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ASIA-PACIFIC KNOWLEDGE CLUSTER DEVELOPMENT IN INTERNATIONAL BUSINESS

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Abstract

This study provides a longitudinal examination of the productivity of Asia-Pacific institutions based on the IB publications of authors affiliated with each institution. The analysis covers a 40-year period, 1970 to 2009, enabling tracing of the evolution of this region and its institutions from the very inception of IB research, marked by the creation of the *Journal of International Business Studies* in 1970. Furthermore, interest in improving understanding of the internationalization of IB research in this region warrants both macro and micro analysis. After explaining the methodology used for collecting and analyzing data for this study, we investigate macro trends regarding how the Asia-Pacific region and its countries have evolved in terms of their contribution to IB research. The next part takes a micro perspective aimed at examining Asia-Pacific institutions' research productivity and their evolution therein. Implications for institutional and regional level initiatives to develop and expand globally competitive knowledge clusters are presented.

Key words:
knowledge cluster
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ASIA-PACIFIC KNOWLEDGE CLUSTER DEVELOPMENT IN INTERNATIONAL BUSINESS

How have knowledge clusters involving Asia-Pacific institutions developed, particularly regarding their role in producing and disseminating international business (IB) knowledge? More importantly, which factors contributed to this evolution? No prior study has focused on investigating institutional productivity in IB by Asia-Pacific institutions, which is surprising given growing economic and academic importance of Asia (Kothari & Lahiri, 2012; Lahiri & Kumar, 2012).

With increasing internationalization of markets and competition, international business has become an increasingly important managerial issue. Recognition of the importance of IB has been widespread among academic institutions, which have undertaken continued efforts to internationalize teaching and research. The AACSB (2011) reports that globalization may be the most fundamental challenge impacting business education, calling for fundamental reconsideration of the role of IB within university business schools.

In response to these calls for internationalization of research and teaching, there have been several efforts aimed at identifying important contributions to the evolution of IB as a focus of academic inquiry. Such analyses seem appropriate, given the increased emphasis on evaluation of teaching and research in IB as well as in management as a whole. Those studies look at rankings of institutions and scholars, and have become instrumental for students and faculty as they select a school, as well as for administrators in their resource allocation. Notably, various recent studies reveal the increased role played by non-American institutions and scholars (Chang, Fung, & Leung, 2006; Morrison & Inkpen, 1991), in particular the rising predominance of Asian institutions in both management and IB research (Bruton & Lau 2008; Mudambi et al., 2008).

As a result, examination of the emergence and growth of regional knowledge clusters related to globalization-related disciplines is essential. Despite the importance, there has not previously been an in-depth examination of the internationalization of IB research within the Asia-Pacific region and we know little about factors facilitating this trend. The general absence of research focusing on this region reflects the relatively recent emergence of world-class research-oriented institutions outside the previously dominant North American sphere (Mangematin & Baden-Fuller, 2008). This is regrettable because the growing importance of scholarly publication for both faculty and their institutions ensures that there will be sustained interest in this subject. In addition, uncovering the factors lying behind the internationalization of IB research to this region and the emergence of knowledge clusters can provide insights to help other regions and institutions improve their standing in this domain.

This study provides a longitudinal examination of the productivity of Asia-Pacific institutions based on the IB publications of authors affiliated with each institution. The analysis covers a 40-year period, 1970 to 2009, enabling tracing of the evolution of this region and its institutions from the very inception of IB research, marked by the creation of the *Journal of International Business Studies* in 1970. Furthermore, interest in improving understanding of the internationalization of IB research in this region warrants both macro and micro analysis. After explaining the methodology used for collecting and analyzing data for this study, we investigate macro trends regarding how the Asia-Pacific region and its countries have evolved in terms of their contribution to IB research. The next part takes a micro perspective aimed at examining Asia-Pacific institutions' research productivity and their evolution therein. Implications for institutional and regional level initiatives to develop and expand globally competitive knowledge clusters are presented.

INTERNATIONAL BUSINESS RESEARCH IN ASIA-PACIFIC

Articles that rank institutional productivity in IB at the global level have identified a subset of Asian institutions that rank among the top universities. In their retrospective of research publications in the *Journal of International Management* (*JIM*), Kothari and Lahiri (2012) identified 13.81% of the articles published in *JIM* from 1998-2010 were produced by authors affiliated with Asia-Pacific universities. By contrast, authors affiliated with European institutions contributed 21.95% of the articles that appeared in *JIM* during this period.

There is also research that deals with institutional productivity among Asia-Pacific institutions in publications that cater to other business disciplines like marketing. Cheng, Chan and Chan (2003), for example, ranked productivity during 1991-2000 in 20 marketing journals by 106 institutions in the Asia-Pacific region. They found that out of a total of 6,155 marketing articles written by 6,419 authors at 516 institutions, 321 authors and 106 universities were from the Asia-Pacific region. They adjusted the results for fractional authorship and page size. The result was that Asia-Pacific universities produced 3.84% of all the published pages in 20 leading marketing journals during the 10-year period. The top five Asia-Pacific universities were the University of New South Wales, the National University of Singapore, Hong Kong University of Science and Technology, the University of Auckland, and the University of Western Australia.

Morrison and Inkpen (1991) identified two non-North American institutions among the 36 most productive academic institutions in their study of IB research in the period 1980-1989. Kumar and Kundu's (2004) ranking of institutions during the period 1991-2000 identified 13 non-US universities among the top 50 institutions. Five of these were Asian (i.e., Chinese University of Hong Kong, University of Hong Kong, Hong Kong University of Science & Technology, Nanyang University of Singapore, and National University of Singapore). Within this time period, the authors found the number of non-US institutions among the top-rated universities expanded from 11 during 1991-1995 to 16 during 1996-2000.

