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COUNTING PRIVATE AND PUBLIC IN THE WORLD'S TWO LARGEST HIGHER EDUCATION SYSTEMS: CHALLENGES AND GUIDELINES

ABSTRACT

With the historic global surge of private higher education (PHE) has come an increased need to incorporate private enrollment into total higher education enrollment counts by country, region, and the entire world. The necessity turns on getting the totals right (not grossly underestimated) and gauging the private-public proportional shares, which differ so greatly across countries, sub-regions, and regions, as well as across time. To the challenge of gathering higher education enrollment data, including with sectoral breakdown, the UNESCO Institute for Statistics has, collaborating with individual countries, made the greatest contribution, and has improved in performance over the years. Nonetheless, there have been notable errors and especially gaps in the datasets. The gaps have been especially pronounced regarding private enrollment.

Before it could proceed with its own major data task—data analysis—the Program for Research on Private Higher Education (PROPHE) had to improve the datasets—especially on the private side. Perhaps the most glaring and consequential UIS gap centered on the absence of PHE data from what would be the two largest higher education systems, China and India. As regards UIS data's use in the PROPHE quinquennial dataset (and analysis), the UIS provided no private data until 2015. This vastly distorted both total enrollment and private shares for 2000-2010, as well as distorting longitudinal trends to 2015 and even beyond. This working paper identifies the challenges faced in PROPHE's incorporation of private and proper total enrollments from both China and India, and how PROPHE chose to meet those challenges. The results include a much more complete and accurate longitudinal dataset for the two giant systems in question and, in turn, for regional and global datasets and ensuing scholarly analysis.

I. The Historical Gap between Reality and Data[1]

A. The Global Problem

Regarding both the total size of global higher education, and especially its sectoral division between public and private, adequate quantification was slow in coming. However slow on the public side, data gathering and aggregation was slower on the private side.

Already by the middle of the 20th century private higher education (PHE), however poorly counted, was significant in size.[2] At that time, when the US still had by far the largest total higher education system, it had half its own total in PHE. Though exceptional in both total size and private share, the US was not alone in large private shares along with large private raw enrollment. In Asia, Japan, the Philippines, Korea, and India, in Latin America Chile, Colombia, Peru, and Brazil were among the leaders. In Europe and former British colonies in the developed world, PHE remained generally more marginal, with just a couple of Middle Eastern countries and no sub-Saharan African countries in the dual-sector mix.

Then, from the middle of the 21st century, the gap between reality and adequate tracking of it increased. While no systematic global tracking emerged, public higher education took off with unprecedented thrust and yet increasingly lost market share to the startlingly expanding PHE. The one region for which rather inclusive enrollment data was finally gathered (by the Organization for American States) for private as well as public higher education was Latin America. This gathering allowed for the first regional analysis of PHE (Levy 1986), that analysis also showing how prominent PHE had become and was further becoming, after an historical background of virtual public monopoly. And that Latin American breaking from public to dual-sector system was to point the way for much of the world: higher education was to become so dual-sector dominant by 2010 that well over 95 percent of global enrollment was lodged in dual-sector systems; only a handful of systems with more than tiny enrollment remained simply public-sector monopolies (Levy 2018).

Yet those realities could not be apprehended well as there was still no gathering of global including PHE and, of course, without PHE there could be no system totals in any dual-sector system. As PHE's global explosion occurred increasingly in the developing world, it was

[1] For the China section of this paper, the authors owe special thanks to scholars Cassidy Gong and Fengqiao Yan, as well as, from the China office providing information to the UIS, Z. Zhang and JuXiang Liu. For the India section of this paper, the authors owe special thanks to, and Pawan Agarwal, Seerat Kaur Gill, Amitabh Jinghan, Keshav Kanoria, Radhika Maloo, and Sigdel Shailendra. The UIS' Talal El-Hourani generously shared thoughts and contacts pertinent to both countries' data.

