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Excellence VS. Equity:

How Taiwan Higher Education Caught in A Trap for 'World Class' Status

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Introduction

Since the 1980s, public investment in higher education (HE) has become increasingly linked to private actors and market forces rather than being allocated by the state (Baker and Wiseman, 2008). As previous research has shown (Roberts, 2009; Chou, Chiu and Lin, 2013; Connell, 2013; Capano, 2015; Rhoads, Torres and Brewster, 2015), neoliberal economic ideology has made a significant impact on HE reform throughout the world. Taiwan, has not been immune from experiencing these changes to its higher education institutions (HEIs).

The 1990s was a decade of significant transformation for Taiwan's economy and its effects on academia. This resulted in a significant expansion of HE with an increasing number of universities. By 2008, the number of university students surged to 1.12 million which was a 6.5 fold increase since 1984. Despite the surge in university students, public funding for HE in Taiwan decreased as the private sector and market forces were expected to play a more significant role in obtaining funding for HE. The drive for 'global excellence' in Taiwan meant that world-class university rankings were used to measure HEIs in Taiwan met this criterion. Additionally, this drive was utilized to boost national competitiveness and university visibility. Not only were universities in Taiwan competing among themselves, but also among other universities in the Asia-Pacific region and throughout other regions of the world.

In a global context, Taiwan's government has adopted policies rewarding institutions for increasing their international visibility and global competitiveness. These policies are often based on international citation indexes that such as the Social Science Citation Index (SSCI), the Science Citation Index (SCI), and Engineering Index (EI). By rewarding scholars and universities in Taiwan with funding based on the number of research articles published in SSCI or SCI journals, Taiwan's government seeks to increase Taiwanese academia's international standing. As the internationalization of HE pits Taiwan against other institutions throughout the world, Taiwan seeks to become not only a source of international students, but also a prominent destination of international students.

In a local context, academic culture and research practices in the social sciences and humanities have been negatively affected as a result of the ranking systems used to measure the world-class status of HEIs. The pressure that Taiwanese scholars encounter to publish in internationally accredited journals and submit to evaluations, has led to backlash within the

academic community against the government's HE policies. One result of the changes in HE policy has been the termination of scholars' employment from their institutes for failure to meet publishing quotas and/or failure to submit to university evaluations which they regard as unfair. In addition, the local perception of academics as 'public intellectuals' is gradually diminishing as the local relevance of research is being called into question. 'Global' is the predominant target for publication whether it be journals or readers. As a result of this, more publications are being written in English which is less accessible for local readers. A 'winner-takes-all' effect appears to dominate the local context of HE in Taiwan.

This chapter examines the effects of the pursuit of 'global excellence' and 'local equity' in Taiwan's HE. These effects include trends in relative publication growth and the number of papers published in Taiwan. Such trends are compared to other nations' respective trends to highlight Taiwan's pursuit of 'global excellence.' In addition, trends in SCI, SSCI, and EI paper publications, impact factors, and university rankings in Taiwan are further explored to understand the effects of pursuing 'global excellence.' Various cases will be presented to examine the academic community's disquiet over Taiwanese HE's pursuit of 'world-class status.' This disquiet within the academic community in Taiwan is a result of various consequences that have resulted from the extreme drive to pursue 'world-class status' in HE such as, the gender gap and discrepancy, academic corruption, the SSCI Syndrome, and local impacts. The authors then concludes that benefits are not distributed evenly throughout academic fields, academic culture is shifting, latent anxiety between academic fields continues to grow, and the focus on meeting local needs is decreasing. Alternatives to the prevailing evaluation system of world-class universities advocated by HEIs and scholars are presented to remedy the issues that market-based education reforms have created (Chou, 2014).

Relative Publication Growth

In 1981, 543 academic papers were published in Taiwan, accounting for only 0.12% of global publications. This number has increased to more than 26,000 in 2012, consisting of 2.07% of global publications. Taiwan, along with South Korea, mainland China, and Singapore, have seen the greatest relative growth in academic publications. In contrast, the United States and Japan maintained a relatively constant growth in academic publications (Kuo & Liu, 2014). In addition, trends in the number of papers published show that Taiwan, as well as Singapore, South Korea, and India, are slowly rising. In contrast, Japan has slowed over the past decade, whereas mainland China has significantly increased the number of papers its scholars have published. When the number of publications is compared to relative population in millions, Taiwan publishes 1,131 papers per million people. This figure outnumbers the publication to population ratio in South Korea, Japan, mainland China, and even the U.S.. In addition, between 2008 and 2012, the publication growth rate in Taiwan was 18.29% which is significantly higher than the total birth rate of 1.21% (Reddit, n.d.) Kuo & Liu, 2014).