Chang, Fung and Leung (2006) found that the share of North American (US & Canada) institutions in total publications in four leading journals during the ten years from 1995-2004 was 49.1%, followed by the United Kingdom (12.62%), Hong Kong (5.95%), Sweden (3.62%), and Germany (3.58%). Over time, however, they found that authors from North American institutions dropped from 53.9% of all articles in 1995 to 43.7% in 2004. There was an upward trend in publications by Asia-Pacific institutions (from 10.9% in 1995 to 19.2% in 2004) and European institutions (20.6% in 1995 and 32.6% in 2004). Only two American schools were among the top five institutions (i.e., Michigan State University and University of South Carolina) during the entire period, the three others being non-American (i.e., Chinese University of Hong Kong, University of Leeds, Copenhagen Business School).

Thus, it is evident that, similar to management research (Chang, Fung, & Leung, 2006), the proportion of IB research produced by scholars affiliated with North American institutions is declining in recent years. Such a trend has been partly explained by the diffusion of the U.S. model of business schools as it spread out over Europe, and more recently into Asia (Mangematin & Baden-Fuller, 2008). In addition, as Asian institutions began to adopt the citation model widely practiced in North America, this pressure has resulted in an increased presence of Asia-Pacific institutions and authors in management research (Leung, 2007).

To add to this body of knowledge, we look at 14 leading journals publishing IB research over an extended period ranging from 1970 to 2009. This time period witnessed some pivotal changes for IB research in various ways. First, 1970 saw the publication of a

seminal manuscript on IB research (Nehrt, Truitt and Wright, 1970) and the launch of the *Journal of International Business Studies*, the most highly rated journal for IB research. Second, it was in the mid-1980s that management journals started to publish an increasing number of articles from non-US academics (Baden-Fuller & Hwee Ang, 2001). Finally, the 1990s witnessed the emergence of the Asia-Pacific region as a key player in the publication of peer-reviewed IB research.

RESEARCH METHODOLOGY

Publication-based productivity can be evaluated on a number of different dimensions, including output appearing as refereed or non-refereed articles, books and monographs, *inter alia*. Although many important scholarly contributions have appeared in other formats, this study focuses on the publication of peer-reviewed articles and research notes in refereed journals. Journals, particularly those viewed as being among the "leading" or "highest quality" in their respective disciplines, typically have stringent standards for publication and high rejection rates, and those articles that are published usually reflect high standards of research scholarship.

Publication rates in these leading journals are widely used by researchers, administrators and others as proxies for assessing the research productivity of individuals and institutions. In fact, rates of journal publication, particularly for those journals perceived as the most prestigious or highest quality in their disciplines, have been found to be highly correlated with the perceived reputations of institutions, as well as with the pay and promotion of individual faculty members, *inter alia.*

Evaluation of journal-based productivity of academic institutions requires identification of an appropriate sample of publications, that is, journals of sufficient quality such that the articles published therein can be considered to generally contain a substantial proportion of the journal-based contributions to a field's literature. Identification of appropriate journals has been acknowledged to be a difficult task across a variety of disciplines (Lahiri & Kumar, 2012), and even to represent "hotly debated topics" (Mangematin & Baden-Fuller, 2008: 119). In fact, this is even more problematic for young and cross-functional disciplines such as IB, where journal quality is hindered by the lack of any systematic evaluation of the field's literature. The rapid proliferation of journals in the field of management in general and IB in particular, as well as the wide variation in quality attributed to these publications, suggested that some restriction in the range of journals to be examined would be appropriate.

Most prior studies examining research productivity have utilized samples of journals that were chosen in an arbitrary manner, either directly or through the decision regarding which journals to submit to random or convenience samples of "experts" or "members." However, several recent surveys have consistently rated one publication – the *Journal of International Business Studies* (*JIBS*) – as the leading journal devoted to the field of IB, and expert ratings of journals have been substantiated by objective measures of scholarly influence. Although a relatively young publication, data in the Social Sciences Citation Index also revealed that *JIBS*' ratings on two key ratios, current article impact and cumulative journal impact, have been increasing rapidly in recent years.

Because of the field's relatively young stage of development, its cross-functional nature, and the tendency of many journals to appeal to audiences of limited size and scope, it was unlikely that all or even the majority of the most significant recent journal publications in IB have appeared in a single journal. Although only one measure of contribution, citations have been argued to be valuable objective measure for assessing contributions. Citations, argue Mangematin and Baden-Fuller (2007: 120) better reflect the "'democratic' vote of the

scientific community." Therefore, all of the journal citations contained in articles and research notes published in the issues of *JIBS* from 1980 to 1991 were counted, and the 14 most highly cited journals were identified.

Due to the wide variety of topics contained in the sample journals, only those publications focused explicitly on IB issues were included. These publications were identified using the definition developed by Nehrt, Truitt and Wright (1970), subsequently reiterated by Ricks (1985) as editorial policy at *JIBS*. Using this definition, the entire population of articles and research notes published in the 14 sample journals between 1970 and 2009 were identified and coded for use in this study. Other journal contents, including case studies, monthly columns, introductions to special issues, letters to the editor, book reviews and dissertation abstracts, were excluded from analysis. This resulted in a sample of 4,528 articles published by 4,674 authors and 1,341 academic and non-academic institutions worldwide.

Reporting of absolute frequencies of appearances by individual authors could result in bias due to multiple authorship of many of the sample publications. Therefore, in addition to absolute frequency of authors' appearances, we also calculated appearances adjusted for the number of authors. Although some prior studies have given greater credit to the lead author (e.g., Howard, Maxwell, Berra, & Sternitzke, 1985), this study assigned credit proportionally, based on the number of authors. For example, the listed institution of an individual who was sole author was credited with 1.0 point, while the institution of each author in a dual-authored paper received 0.5 points. Credits were assigned separately to different branch campuses of a given university or university system. Due to variations in the organizational structures of different institutions, publication credits assigned to business school programs were combined with credits for other academic departments (e.g., Economics, Psychology, Statistics) at the same university.