[2] For data in this working paper where no other citation is given, the main source is Daniel C. Levy, *A World of Private Higher Education* (Oxford University Press, 2024). Most of the data is also posted at https://prophe.org/en/global-data/, where post-2015 updates should be provided, whereas only the book has accompanying extensive analysis.

increasingly in countries with poor data collection. Finally, UNESCO began collaborating with governments and, through its UNESCO Institute for Statistics (UIS)began in 1999 to show annual data. Whereas other internationally gathered private-public data allowed the scholarly analysis of sectoral division by institutions (Buckner 2017), the data identified institutional openings without tracking institutional closings (especially common among private institutions) and share of institutions greatly inflates private sector size in comparison to enrollment size (Levy 2024). Data gathering remained insufficient for knowledge beyond given individual countries. And still necessary beyond collecting and showing many nations' individual data was appropriate aggregation and analysis, tasks not undertaken by UNESCO. Nonetheless, governments' and UNESCO's gathering were clearly pre-requisites for a new international network of scholars, PROPHE (Program for Research on Private Higher Education) in its data aggregation and analysis. To bring aggregation much closer to comprehensive, PROPHE found or estimated data missing from the UIS dataset, a challenge especially for the private enrollments and in the early years of UIS gathering. To make the aggregation and analysis more accurate, PROPHE also corrected what it identified as infelicities in UIS' identification of private and public. (PROPHE posts on its website an account of how it has both depended upon and improved upon UIS data https://prophe.org/en/global-data/global-data-files/guide-to-the-prophe-dataset/.[3]

B. The Large and Debilitating Problems with the World's Two Largest Systems

As the UIS made strides in its country coverage even for private sectors, by far the most massive gaps remained in precisely the world's two largest systems, China and India. All the way until 2014, the UIS' enrollment figures for these countries rested on only their public enrollment. Thus, there were no proper totals for their systems—and none for world. Nor could there be for the Asia region, easily the largest for global higher education, nor for its two largest sub-regions: East Asia (because of China) and South Asia (because of India). Furthermore, as those totals were unknown, so private shares could not be known; that is, while we could know the private shares outside Asia within regions (as well as for individual countries), we could not know any regional (or sub-regional or country shares) of global private or global total enrollment. While the omission of data from either sector or any system obviously undermines

[3] PROPHE basically follows the UIS in categorizing private and public however the countries providing the data do, by the legal designation they themselves make for each higher education institution. The rationale for that appears both on the cited website and in Levy 2024. Those citations also give the rationale for the only reversals PROPHE makes of the UIS' categorizations, most importantly in flipping to public of the UIS' counting the great bulk of U.K.'s enrollment as private (private/government-dependent), the UIS categorization running counter to near consensus by scholars and in common usage.

any global calculations, just as obviously the damage is greater when the omission comes from the two largest systems and, with India, by far the world's largest private sector.

Why the incorporation of Chinese and Indian PHE to the UIS dataset was so belated is not entirely clear. It is generally more difficult for governments to gather reasonably comprehensive enrollment data from the expanse of private than from public institutions, but that is not a peculiarly Chinese or Indian problem and these governments had far greater bureaucratic capacity than did many smaller developing countries that nonetheless were contributing dual-sector data. In the three decades of Communism prior to 1980, there could be no dual-sector counting problem because the new regime quickly closed the private sector. Yet by the time the UIS started collecting data from countries, China had already had PHE for some 20 years and yet it would take some 14 years more until it provided PHE data to the UIS. This was then well after the ministry was already gathering PHE data. (Some speculation for the Chinese delay in passing PHE data to the UIS appears in the China analysis below.) Likewise, though India was late to gather PHE enrollment data, it gathered PHE long before they were incorporated into UIS data. Major collection on PHE enrollment began with the 2001 All-India Survey. Indeed, from the national survey in India, just as from the education ministry itself in China, PROPHE could obtain the private as well as public enrollment for its own dataset starting in 2000. In short, both giant countries had a two-stage delay as regards incorporation of PHE enrollment in data. The first stage involved simply not gathering and counting. The second stage involved the non-incorporation of gathered and domestically counted PHE data into the sole global dataset.[4]

