations with North America	0.93***	1.73***	2.64***	1.22**
	(0.23)	(0.58)	(0.83)	(0.59)
Ethnic diversification	0.63**	0.14	1.07***	0.48
	(0.28)	(0.35)	(0.31)	(0.34)
Control variables				
Percentage of collaborations with Europe	1.26***	2.98**	1.58***	1.48***
	(0.36)	(1.35)	(0.43)	(0.46)
Percentage of collaborations with Asia	2.83***	2.95**	3.50***	1.41**
	(0.74)	(1.35)	(1.18)	(0.68)
Percentage of collaborations with RoW	0.06	0.25	0.92***	0.44*
	(0.14)	(0.27)	(0.25)	(0.25)
Percentage of domestic collaborations	0.66***	2.08**	2.91***	1.23**
	(0.24)	(1.02)	(0.94)	(0.57)
Prior academic impact	0.71***	0.78***	0.67***	0.73***
	(0.05)	(0.03)	(0.04)	(0.02)
Accreditation	0.13***	0.13*	0.78***	0.09***
	(0.03)	(0.07)	(0.11)	(0.03)
Research diversification	1.31***	0.56*	3.87***	2.11***
	(0.31)	(0.30)	(1.32)	(0.28)
Elite institution	0.14*	0.19***	0.07	
	(0.08)	(0.05)	(0.30)	
HEI fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of observations	231	509	133	901
Number of institutions	12	25	9	49
Min number of observations per institution	6	17	8	11
Max number of observations per institution	21	21	21	21
Log-likelihood statistic	-823.52	-1639.56	-447.72	-2805.76
Wald chi^2 statistic	52030.41***	20577.80***	14988.52***	34311.80***

Notes: Robust standard errors in parentheses. Significance tests are two tailed. * $p < .10$, ** $p < .05$, *** $p < .01$. The coefficient for elite institution is absent for Taiwan, because no academic institutions in Taiwan in our sample appeared in the UTD top 100 business school ranking.

Appendix Table 2. Predicting academic impact with the fixed-effects Poisson model (the percentage of publications in top journals is a calculated as the cumulative number of publications in UTD journals divided by the cumulative number of publications in non-UTD journals)

Variables	Hong Kong	Korea	Singapore	Taiwan
Explanatory variables				
Percentage of publications in top journals	0.40***	-0.21	1.41**	-0.50
	(0.17)	(0.18)	(0.41)	(0.77)
Percentage of collaborations with North America	0.95**	1.68**	1.54***	0.90**
	(0.45)	(0.79)	(0.56)	(0.40)
Ethnic diversification	0.59***	-0.05	0.57**	0.38
	(0.20)	(0.22)	(0.24)	(0.25)
Control variables				
Percentage of collaborations with Europe	0.94	2.87***	0.38	1.48***
	(0.64)	(0.90)	(0.77)	(0.56)
Percentage of collaborations with Asia	1.59***	2.27**	2.42***	0.86
	(0.62)	(0.90)	(0.69)	(0.54)
Percentage of collaborations with RoW	0.36***	-0.01	0.33**	0.28*
	(0.11)	(0.18)	(0.15)	(0.17)
Percentage of domestic collaborations	0.67	2.13***	1.73**	0.93**
	(0.52)	(0.81)	(0.69)	(0.43)
Prior academic impact	0.79***	0.83***	0.62***	0.70***
	(0.05)	(0.03)	(0.04)	(0.02)
Accreditation	0.02	0.06*	0.07	0.01
	(0.02)	(0.04)	(0.06)	(0.02)
Research diversification	0.68**	0.31	1.50**	1.52***
	(0.26)	(0.21)	(0.68)	(0.19)
Elite institution	-0.02	0.07*	0.18	
	(0.05)	(0.04)	(0.12)	
HEI fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of observations	231	509	133	901
Number of institutions	12	25	9	49
Min number of observations per institution	6	17	8	11
Max number of observations per institution	21	21	21	21
Log-likelihood statistic	-856.94	-1673.53	-470.46	-2892.21
Wald chi^2 statistic	58910.97***	20891.11***	17152.50***	34543.79***

Notes: Robust standard errors in parentheses. Significance tests are two tailed. * $p < .10$, ** $p < .05$, *** $p < .01$. The coefficient for elite institution is absent for Taiwan, because no academic institutions in Taiwan in our sample appeared in the UTD top 100 business school ranking.

Appendix Table 3. Predicting academic impact with the fixed-effects Poisson model (the percentage of publications in top journals is a calculated as the cumulative number of publications in CABS 4* journals divided by the cumulative total number of publications)

Variables	Hong Kong	Korea	Singapore	Taiwan
Explanatory variables				
Percentage of publications in top journals	1.07***	-0.25	1.35***	0.53***
	(0.20)	(0.19)	(0.35)	(0.10)
Percentage of collaborations with North America	0.88***	2.06***	1.88***	1.60***
	(0.30)	(0.46)	(0.41)	(0.39)
Ethnic diversification	0.75***	-0.04	0.95***	0.41***
	(0.14)	(0.13)	(0.30)	(0.16)
Control variables				
Percentage of collaborations with Europe	0.99**	3.44***	0.67	2.47***
	(0.39)	(0.53)	(0.56)	(0.42)
Percentage of collaborations with Asia	1.32***	2.59***	2.51***	1.20***
	(0.32)	(0.53)	(0.48)	(0.39)
Percentage of collaborations with RoW	0.39***	0.04	0.31***	0.29***
	(0.07)	(0.10)	(0.10)	(0.10)
Percentage of domestic collaborations	0.95***	2.60***	2.21***	1.60***
	(0.30)	(0.48)	(0.46)	(0.37)
Prior academic impact	0.73***	0.80***	0.58***	0.70***
	(0.03)	(0.02)	(0.02)	(0.01)
Accreditation	0.03***	0.04**	0.03	0.02*
	(0.01)	(0.02)	(0.04)	(0.01)
Research diversification	0.51***	-0.01	1.70***	1.57***
	(0.19)	(0.12)	(0.46)	(0.13)
Elite institution	0.00	0.08***	0.16**	
	(0.03)	(0.02)	(0.08)	
HEI fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of observations	231	509	133	901
Number of institutions	12	25	9	49
Min number of observations per institution	6	17	8	11
Max number of observations per institution	21	21	21	21
Log-likelihood statistic	-879.70	-1879.04	-487.03	-3168.65
Wald X^2 statistic	137131.21***	66607.59***	48563.58***	99780.63***

Notes: Robust standard errors in parentheses. Significance tests are two tailed. * p < .10, ** p < .05, *** p < .01. The coefficient for elite institution is absent for Taiwan, because no academic institutions in Taiwan in our sample appeared in the UTD top 100 business school ranking.