In an attempt to discern trends in institutional productivity, two analyses were performed. First, in Analysis 1, we performed a macro analysis focused on examining the evolution of the Asia-Pacific region and its countries. The total share of publications produced by authors affiliated with North American, Asia-Pacific, European, and other non-North American universities are reported for the 40 years studied in Figure 1. In addition, the total share of publications produced by authors who received their doctoral training in North American, Asia-Pacific, European, and other non-North American universities are reported Figure 2. These analyses allow us to map changes in the global production of IB research, with a particular emphasis on the changing role of Asia-Pacific institutions therein.

[Insert Figure 1 about here]
[Insert Figure 2 about here]

We were also interested in evaluating countries first based on their research productivity, and second as centers for producing IB researchers. These two assessments are presented respectively in Table 1 and Table 2.

[Insert Table 1 about here]
[Insert Table 2 about here]

Our second analysis took a micro perspective as we assessed research productivity of individual institutions. Table 3 provides a ranking of the 25 most productive institutions for each of the four decades under study. An evaluation of the 25 most productive Asia-Pacific institutions was also performed for the period 1970-2009 (see Table 4).

[Insert Table 3 about here]
[Insert Table 4 about here]

In addition, as we sought to identify some factors that may contribute to the success of the most productive institutions, we analyzed the Chinese University of Hong Kong, the University of Hong Kong, the City University of Hong Kong, and the National University of Singapore. We selected those institutions as they appeared at least one time in the Top 25 rankings (Table 3).

Care must be exercised in interpreting the publication track records of academic institutions. Although the institutions may influence the skills, interests, and job opportunities of authors affiliated with the institution, productivity is likely influenced by a range of factors, including financial, collegial, administrative, and other support, teaching loads, and the like. Nevertheless, there were distinct differences in productivity across institutions, and distinct trends evident for several schools. While several North American institutions have remained prominent as likely sources of influence over the development of IB, the role of Asia-Pacific institutions has experienced substantial changes in institutional productivity ratings during the 1970-2009 time period.

ASIA-PACIFIC IB RESEARCH PRODUCTIVITY: A LONGITUDINAL ANALYSIS

Analysis 1: Regional analysis of the diffusion of international business research to the Asia-Pacific region

To what extent is authorship of international business research dispersed internationally? More specifically, how has the place of the Asia-Pacific region evolved in this domain? To address these questions, we examined the geographic dispersion of authors across the 1970-2009 time period. Assessment of both absolute and adjusted productivity shows a strong correlation between these two measures (r = .9989). Therefore, we present our analysis based only on the first measure.

The evolution of Asia-Pacific institutions in IB research. Previous studies have observed the move of management research in general, and of IB research in particular, away from North America (Mangematin & Baden-Fuller, 2007; Lahiri & Kumar, 2012; Usdiken, 2014), noting that US dominance in journal publications is decreasing as US business school model and "publish or perish" style of scholarship are internationalizing. For instance, Lahiri and Kumar (2012) reveal how North-American universities are unable to maintain their position in the Top 10 as they are being outcompeted by non-US institutions. Our analysis, which has the main advantage of covering the entire lifespan of the field of IB research, extends those findings by showing not only how Asia-Pacific institutions have evolved in their contribution to IB research, but also that while emerging late in this domain, their evolution has been impressive.

Since the first issue of *JIBS* in 1970, the share of IB research accounted for by authors affiliated with North American institutions has dramatically decreased. In 1970, when measured by absolute appearances, 84% of the IB research published in the top 14 journals under study came from North American institutions (Figure 1); by 2009, this number had dropped to just 50%. The predominance of North American institutions in IB research diminished slowly; until the late-1980s, authors affiliated with North American institutions still produced about 80% of the articles, when measuring by absolute appearances. However, in the early 1990s, North American institutions began to lose share first to European institutions that increased their share to a peak of 22% in 1991, and then to Asia-Pacific

institutions that witnessed a two-digit share for the first time in 1993. This regional shift became more established after the mid-1990s, with authors from North American institutions achieving an 80% share of absolute appearances for the final time in 1994. The following year, North American institutions lost 14 points to European and Asia-Pacific institutions. From this point on, the place of Asia-Pacific institutions in IB research has not only become more predominant, but also more permanent. During the last decade, the smallest contribution of Asia-Pacific institutions was 10% in 2003, and authors affiliated with Asia-Pacific institutions contributed up to 21% of all IB research in 2008.

We note, though, that this trend is not evenly spread across the countries of this region. Bruton and Lau (2008) investigated the evolution of Asian management research, defined as management research on Asia, in ten top journals. They found that Asian management research in those journals was overly focused on China, Hong Kong, Taiwan, and Japan, and that while the region is composed of 30 countries, only 14 of those were represented. Our findings converge with this study but also reveal a slightly different trend than that observed by the authors. Figure 3 provides an individual assessment of each country based on its contribution to IB research along the four 10-year periods from 1970 to 2009.

[Insert Figure 3 about here]

During the first decade, the Asia-Pacific region was represented by only 8 countries which accounted only for 2.5% of the IB research productivity globally. Only three of those countries were represented by more than one institution. While this situation has gradually evolved until the last decade when 15 Asia-Pacific countries were contributing to 15% of the IB research production, two countries alone, Hong Kong and Australia, made up more than half of this production. During the first decade, this concentration was even higher with India and Japan representing more than 60% of the total regional production. These two countries further reflect a strong volatility in IB research productivity over time. Ranked number one in the first decade with 45% of the region productivity, India has experienced a dramatic drop in the following decade to 7%, until its contribution became marginal. Japan experienced a similar, yet less dramatic, decline. On the other hand, Hong Kong and Australia have been gradually ameliorating their position from representing 14% of the region production in 1970-79 to 27, 46, and 52% in the three following decades.