Whatever the reasons for the huge China and India gaps in the UIS dataset, the good news is that the PROPHE dataset did not have to be similarly deficient and, accordingly, robust analysis could proceed on the world's two giant systems, their sub-regions, the Asia region, and the world. That is, once the two countries began to count PHE, PROPHE could utilize those counts even while the UIS did not yet provide them.

Given that the UIS has since 2014 shown PHE enrollment for both countries (and thus accurate total enrollment as well), why need we preoccupy ourselves now with how PROPHE obtained and counted data from 2000 to that point? The core of the answer lies in longitudinal analysis and historical understanding. Scholars and others could not by consulting the UIS dataset--even now or likely in the future--do sound global, regional, sub-regional, or of course national Chinese or Indian longitudinal analysis involving data prior to 2014. In turn, this limits any longitudinal analysis starting with data from that year; such analyses could distort impressions of ensuing growth and stagnation, as shown in the case country sections (II-III) below.

[4] One could reasonably regard China's delay as triple-staged, if thinking of the three first decades of Communist rule's banning of PHE. On the other hand, China had robust PHE prior to the Communist takeover.

But then, if one recurs to the PROPHE dataset for the longest and best illuminating analysis, one must understand the decisions PROPHE made in incorporating the domestically gathered Chinese and Indian data into its largely UIS-based dataset, including how it executed the transitions to the UIS' shown Chinese and Indian data in 2015. Indeed, it is worthwhile to review how PROPHE arrived at the decision for each country separately that it could appropriately use the UIS data in 2015 (and beyond) rather than stick with own pre-2015 formulas for extracting domestic data reported by the respective ministries. It turned out that for each country the change of source for PROPHE has only minimal impact, creating only slight distortion in the longitudinal dataset.[5]

C. Magnitude of the Cases

Before turning to the PROPHE numbers, decisions, and analysis to incorporate Chinese and Indian PHE enrollment and thus proper total enrolment into the global dataset and ensuing scholarship, let us glimpse at the magnitude of the cases.

As of 2010, the last year in which the PROPHE dataset plugged in non-UIS data to include both countries' private sectors, China held 13.8% of total global enrollment, 31.1% of total Asian enrollment, and 76.3% of total East Asian enrollment.

In terms of global private (higher education) enrollment in 2010, China accounted for 8.2% globally, 14.4% for Asia, and 44.9% for East Asia. Without China, the 2010 PHE enrollment share for global, Asian, and East Asian PHE would be 35.0%, 52.4%, and 77.2% respectively, instead of its 32.9, 42.1, 33.2% shares with China.

Also for 2010, India accounted for 12.3% of total global enrollment, 27.8% of total Asian enrollment, and 85.7% of total South Asian enrollment. In terms of global PHE enrollment, India accounted for 21.9% globally, 38.5% for Asia, and 91.3% for South Asia. Without India, the 2010 PHE enrollment share for global, Asian, and South Asian PHE would be 29.3%, 35.9%, and 33.1% respectively, instead of its 32.9, 42.1, 54.7% shares. Obviously, the inclusion of India is especially vital to any reasonable estimations about the private sector of higher education, while also necessary to reasonable estimations of total higher education as well.

[5] In sharp contrast, to use only the UIS data could present varied mistaken impressions, even short of the most extreme one, implying a sudden appearance of ample PHE in China and majority share PHE in India. Such a dataset could also imply a massive leap in total enrollment in each country, since the dataset had totally neglected the PHE enrollment in all the prior years.