SCI, SSCI, and EI Paper Publications

In Taiwan, policy reforms resulting from globalization, neoliberal economic restructuring, and an increased emphasis on international competition have significantly impacted HE. These policies, such as changes in governance, financing, evaluation, and salary structures, were intended to enhance academic quality. Currently, meritocracy, accountability, and networking among faculty and staff are now valued more in Taiwan's HE system than ever before (Chou, 2008). As a result, the positive impacts anticipated by policymakers have not come to fruition and the emergence of a new phenomenon, the SSCI Syndrome, has grown rampant within Taiwan's system of HE (Chou, 2012)..

Today, individual scholars' research quality and impact are measured based on indicators from the following citation indexes: SSCI, SCI, EI and so forth. These citation indexes were first owned by Thomas Reuters, a private, for-profit company located in the United States and then was sold in 2016 (Reuters, 2016). Major English-speaking universities in Australia, Canada, the United States, the United Kingdom, and New Zealand have long recognized their standards in order to quantitatively evaluate the research impact of their faculties.

Taiwan's Ministry of Education (MOE) constructed an evaluation system based on the use of quantitative indicators as a result of its pursuit of internationalizing HE. In 2003, the MOE implemented the use of international publication indicators as evaluation standards of academic performance (Chou, 2014). Initially, this transition received widespread support from government officials in the MOE and the former National Science Council as well as academics, especially those in the natural sciences, economics, and other fields favoring the use quantitative indicators. Although many supported the reforms, there was significant resistance within the academic community. In the same year as the evaluation standards of academic performance were reformed, academics began to organize in opposition to them (Chou, 2014).

The rationale for using international publication indicators was based on an increasing emphasis of university internationalization in terms of public resource allocation and facilitation of HE reform policies to establish world-class universities. Universities have two primary driving factors in the pursuit of their world-class status. One is to maintain a superior position over other HEIS with respect to budgetary competition. The other factor is to make the university more attractive to prospective students and faculty

Taiwanese HESs expect to enhance their quality and competitiveness by promoting the use of international citation indexes as indicators for research performance. As a result of this development, Taiwanese HEIs have established administrative offices and centers devoted to the development of key subject areas and the promotion of 'quality' research. In order to evaluate performance, the actual number of faculty publications in the three databases are counted to determine the final ranking of each college and university. Therefore, academic faculty members are under significant pressure from both the government and their institutions to publish internationally in order to obtain SSCI, SCI, and EI records for promotion and accreditation purposes (Ching, 2014).

Impact Factors

Not only are the number and type of academic publications significant in measuring 'global excellence' in HE, but the impact factor of research articles published is also crucial in quantifying 'global excellence' which prioritizes research-related activities over less quantifiable academic endeavors. Citation indexes serve as a proxy for academic impact as it is a common assumption that research articles which are the most widely-cited have made a greater contribution to their field than those that are less frequently cited. Yet, some research suggests there is strong evidence to doubt this assumption (Hazelkorn, 2008; Ioannidis et al., 2007; Turner, 2005). This indicates that there is a problem with relying solely on quantitative methods in measuring 'impact' of research articles. Current measurements of 'impact' do not correspond to 'high-quality research' in today's publication-driven academia, especially when they do not correspond with the length of time necessary to conduct ground-breaking research and have it accepted as such (Chou and Cherry, 2017). In addition, a lack of agreement exists over how much impact ground-breaking research has on the academic community. Unfortunately, new paradigms are not investigated early in their manifestation as pressure increases for academics to publish their work in citation-index journals (Foster, Rzhetsky and

Evans, 2015; Sarewitz, 2016). Recent studies have also highlighted that much research in science and engineering has been cited primarily by doctoral students instead of fellow researchers (Mohammadi, Thelwall, Haustein and Larviere, 2015). As a result, citation indexes favor 'safe' established research over ground-breaking research, which should raise doubts about their relevance as a measure of quality.

Despite such doubts regarding the reliability of impact measurement in determining the value of published research, Taiwan's impact factor has been on the rise over the past decade. From 2007 to 2011, Taiwan's impact factor was measured at 4.28; however, from 2011 to 2015, Taiwan's impact factor increased to 5.31. In addition, Taiwan's reference count has increased during the same time period from 483,745 to 691,290 (MOST, 2017; Kuo & Liu, 2014). Therefore, the datum of impact factor will remain a significant indicator used to evaluate academic performance in Taiwan's higher education institutions.