Interestingly, while the BRIC countries have been identified as a "hot" topic in IB, those are still under-represented in IB research with the exception of Chinese institutions (Figure 3). Russian institutions appeared in a top journal only in the third decade and still represent a marginal part of the overall productivity. In the last decade, there were only four Russian institutions producing IB research in the 14 top journals examined. Indian's institutions are sharply decreasing their representation. China is the only BRIC country to exhibit an increased presence in IB research in top journals. With a first appearance during the period 1980-89, it represented 1% of the overall Asia-Pacific productivity. During the third decade, China's weight rose to 3%, and to 8% in the following decade. In sum, research productivity from the three Asian countries forming part of the BRIC region does not seem to match the vowed interest in those economies (Estrin & Prevezer, 2011; Luo & Tung, 2007; Ralston et al., 2015).

Knowledge creation versus knowledge dissemination in Asia-Pacific. Brouthers et al. (2005) and Mudambi et al. (2008) noted that the two main roles of universities are knowledge creation (research) and knowledge dissemination (teaching), two dimensions along which academic institutions should be evaluated. Understanding the internationalization of IB knowledge production warrants an examination on both dimensions to better appreciate the

"*what* is internationalizing?" Previous studies have lamented that despite the internationalization of traditionally North American research, such a trend generally perpetuates North American research instead of introducing new paradigms and theories. For instance, Meyer (2006) notes that Asia-Pacific institutions are challenged as they seek to both participate in the global production of management research while simultaneously remaining locally relevant. Similarly, Bruton and Lau (2008) draw attention to the importance of Asian management research as a means to expand researchers' theoretical understanding and to shift paradigms, but regret that the rising predominance of Asian management research has not been translated in such a shift. Instead, the authors found that when Asian research increased contribution in top management journals, it is such research generally tends "to be drawn from the same foundations as that of mature economies" (Bruton & Lau, 2008: 642). Our study did not specifically assess the nature of the theories used in the articles examined. Instead, we compared the evolution of Asia-Pacific research production based on the two dimensions. Research creation is reflected in the institutional productivity presented in Figure 1. Figure 2 aims at assessing research dissemination, reflected in the extent to which institutions produce authors who publish in one of the top 14 journals under investigation.

When compared, these two trends offer a better appreciation of the "what" is internationalizing. Figure 2 shows that IB research continues to be generated substantially by authors who were trained in a North American institution; while their proportion has gradually decreased between 1970 and 2009, North American institutions were still responsible for training 61% of all authors of IB research in 2009. In contrast, European institutions trained 29% of the authors, Asia-Pacific institutions trained 9%, and only 1% of the authors who published in 2009 were trained in institutions from another region.

Interestingly, as Asia-Pacific institutions are maturing as a significant producer of IB research, their role as a training center, while increasing, is still in its infancy. During the 1970s, the authors publishing IB research in a top 14 journal were rarely trained in an Asia-Pacific institution (Figure 2), and it was only in the last decade that authors trained in Asia-Pacific institutions started accounting for more than 5% of the absolute appearances in published IB research. Comparatively, European institutions are increasing their share when assessed both in terms of institutional productivity based on current affiliation of the author and as a training center for doctoral students who subsequently publish IB research. In 2009, 30% of the absolute appearances came from authors affiliated with European institutions and 29% of the authors were trained in Europe, whereas authors from Asia-Pacific institutions were producing 17% of the research, and had been the source of the doctoral training for 9% of the researchers.

This disconnect is further evidenced when examining the ranking of Asia-Pacific countries as training centers compared to their ranking as research centers. Hong Kong was ranked 4th in terms of absolute productivity of affiliated authors of published research (Table 1), while as a training center for authors who produced published IB research, Hong Kong ranked only 11th (Table 2). Ten Asia-Pacific countries were ranked among those institutions whose affiliated authors produced 10 or more absolute publication appearances (Table 1); as training centers, there are 8 Asia-Pacific countries whose doctoral students or graduates accounted for a combined 10 or more publication appearances (Table 2).

Together, our data show that the Asia-Pacific as a knowledge creation center was responsible about 10 percent of the total number of appearances for the 40-year period (Figure 1), but less than 4% were from authors trained in Asia-Pacific (Figure 2). This finding suggests that even as the Asia-Pacific region is establishing its predominance in global IB research, it is still strongly shaped by external influences. This finding helps explain Bruton and Lau's (2008) finding that Asian management research still struggles into introducing a non-Western research perspective. Further review of the data shows a

substantial majority of authors affiliated with Asia-Pacific institutions were trained in North America, and while this trend is evolving, it may contribute to the increasing presence of Asia-Pacific institutions in the top 14 journals under study. The micro-analysis, presented later in this paper, develops this particular point. Before that, we provide a ranking analysis to assess the increasing role played by Asia-Pacific institutions in IB research.

Regional versus institutional productivity. Another key finding concerns the evolving pattern of Asia-Pacific research productivity compared to those observed in North America and Europe. While Asia-Pacific countries perform well in terms of absolute productivity, it is much less the case for individual institutions in the region. Table 1 shows that there are, for the period 1970-2009, ten Asia-Pacific countries in the Top 25. During the same period, only four Asia-Pacific institutions made the Top 5%, and six the Top 10% when measuring absolute productivity (Table 5). When measured in adjusted productivity, only two Asia-Pacific institutions made the Top 5%, and five the Top 10%. The good standing of Asia-Pacific countries compared to their still relatively low presence in the top institutions is essentially due to the high number of Asia-Pacific institutions contributing to IB research. Indeed, for the entire 40-year period, the Asia-Pacific region was represented by a disproportionate (18.2%) number of institutions compared to their contribution in terms of absolute (10.2%) or adjusted (8.3%) productivity. Conversely, North American institutions represented less than 50% of the population, but almost 70% of the absolute productivity, and more than 70% of the adjusted productivity. These statistics suggest that IB research in North America is more concentrated than in Asia-Pacific, with some North American institutions established as centers of expertise for IB research.