In considering regional skewing effects, we start by noting that at 42.1%, Asia had second highest private share (behind only Latin America), while the PHE global share was 32.9%. As China's PHE share was only 19.6% (in the PROPHE dataset), while its public sector and higher education total enrollment were the region's (and world's) highest, removing China from the Asia total would show the Asian PHE share as higher than it was: 52.4% rather than 42.1%. However, as will be detailed in the China section, PROPHE's 2010 figure was distorted to the high side and if we calculate by corrected figures (directly taken from the ministry), then the PHE share was not 19.6% but 14.1% (4,766,845/33,850,490). By these data, Asia with China would show a more accurate PHE share of 37.3%.

In contrast, as India's PHE share was higher than the regional average, omitting India would show a misleading low Asia average (35.9% rather than 42.1%). Paradoxically, however, as the omission of one giant would inflate the Asia regional PHE share while the omission of the other would deflate it, the omission of both giants (of nearly equal total enrollment) would yield a regional average of 48.3%, closer to our 42.1% regional average than would the omission of just one country (either one).

As of 2015, the first year in which the PROPHE dataset could plug in PHE data on the two countries directly from the UIS, China accounted for 20% of total global enrollment, 38.4% of total Asian enrollment, and 84.4% of total East Asian enrollment. And India accounted for 14.8% of total global enrollment, 28.4% of total Asian enrollment, and 86.5% of total South Asian enrollment. As the 2015 data run largely parallel to the 2010 data and are posted on the PROPHE website (http://www.prophe.org/en/global-data/global-data/global-enrollment-by-region-and-country/) and are both included and analyzed closely in Levy (2024), including with skewing data concerning the two countries, we can omit that material in this section. The 2015 data come back into play in the ensuing individual sections, respectively sections II and III, on China and India.

II. Resolving the Chinese Data Challenge

A. The Growth Context

Vigorous growth is the most striking reality about Chinese PHE enrollment early in the 21st century. This growth is a third stage of Chinese Communist higher education sectoral development, each stage attempting to set sectoral boundaries. Perhaps the state believed it could safely allow vigorous private growth only after it was sufficiently confident about how it could it control such a private sector and grasped the notion that PHE could be usefully differentiated. Much less nuanced was regime thought in the first sectoral stage of Communist rule over higher education, lasting three full decades from the regime's 1949 inception:

Communist rule would of course exclude any private sector. Only as part of its massive overall marketization counter-revolution in the early 1980s, would the regime allow a change in sectoral configuration, lifting the ban on PHE. Yet for its first two decades, PHE grew only modestly, to still just 300,000 in 2000, before the new century's takeoff, marking the third stage. By 2005, PHE enrollment exceeded 2 million, its share leaping from 5.1% to 12.6% in the quinquennium, to be followed by more than a doubling of raw enrollment in the ensuing quinquennium (2005-2010). Yet the growth picture changes around 2010. In a fourth stage, 2010 to at least 2020, and roughly tracking global higher education tendencies, Chinese PHE has continued strong growth in raw enrollment but at a slowed pace and with relative stagnation in private share of total enrollment.

B. Correcting the PROPHE Error

Unfortunately, the PROPHE dataset exaggerates the 2010 private peak and, consequently, the subsequent decline in private share; fortunately, the distortion is limited in both degree and duration. But since (a) Chinese higher education is huge and (b) the data discontinuity inter-relates to PROPHE's switch of principal data source between 2010 and 2015, it behooves us to understand the discrepancy as well as possible, and so doing illuminates important aspects of private and public growth in Chinese higher education.