University Rankings

University rankings are another system of measurement used to quantify the quality of higher education in Taiwan. Within this system, Taiwan universities are pitted against themselves as well as other universities throughout the world. Demand for such data from students, employers, and academics has facilitated an increase in the use of international ranking data over the past two decades. (Williams and Dyke, 2004). The predominant criteria for ranking are based on the quantitative indicators of research output mentioned above. One example of this is in the widely cited yet controversial international ranking of universities published by Shanghai Jiao Tong University. The indicators of research quality, primarily articles published in the SCI Expanded and SSCI, have a weight of 20% (Institute of Higher Education, 2012). Thus, scholars tend to associate the "best research" with the natural sciences and that indexed in SCI and SSCI, which may also place significant value on faculty with Nobel prizes. Similarly, in "Asia's Best Universities", published by *Asia Week*, an important factor measured to determine research performance is citations in those academic journals tracked by the Journal Citation Index (Asia Week, 2000). Citation data is also used in the *Times Higher Education* World University Rankings published in the U.K., accounting for 30% of the overall score of an institution, and in the Quacarella-Symonds (QS) rankings, accounting for 40% of the total score (Ching, 2014). Therefore, university rankings are highly dependent on the presumptive 'best' research as determined by the amount of articles published academic journals, predominantly natural sciences, and as valued in Citation Indexes.

Disquiet in the Academic Community

In the pursuit of 'global excellence' and 'local equity' in HE in Taiwan, the academic community has responded and challenged the status quo of quantifiable measurements used throughout the world to measure how 'international' universities have become. On one hand, the academic community in Taiwan is not opposed to internationalization of universities. On the other hand, the academic community has expressed grievances towards the way that this internationalization is measured. The methods used to quantify 'global excellence' are deemed insufficient and harmful to the role of local factors within academic standards and overall perceptions of academia.

Gender Gap and Disparities

One negative consequence of the drive for 'world-class' status and publication-focused HE research policies has been the widening of the gender gap and disparities within Taiwanese academia. The new reward system based on international journal publications has ultimately crippled the status of female faculty throughout the country since 2005 (Chou & Chan, 2017).

In particular, junior female faculty members in humanities and social sciences departments encounter significantly greater barriers to promotions and publication (Chou, 2018). 'Elite' universities also tend to have greater gender disparities than 'non-elite' universities. Gender disparities are most visible when analyzing academic positions. Out of 162 total colleges and universities in Taiwan, only 14 are led by female presidents as of 2016 (Chou, 2018). The percentage of female faculty at universities or colleges is increasing, however, the rate of increase is incredibly slow. For example, in 2007, female faculty accounted for 34.14% of total faculty; by 2014, female faculty accounted for only 35.21% of the total. This trend indicates that more can be done by Taiwanese HEIs and the Taiwan government to decrease the HE gender gap and disparity.

Corruption

The demonstrated bias in academic publication for quantitative presentations significantly favors fields such as engineering and the natural sciences is reproduced within the Citation Indexes. In Taiwan, pressure on faculty to produce research articles in order to increase their institution's global competitiveness and 'global excellence', has resulted in numerous academic scandals, particularly in with the STEM (Science, Technology, Engineering, and Mathematics) fields. The 'winner-takes-all' drive for 'excellence' has fostered corruption in the STEM fields as they seek to publish the most and as a result receive the far greater share of grant income. With significant financing at stake, academic fraud, peer-review process manipulation, and academic misconduct, are more likely to occur as institutions scrap for as much funding as they can obtain. In recent years, numerous cases of academic misconduct and fraud committed by education ministers and faculty of prominent universities in Taiwan have shown that the current evaluating system of Taiwanese academia is taking its toll on the academic integrity of Taiwan's HEIs.

As a significant case in point, in 2014, the Minister of Education, at the time, Chiang Wei-ling resigned as a result of his alleged connection to an academic whose papers were retracted from an international journal due to suspected manipulation of the peer-review process (Wang, Baker and AFP, 2014). In 2017, two academic scandals occurred, one involving the President of National Taiwan University (NTU), at that time, and another involving a faculty member of National Taiwan University. NTU President Yang Pan-chyr resigned after his term expired in June of 2017 due to allegations of academic misconduct regarding a number of research papers he coauthored (Lin, 2017). During the early half of 2017, Professors Kuo Min-liang and Chang Cheng-chi of NTU were fired by the university after an investigation committee discovered that Kuo and his research team presented misleading images in six papers, two of which were retracted by science journals. Cheng was discovered to have improperly edited several images in four pages (Lin, 2017). Notably, these cases involved faculty in the physical sciences, which leads to questions over academic integrity within the whole range of physical sciences in Taiwan.

Responses to the SSCI Syndrome

Taiwan's MOE uses the number of SCI, SSCI, and EI paper publications that HEIs and scholars produce to measure global competitiveness and 'global excellence.' Universities in Taiwan often enforce publication quotas upon their faculty which has fostered a 'publish or perish' system of academic research. This has resulted in an 'SSCI Syndrome' in which SSCI publication is over-emphasized in the country's HE policy. Opposition from scholars of all disciplines to this high pressure system has arisen as a result of the controversy aroused by a widely-perceived over-emphasis on international publication. In particular, reactions from the humanities and social sciences, fields in which research accomplishments are greatly

overlooked by the current publication drive, have been much stronger than others fields of study.