[Insert Table 5 about here]

However, this situation is evolving positively for Asia-Pacific institutions: starting in the decade 2000-2009, the proportion of Asia-Pacific institutions was at par with their contribution to IB research in terms of absolute productivity (Table 5). During that period, Asia-Pacific institutions represented 16.0% of the total number of institutions publishing IB research in top journals, and 15.7% of the total number of appearances. This situation reflects a sharp improvement from the previous period when Asia-Pacific institutions represented 13.2% of the population of institutions publishing IB research but only 8.2% of the total absolute productivity.

Additional analysis confirms that the Asia-Pacific region is improving its position in the realm of IB knowledge creation as average productivity per institution is experiencing a continuous increase. Asia-Pacific institutions are not only increasing in number but also in their individual contribution to IB research. Figure 4 shows all but Other Regions are increasing their level of productivity per institution. North American institutions, on average, have gone from an absolute productivity of 3 in 1970-1974 to 4.5 in the period 2005-2009. Asia-Pacific institutions are catching up North American institutions in terms of absolute productivity per institution which reached 3.9 in 2005-2009, compared to a 2.2 in 1995-1999 when North American institutions were averaging 4.1 appearances per institution. In addition, by this measure, Asia-Pacific institutions have been surpassing European institutions since 2000-2004.

[Insert Figure 4 about here]

Together, these regional and country analyses are consistent with previous studies showing the increasing predominance of Asia-Pacific institutions in management research in

general, and IB research in particular (Mudambi et al., 2008; Pleggenkuhle-Miles et al., 2007). What remains unclear, though, is how such a change has taken place, and most notably how some institutions have emerged as the most productive in a rather short period. We address this question in the following sections of this article.

Analysis 2: Institution-level evaluation and the emergence of Asia-Pacific institutions into the Top 25

Asia-Pacific institutions are increasingly represented in global IB research (Figure 1). From a share of only 2.4% in 1970-79, authors affiliated with Asia-Pacific institutions have evolved towards representing about one out of six articles between 2000 and 2009: out of 3,510 total appearances during this period, 551 were authors associated with an Asia-Pacific institution (Table 5). This is particularly encouraging for Asia-Pacific institutions considering it was only in 1978, eight years after the creation of *JIBS,* that two Asia-Pacific institutions appeared for the first time in this journal. The first of those institutions was Australian, as Lawrence S. Welch from the Darling Downs Institute of Advanced Education, co-authored, "Pre-export activity: The first step in internationalization," with Finh Wiedersheim-Paul and Hans C. Olson. The second article, "The adoption of export as an innovative strategy," was developed by Woo-Young Lee from Sugang University in South Korea in collaboration with John J. Brasch from the University of Nebraska. The next time an author affiliated with an Asia-Pacific institution would appear in *JIBS* was in 1982.

Despite its later emergence as a predominant producer of IB research, the Asia-Pacific region hosts some remarkably successful institutions. For instance, although never included in the ranking of the Top 25 most productive institutions in the first two decades of our analysis, the Chinese University of Hong Kong made an entry into this ranking at the 16th position in the decade 1990-1999 with 19 appearances, and then rose to the second overall position in the decade 2000-2009 with 58 appearances (Table 3). The University of Hong Kong also surprises by being absent from this ranking in the first three decades, but subsequently sharing the third position in the last period with the University of South Carolina. During this last decade, two other Asia-Pacific institutions entered this Top 25 ranking: the City University of Hong Kong at the 17th position, and the National University of Singapore, ranked 21.

Table 4 ranks Asia-Pacific institutions based on absolute number of appearances of authors affiliated with each institution, presenting the 25 most productive institutions. Among these 25 institutions, 21 have an absolute productivity of 10 or more appearances; and 6 institutions score 20 or more appearances. The predominance of Hong Kong institutions is salient in this table with 5 such institutions ranking in the Top 10 of most productive Asia-Pacific institutions. The second most productive country is Australia with 4 Australian institutions making the Top 10.

DISCUSSION AND CONCLUSIONS

The internationalization of IB research and publication can be seen from several perspectives. First, the identity of the most productive academic institutions has expanded from a set of authors predominantly affiliated with North American institutions to include authors affiliated with institutions from other countries. In 1970, 84% of the IB research published in the 14 leading journals originated from North American institutions. This proportion dropped to 50% in 2009. Second, the nationality of the most productive institutions has diversified over the years, including an increasing number of Asia-Pacific

schools. Third, the role of each country's institutions as a training center is expanding, resulting in an increasing number of authors who were trained outside of North America.

Results of this study may help potential "consumers" of IB education, such as graduate students and the institutions that may seek to employ them post-doctorate, to make more intelligent and informed decisions regarding various programs and institutions. These results may also assist university administrators in making judgments regarding allocation of resources and support of programs in general and IB-related programs in particular, as well as providing statistical data to help these administrators and other authorities in assessing the relative success or shortcoming of existing policies.

We do not intend to imply that we have arrived at absolute measures of institutional productivity. Certainly, there are other highly reputable journals that promote distinction for authors that publish within their pages and that might also serve as an adequate index of productivity. Although this study incorporates some of the most prestigious journals in management, marketing, finance, and economics, there may always be concern by readers as to whether the sample provides an adequate sampling of institutional productivity – in terms of both quantity and quality of their affiliated authors' publications. It might be interesting and informative to compare this study's results with those based on some other portfolio of journals.