The roots of the dataset discontinuity lie in the UIS's failure to provide PHE data through 2010. Whether this failure traces to a Chinese government ambivalence about owning up to the reality of a notable and growing private sector, associated perhaps with avoiding the term "private," we cannot say. What is evident is that UIS' China data were seriously distorted, 2000-2010, because they omitted PHE completely even as PHE raced forward and, by omitting the entire sector, obviously also grossly understated the size of Chinese higher education overall. Then the UIS's belated addition of PHE made its presented total enrollment jump an implausible 8 million enrollments, 2013-2014. Knowing that China in fact had significant PHE that should be included in its global dataset, PROPHE had to explore beyond UIS data and thus turned directly to national data. The Ministry of Education (MOE) did show PHE ("non-government"). Oddly, however, it provided no single total figure for the system (or either of the two sectors). Again one could speculate on the possibility of obscuring an embarrassing figure. Seeking figures best suited for "higher education," PROPHE included MOE's "undergraduates in regular higher education institutions" and "graduate students," each listed separately for public and private.

But PROPHE failed to include "web-based undergraduates" or higher education students in "adult higher education institutions." This not-included enrollment was only small in 2000 and modest by 2005 but as it became larger, PROPHE realized that the excluded categories were

included in the UIS totals (albeit for only the public sector), and rightly so. As the huge majority of this enrollment was in fact public, PROPHE 2000-2010 data understate especially public enrollment (also total enrollment), and therefore PROPHE's omission of it had the consequence of overstating the private share.. For 2010, the proper inclusion of the 4,531,443 public "web-based undergraduates" and 5,360,388 public higher education students in "adult higher education institutions" (along with a wrongly omitted 102,314 additional private enrollments) would yield 4,766,845/33,850,490 = 14.1% private for 2010, as opposed to the dataset's 19.6% (based on only some 24 rather than 34 million total enrollments). Peeking forward to 2020 reinforces the view that distortion centers on only 2010. From 2015-2020 (at least) there is marked stability in the Chinese private share: as shown in our dataset, the UIS 2015 Chinese data are 5,871,139/43,367,394 for 13.5% private and then, between 2017 and 2020, the private share ranged only between 14.4% and 14.9%, the 2020 figures 7,489,933/50,237,458 for 14.9% private. The PROPHE error centered on 2010 does not alter generalizations about the general trajectory of China's PHE longitudinal growth: after PHE establishment in the early 1980s, there is clear private share takeoff at the new century's onset, followed by an extended period of stable private share amid major raw growth in each sector through 2015; this is followed (subsequent to our main global dataset) by slowed growth in both sectors. The only ramification from our data correction is that the private takeoff was not as dramatic as we originally thought and, accordingly, neither was it followed quickly by a notable private share slip.

C. Matching Domestic to UIS Data

Beyond these correctives centered around 2010, PROPHE still had another task before determining if its basic dataset could shift from MOE to UIS as its direct source. The UIS was finally including private and total higher education enrollment but would the UIS figures from MOE be comparable to the MOE higher education data pre-2015, as PROPHE had been counting that MOE data? Accordingly, PROPHE scrutinized the enrollment categories encompassed by MOE data and how their aggregate might or might not approximate UIS higher education figures. One challenge emerged from the fact, not noted by either the UIS or MOE, that from the inception of its inclusion of MOE PHE data, the UIS has included it with a time lag. For example, the published MOE 2014 PHE data appear as part of the UIS 2015 data. Discovering and noting this inconsistency, PROPHE could then confirm that the sectoral enrollment numbers were otherwise basically in line and there would be no major problem from the time-lagged roll-in of the PHE data into the UIS dataset.

A second major challenge (or cluster of challenges), in confirming a basic correspondence between MOE and UIS data, was a lack of clarity on some MOE categories as to whether or how their figures count as higher education enrollment. In part, this relates to the sometimes cloudy