In 2003, academics had begun to organize in response to reforms that the MOE and NSC were attempting to push in order to establish new performance evaluation indicators (Chou, 2014). Efforts by academics in the social sciences to increase the awareness of the potential negative impacts of using international publication indicators culminated in the publication of a text entitled: *Globalization and Knowledge Production: Reflections on Taiwan's Academic Evaluations* (Reflections Meeting Working Group, 2004). Ultimately, these early efforts in altering the course of state-led reform proved unsuccessful.

As research has become more publication dominant, debates have raged on regarding the true nature of educational policies' performance indicators. There are significant questions as to whether these indicators overly emphasize global standards and whether these benchmarks are dominated by Western, predominantly American, tradition and practice (Mok and Tan, 2004; Lai, 2004; Wang, 2014). In addition, given that English is a foreign language to the vast majority of researchers in Taiwan, they must strive to overcome greater linguistic obstacles than researchers from English-speaking countries or other societies with historically higher levels of English proficiency. Studies have indicated that often times the global norm of English as a *lingua franca* tends to ignore voices from the peripheral, or non-English speaking, world (Liu, 2014).

Unfortunately, faculty members are increasingly falling victim to the SSCI Syndrome and the competitive winner-takes-all reward system that emphasizes research to the detriment of teaching and other academic contributions to society. Failure to meet research requirements of HEIs or a refusal to submit to an evaluation within Taiwan often leads to termination for faculty members. This has been the case even for faculty members that have earned teaching awards from prestigious national universities in Taiwan (Wang, 2010).

Taiwanese university faculty members have taken the initiative to increase public awareness of debates over SSCI-related issues in higher education. In November 2010, Taiwanese university faculty initiated an online petition calling for collective action. The petition had two purposes: first, to demand that Taiwan's government discontinue their policies of relying on indexed journals as primary indicators for university evaluation and funding and adopt alternative evaluation policies. Secondly, the petition urged public funding agencies to expand the quantity and variety of academic journals in the international and domestic journal citation databases and give equal weight to publications in the humanities and social sciences (Chou, Lin and Chiu, 2013).

Since November 2010, the petition has attained support from academics and civil society. It has been endorsed by more than 3,000 petitioners, 85% of whom are affiliated with the humanities and social sciences, while 10% are from science-related fields. In addition, the debates over SSCI have continued to attract public awareness, even national news coverage. In mid-2012, top government officials in Taiwan responsible for HE policy agreed to conduct an unprecedented review of the SSCI issue. Subsequently, the government made revisions to its SSCI funding policies and evaluation guidelines (NCCU Teachers' Association, 2012). However, these minor policy changes merely address a portion of the demands of academics while the SSCI Syndrome remains a prominent feature within the overall structure and reward system of Taiwanese academia.

Conclusion

HE in Taiwan constantly faces challenges internationally and domestically which are exacerbated by the current evaluation system of universities and the continued integration of

the private sector and market forces within overall university funding. Increasing pressure on Taiwanese HE faculty to 'publish or perish' has led to a corresponding frequency of serious academic scandals, an enlarging gender gap and disparity within HEIs, and the threat of academic corruption. The emphasis on university rankings, the number of internationally accredited publications, and the impact factor of research conducted by faculty at colleges and universities appears to have a variety of effects that do not prove to be beneficial to Taiwan's HE. Despite faculty publishing more papers than ever before, there is significant reason to doubt what sort of 'quality' is being produced and whether this contributes positively to making Taiwanese HEIs obtain 'world-class' status.

Resistance and criticism from Taiwanese college and university faculty members who view the current system as unfavorable to producing 'world-class' status HEIs has materialized significantly within the past decade, however, it remains to be seen how effective these scholars can be at successfully promoting alternatives for the Taiwan government to utilize in evaluating these institutions. Further research is necessary to understand what alternatives are available for HEIs in Taiwan and how faculty members of these institutions can implement these alternatives to make Taiwan competitive in the growing market of international education. For Taiwan, its competitiveness in global education as well as domestic education depends upon what policies are implemented and how effective they are at increasing Taiwanese HEI's competitiveness. From the research conducted, it is obvious that Taiwanese faculty members face an uphill battle in reforming their educational evaluation system. The SSCI Syndrome maintains a strong influence over Taiwan's HE policy making and institutions. It will ultimately take a collective effort from faculty, colleges and universities, and the Taiwan government to reform HE in Taiwan to be syndrome free. Such a system is not impossible to visualize, as it existed in the past, but there must be a collective desire to develop such a system in the present.

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