Nor do we intend to imply that the IB-related productivity of universities is reflected by journal publication alone. The publication of scholarly books, monographs, chapters and non-English language publications have undoubtedly served to enhance the reputations of the universities with which their authors were affiliated. In fact, it is plausible, especially in the case of individual scholars, that the production of books is negatively correlated with the production of journal articles.

Finally, we do not intend to be so presumptuous as to imply that those universities that do not appear on our lists of "productive" institutions are "marginal" or "not suitable for employment or training," particularly in the area of IB. Certainly, there are ways to assess the quality of academic institutions other than in terms of research and scholastic productivity, and the data in this study show that rankings of some institutions have varied substantially over time. It is entirely conceivable, for example, that the quality of instruction that a graduate student receives is inversely related to how prolific his or her professors were in terms of publishing articles. It is our intention that our ratings, rather than being regarded as an absolute index of quality, should serve as a gauge for colleges and universities to assess their relative standing *vis-à-vis* quality journal-level productivity. Further, we hope that our productivity ratings will serve as an impetus for improvement for those programs that are dissatisfied with their relative standings and/or trends in those standings.

The authors and institutions ranked in this study have all made substantive contributions to the IB literature during the 1970-2009 period, though evaluation of the relative contributions of particular journal articles is inherently problematic (Mangematin & Baden-Fuller, 2008). Publication is only one criterion for assessing the productivity and quality of institutions and their contribution to the development of IB as a field of academic inquiry. Yet, with few exceptions, the top publishing schools and authors in this study have all been recognized for their excellence in the production of IB research.

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Table 1. Top Countries in IB Research Productivity, 1970-2009, with Asia-Pacific Countries Highlighted*

	Absolute Productivity		Adjusted Productivity	
	Rank	Score	*Rank*	Score
USA	*1*	5166	*1*	2924.97
UK	*2*	633	*2*	307.68
Canada	*3*	510	*3*	276.80
Hong Kong	*4*	250	*5*	100.91
France	*5*	195	*4*	104.32
Australia	*6*	152	*8*	64.53
The Netherlands	*7*	148	*6*	72.20
Sweden	*8*	122	*9*	57.63
Germany	*9*	121	*7*	64.94
Israel	*10*	89	*10*	47.28
Japan	*11*	85	*11*	47.23
Singapore	*12*	76	*13*	35.35
South Korea	*13*	74	*14*	33.41
Belgium	*14*	69	*15*	32.52
China	*15*	62	*19*	22.35
Switzerland	*16*	59	*12*	38.50
Denmark	*17*	58	*16*	29.68
Spain	*18*	54	*18*	22.85
Taiwan	*19*	52	*17*	23.25
New Zealand	*20*	37	*23*	17.42
Finland	*21*	36	*24*	15.98
Italy	*21*	36	*20*	19.60
Norway	*23*	33	*22*	17.48
India	*24*	31	*21*	18.45
Austria	*25*	27	*25*	12.83
Brazil	*26*	20	*27*	8.00
Turkey	*27*	19	*26*	8.26
Mexico	*28*	13	*32*	3.77
South Africa	*29*	12	*30*	5.67
Portugal	*30*	11	*31*	4.75
Saudi Arabia	*30*	11	*28*	6.92
Poland	*32*	10	*29*	6.37

* We excluded countries with less than 10 appearances from this analysis

Table 2. Top 25 Countries in Doctoral Training, 1970-2009, Measured by Number of Publication Appearances of Doctoral Trainees, with Asia-Pacific Countries Highlighted*

	Absolute productivity		Adjusted productivity	
	Rank	Score	*Rank*	Score
USA	*1*	5639	*1*	3083.72
UK	*2*	651	*2*	322.90
Canada	*3*	419	*3*	202.77
Germany	*4*	132	*4*	70.53
The Netherlands	*4*	132	*5*	63.68
Sweden	*6*	120	*6*	55.57
Australia	*7*	115	*7*	52.78
France	*8*	82	*8*	43.06
Belgium	*9*	72	*9*	35.99
Denmark	*10*	58	*10*	31.35
Hong Kong	*11*	40	*12*	13.69
Finland	*12*	35	*11*	16.23
Spain	*13*	34	*13*	13.31
Japan	*14*	31	*16*	10.88
New Zealand	*15*	28	*15*	11.52
Switzerland	*16*	23	*14*	12.19
Russia	*17*	22	*20*	7.89
Israel	*18*	21	*17*	9.78
Norway	*19*	19	*18*	8.67
Austria	*20*	18	*19*	8.25
Taiwan	*20*	18	*21*	7.70
China	*22*	15	*26*	3.85
Italy	*22*	15	*22*	7.27
South Africa	*24*	11	*23*	5.21
India	*25*	10	*24*	4.84

* We excluded countries with less than 10 appearances from this analysis

Table 3. Rankings of the 25 Most Productive Institutions in Published IB Research, 1970-2009, with Asia-Pacific Countries Highlighted