distinction between "regular" and "irregular" students (or "formal" and "nonformal" ones). In some categories MOE applies fractional formulas—in its higher education categories, MOE counts part-time students as 0.5 and "self-study" students at 0.3 (perhaps because only at the end of their possibly 3 years of study, when passing the state exam, do they become "regular" students). Self-study is a much discussed component of Chinese higher education, though "classes run by non-state/private HEIs for students preparing for state-administered examinations for self-directed learners" shows only 160,028 enrollments for 2018 (whereas it had been almost 700,000 in 2009). In contrast, "in-service training," shows 13.5 million for 2018, obviously far higher than could be the reality for any category subsumed within higher education totals. Foreign students is a smaller though likewise unclear category, including as to private-public distribution. On the other hand, because UIS uses the figures that MOE gives it, the fractional formulas should not contribute to any MOE-UIS discrepancies. Similarly as regards any ambiguity over the MOE counting of PHE (or non-government) higher education as all-inclusive of "minban," "independent colleges" affiliated to universities, and joint-venture universities, whatever method MOE uses produces numbers then used by UIS as well.

With all indicated adjustments and efforts made, PROPHE remains unable to get exact correspondence, year-by-year, between a set of MOE categories and the private and total enrollment obtainable directly from the UIS but it can confirm that the figures become close. The consensus of Chinese higher education scholars consulted, as well as functionaries of the Chinese office providing data to UIS, was that PROPHE should indeed switch to the UIS data starting 2015, without major concern for relatively minor data discrepancies.

III. Resolving the Indian Data Challenge

Our analysis of Indian data centers on three key matters: (1) data sources and estimations for 2000-2010; (2) the shift to UIS data for 2015; (3) the inclusion (as private) of government-aided colleges, but also their diminished proportional importance as an element in the broader privatization of Indian higher education. To facilitate understanding of these matters, we precede them with a broad delineation of the vertical and horizontal components of Indian higher education.

A. Structural Delineation of Higher Education.

Vertically, Indian higher education has are universities, colleges, and freestanding institutions. The first two categories account for almost the entirely of higher education. A university must have a multiplicity of units (schools, disciplines, departments). There are 11 categories of university, not all carrying the word university. All categories of public university can have affiliated colleges, public and private. No private universities can. They can have only on-

campus "colleges" that do not have their own separate enrollment (or they can establish off-campus centers within the state in which the university is licensed, though the government has not yet approved any such centers). All colleges are affiliated. Those not affiliated to (public) universities are affiliated to other agencies. Freestanding institutions comprise by far the least important of the three vertical groupings for our purposes. They are many but small and their enrollments are overwhelmingly outside higher education, their courses not leading to higher education degrees.

Horizontally, Indian higher education also has three groupings, sectoral: private unaided, private government-aided, and public. Each university and college fits one of these three sectoral groupings. The three private university categories–state private university, state private open university, and deemed university private–are all private unaided (with the exception of two private government-aided universities). The eight public categories are central, or "national" universities, central open universities, institutes of national importance, which include the famed Indian institutes of technology or "IITs," state public universities, state open universities, deemed universities government, institutes under state registration, and government-aided deemed universities. One striking feature of the last public category, government-aided deemed, is its relatively private management. Another is its public legal status whereas the much more common government-aided colleges are private.

B. 2000-2010

For 2000-2010 data we draw directly off a 3-way partnership among India's Higher Education Planning Commission, FICCI, and Ernst & Young (FICCI 2012). Personal communications with Ernst and Young's Amitabh Jinghan and Keshav Kanoria as well as the Commission's head, Pawan Agarwal, and colleague Radhika Maloo provided counsel in navigating and understanding the data. The Partnership's data in turn come from the public University Grant Committee (UGC), the sole national data-gathering unit at the time. Because the Partnership's data are not for 2000, 2005, and 2010 but for 2001, 2007, and 2012, we employ our usual calculation methods to estimate for the three PROPHE dataset years.

An additional point about the 2000-2010 data is that it excludes distance education (DE). Estimates put 2010 DE at 2.1 million enrolments and rougher estimates put DE as only about 6% private; if we were to add in DE, the private raw enrolment would rise only slightly while the private share would fall from our 58.3% (12,443,728/21,350,427) to 53.5%. Although there was temptation to add in the DE (as PROPHE follows UIS generally trying to do globally), it was only at some imprecise time in the 2000s that DE became prominent in India and PROPHE chose to avoid the mild but unknown effect of DE inclusion on the smoothness of the 2000-2010 dataset.