Rank	1970-2009	Abs prod	*Rank*	1970-1979	Abs prod	*Rank*	1980-1989	Abs prod	*Rank*	1990-1999	Abs prod.	*Rank*	2000-2009	Abs prod.
1	Harvard	251	*1*	Columbia	53	*1*	Harvard	71	*1*	Harvard	75	*1*	Harvard	75
2	Wharton	159	*2*	Harvard	52	*2*	Columbia	46	*2*	Western Ontario	58	*2*	Chinese U Hong K	58
3	Columbia	153	*3*	Wharton	48	*3*	Wharton	43	*3*	Wharton	54	*3*	South Carolina	54
4	South Carolina	149	*4*	NYU	45	*4*	South Carolina	42	*4*	South Carolina	54	*3*	Univ Hong Kong	54
5	Western Ontario	118	*5*	Tel Aviv	38	*5*	Michigan	39	*5*	Michigan	51	*5*	INSEAD	51
6	INSEAD	117	*6*	Georgia State	36	*6*	NYU	37	*6*	INSEAD	50	*6*	Western Ontario	50
7	Michigan	112	*7*	MIT	25	*7*	Penn State	33	*7*	Rutgers	47	*7*	Copenhagen BS	47
8	NYU	111	*8*	UCLA	24	*8*	INSEAD	31	*8*	Texas Austin	46	*8*	Leeds	46
9	Rutgers	101	*8*	UC Berkeley	23	*9*	McGill	27	*9*	NYU	44	*9*	Rutgers	44
10	Chinese U Hong K	85	*10*	Michigan	21	*10*	MIT	27	*9*	Michigan State	43	*10*	Univ Miami	43
11	Indiana	84	*11*	Hawaii	21	*10*	Texas Austin	25	*10*	UC Berkeley	40	*11*	Michigan State	40
12	Texas Austin	78	*12*	Kent State	20	*12*	Washington	23	*11*	Georgetown	40	*11*	Indiana	40
13	Michigan State	76	*12*	Texas Austin	20	*12*	Rutgers	23	*11*	Hawaii	38	*13*	Wharton	38
14	Penn State	70	*12*	Washington	20	*12*	Northeastern	21	*13*	Indiana	35	*14*	Texas A&M	35
15	Northeastern	67	*12*	Wisconsin-Madison	20	*12*	Western Ontario	21	*13*	Dartmouth College	35	*14*	Northeastern	35
16	Texas A&M	66	*16*	McGill	17	*16*	Southern Illinois	20	*15*	Texas A&M	35	*14*	Ohio State	35
17	MIT	64	*16*	Stanford	15	*17*	Tel Aviv	19	*16*	Columbia	33	*17*	City U of Hong Kong	33
17	Univ Hong Kong	64	*16*	South Carolina	15	*17*	Illinois	19	*16*	Chinese U Hong K	32	*18*	York	32
19	Ohio State	62	*19*	Indiana	15	*17*	CUNY Baruch	18	*18*	Penn State	29	*19*	Oklahoma	29
20	UC Berkeley	60	*19*	Penn State	15	*17*	Southern California	18	*18*	Toronto	29	*19*	London BS	29
21	Washington	59	*21*	Georgia	15	*17*	Georgetown	17	*20*	UC Irvine	28	*21*	National U Singapore	28
22	Hawaii	57	*21*	Illinois	14	*22*	Indiana	17	*20*	Minnesota	28	*21*	Tilburg	28
23	Leeds	55	*21*	Toledo	13	*23*	Ohio State	16	*22*	Thunderbird	27	*23*	Minnesota	27
24	Miami	53	*24*	Ohio State	13	*23*	Boston	16	*22*	Oklahoma	27	*23*	Temple	27
25	Copenhagen BS	51	*24*	Rutgers	11	*25*	Southern Methodist	15	*24*	MIT	24	*25*	North Carolina	24
25	Georgetown	51	*24*	Saint Louis	11	*25*	Dalhousie	15	*24*	North Carolina	24	*25*	London King's College	24
25	Minnesota	51	*24*	Saint John's				15	*24*	Stockholm				
			24	Temple										
			24	Chicago										

Table 4. The Top 25 Asia-Pacific Institutions in IB Research Productivity, 1970-2009

		Rank	Absolute productivity	*Rank*	Adjusted productivity
Chinese University of Hong Kong	Hong Kong	*1*	85	*1*	31.33
University of Hong Kong	Hong Kong	*2*	64	*2*	26.09
National University at Singapore	Singapore	*3*	43	*3*	18.84
City University of Hong Kong	Hong Kong	*4*	39	*4*	12.87
University of Queensland	Australia	*5*	23	8	9.15
Monash University	Australia	*6*	20	15	6.35
Hong Kong Polytechnic University	Hong Kong	*7*	19	7	9.67
University of Melbourne	Australia	*7*	19	5	12.00
Hong Kong Univ. of Science & Tech	Hong Kong	*9*	17	16	6.17
University of Sydney	Australia	*9*	17	11	7.42
Hong Kong Baptist University	Hong Kong	*11*	16	9	8.75
Nanyang Technological University	China	*11*	16	6	9.78
University of Auckland	New Zealand	*13*	15	12	7.08
China-Europe International Business	China	*14*	14	13	6.75
Korea University	South Korea	*15*	13	10	7.50
Australian National University	Australia	*16*	12	17	5.03
Waseda University	Japan	*16*	12	18	4.65
Yonsei University	South Korea	*16*	12	14	6.58
Beijing University	China	*19*	11	20	4.42
Indian Inst. of Mgmt Bangalore	India	*20*	10	27	2.93
National Taiwan University	Taiwan	*20*	10	19	4.50
Seoul National University	South Korea	*20*	10	25	3.10
Keio Business School	Japan	*23*	9	23	3.58
University of New South Wales	Australia	*23*	9	21	4.16
Hitotsubashi University	Japan	*25*	8	22	3.83
University of Western Sydney	Australia	*25*	8	28	2.83

Table 5. Regional versus institutional productivity in Asia-Pacific, 1970-2009*

	1970-2009	Period 1 1970-79	Period 2 1980-89	Period 3 1990-99	Period 4 2000-09
Total nbr of institutions	878	324	457	592	885
Nbr of Asia-Pacific institutions	160 (*18.2%*)	19 (*5.9%*)	35 (*7.7%*)	78 (*13.2%*)	142 (*16.0%*)
Total absolute prod.	7722	906	1379	1929	3510
Asia-Pacific absolute prod.	787 (*10.2%*)	22 (*2.4%*)	56 (*4.1%*)	158 (8.2%)	551 (*15.7%*)
Total adjusted prod.	4023.8	652.83	872.00	991.41	1509.52
Asia-Pacific adjusted prod.	334.20 (*8.3%*)	15.53 (*2.4%*)	29.70 (*3.4%*)	66.80 (*6.7%*)	222.1 (*14.7%*)