C. 2015 and Forward: Shifting to UIS Data

As our analysis moves beyond 2010, it plunges into a volume of detail worth sharing given India's status as by far the world's largest private sector.

(1) AISHE Arrives. The All India Survey of Higher Education (AISHE), operating within the Ministry of Human Resource Development, started to report private enrollment data in 2013 (for academic year 2011). In general, AISHE's reports are more comprehensive and reliable than the UGC's and AISHE has improved its data gathering markedly over the years. It now tracks data over a multi-year span to diminish the non-reporting and distortions risked in reliance on any single year. AISHE can thus estimate for any missing year. These advances mean that the only non-reporting institutions are the chronic non-reporters. Thus, rather than what would have been a 2018 absence of data from 8% of universities, 11% of colleges, and 21% of freestanding institutions, estimations based on 2014-2017 collection reduce the respective figures to 2%, 2% and 9% (even the 9% is not very disquieting, given freestanding institutions' small higher education enrollment). There is good reason then that AISHE becomes the key data-gathering agency for PROPHE's post-2010 data.

(2) UIS Arrives and PROPHE Embraces. However, AISHE alone leaves a couple of perplexing holes and, more importantly, the UIS finally starts reporting PHE data—and draws from AISHE, enabling PROPHE to shift to UIS data. For those interested, the details are as follows. AISHE itself fails to show a higher education (degree-track) total or private-public breakdown for India overall, facts AISHE oddly fails to note. Although showing a higher education private-public breakdown for colleges and, separately, for universities, AISHE shows no such breakdown for freestanding institutions. Given that the UIS depends on AISHE for its data (PHE showing since 2013), it is unclear how the UIS arrives at total enrollment and private share, while AISHE does not publish such. The main point is that PROPHE must turn to the UIS data rather than rest with the raw AISHE data. In addition to its provision of total higher education enrollment and private shares, a second advantage for us of UIS' data over AISHE's is that it counts only the higher education students. In contrast, AISHE's total enrolment includes both higher education (degree-track) and non-higher education (non-degree-track) students at freestanding institutions, colleges, and universities. PROPHE calculation of degree students out of the viewable AISHE detailed database is usually not feasible because AISHE does not usually display all disaggregated data, nor do they clearly label degree versus non-degree enrolment. Fortunately, on occasions when AISHE does display sufficient data for us to aggregate total degree-granting enrolment, we find only a minor discrepancy between our aggregation and UIS' totals. For example, we arrive at 33.6 million from AISHE's 2018 data, while the UIS reports 34.3 million. Given that the UIS has the two important aforementioned

advantages over AISHE while data discrepancies between the two sources are minor, PROPHE turns to the UIS.