* This analysis excludes non-academic institutions

Figure 1. Share of Institutional Productivity in IB Research, by Region, 1970-2009

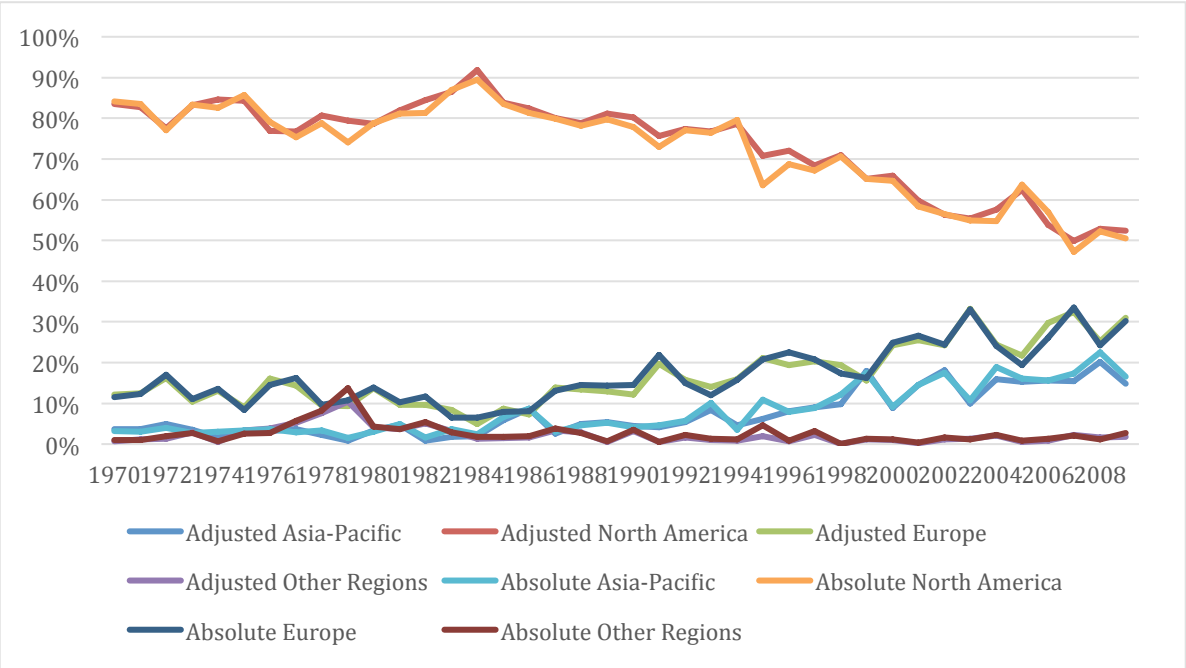

Figure 2. Share of Doctoral Productivity in IB Research, by Region, 1970-2009

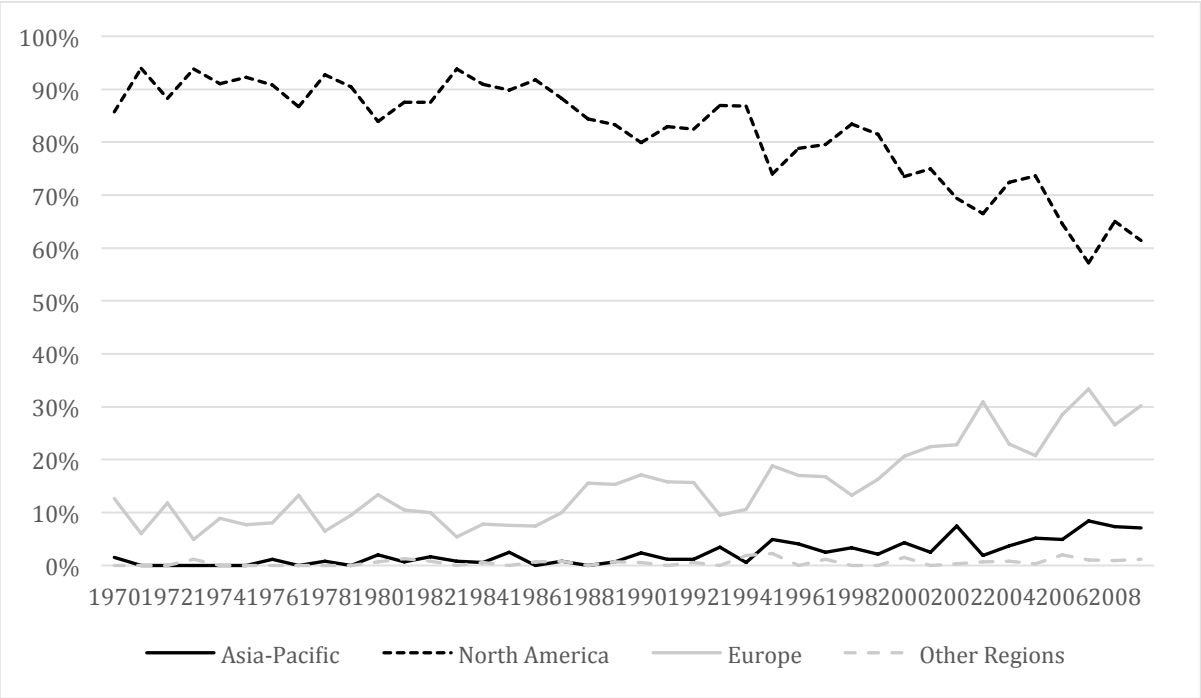

Figure 3. International Business Research Productivity by Country, 1970-2009

Figure 4. Average absolute productivity per institution by regions