(3) Longitudinal Discontinuity. For all the strengths of using the UIS data (as extracted from the wider AISHE data), PROPHE does incur the liability of a moderate discontinuity between its data for 2000-2010 and 2015-forward. The discontinuity does not come from one source ending in 2010 and another beginning in 2015; the Partnership data actually include 2012 (we just estimate back for PROPHE's 2010 dataset) and the UIS starts in 2013 (and though PROPHE does not use the UIS data until 2015, the UIS 2013-2015 data is without major blips). Instead, discontinuity springs from changes in the inclusion or exclusion of non-higher education (non-degree) students. Although the Partnership's ultimate data source came from the sole national data-gathering agency of the time (UGC), we cannot determine the exact composition of that data and it appears to have included non-degree students. A probably smaller discontinuity between the data for 2000-2010 and 2015-forward is the inclusion starting 2015 of Distance Education (DE). Where (part 1 of) this Note tells why PROPHE had rejected the temptation to add DE to its 2010 dataset, it fortunately could also show what the 2010 figures would have looked like with DE included. Were we to have included DE in 2010, we would now see for 2010-2015 not the small dip our dataset shows for the private share of total enrollment (58.3 to 56.7%) but a continued rise in private share, from 53.5% to 56.7%. UIS does include DE (and thus it is not the 3.8 million DE students that account for the difference between UIS' 32.1 million total and AISHE's 34.2 million total but rather, as shown, AISHE's inclusion of non-higher education students). Yet even for 2015 forward AISHE shows no private-public breakdown for DE. Because it includes DE within its university, college, and freestanding categories, it either has private-public figures (at least for universities and colleges), or is estimating them, or is counting them all as public. If it is counting them all as public, it is perforce slightly deflating the private enrollment and share. For 2015, AISHE has 3,811,723 DE students, 93% at the higher education level. With expert estimation that roughly 6% of DE enrollment is private, we could reasonably arrive at a slightly higher percentage for Indian PHE: 58.5% (18,797,331/32,107,419) than put by UIS and thus our dataset, 57.9% (18,583,774/ 32,107,419).

D. Private Inclusiveness with High Privateness

As noted above, India's sectoral (or horizontal) structure encompasses two private components--private unaided and private, government-aided—alongside its public sector. In independent India's early years, private colleges had been generally self-financed but in the 1960s public funding became the norm, with accompanying government control. Such public funding of legally private institutions fits our government-dependent category, most often seen in Europe,

and similarly leads to blurring and sometimes confusion over sectoral status. Counting them as private is consistent with the UIS' and PROPHE's general policy of counting as private anything defined nationally as legally private. Accordingly, the PROPHE dataset itself presents us with no need to know the breakdown between unaided versus government-aided private. We nonetheless have interest in the distinction for how it enlightens us about the degree of privateness within Indian PHE. Unfortunately, authors often fail to breakdown the two components and, as with much written on Indian PHE, may not specify whether their data treat number of institutions or enrollment, colleges or total higher education. The ensuing paragraph unravels the data, but we should also note that the publicness of Indian public higher education has itself come into question with a general partial privatization in finance and perhaps in management.

By far the most important fact demonstrated by analysis within the private sector is the decisive shift from its government-aided to its unaided component. As noted, this duality is much more important among colleges than universities. We are fortunate to be able to draw on a rare pre-AISHE analysis that shows the private college data breakdown (Agarwal 2008). Even by 2007 or so (the exact year of Agarwal's data not shown), the unaided private share of college enrolment (34%) almost matches the aided share (37%), each surpassing the public share (29%). (For college institutions, the respective figures are 43% unaided, 33% aided, and 24% public, reflecting the small average size of private unaided colleges.) We can then contrast these data with AISHE data a decade hence. Notwithstanding major growth in all college categories, unaided college enrollment bounded by 2018 to well over double that of government-aided private college enrollment. The figures are 12,392,090 unaided to 5,474,679 aided, with 8,684,532 public, for respective shares of 47%, 21%, and 33%. Unaided has thus come to dominate the private college enrollment. Private advocates credit their comparative autonomy (in admissions, course offerings, administrative flexibility, etc.) while critics denounce further shoddy proliferation in a hyper-marketization of higher education.

Moreover, we can also extend our analysis of unaided versus aided beyond just college to total enrolment. Although college alone exaggerates the overall private/total enrollment share, the key point here is that it understates the unaided share within the full private sector. This is because, while India's university enrollment is mostly public, private university enrollment has been unaided almost exclusively (until the recent advent of 2 government-aided private universities). Because Agarwal (2008) includes only 3 of the 11 types of university, we turn back to our Partnership source for inclusive 2007 data. Adding the 900,000 private unaided university enrolment to the 3,150,000 private unaided college enrolment yields a total of 4,050,000 private unaided enrolment, which is 54% of the full 7,500,000 private enrollment, compared to the slight trailing of unaided behind aided private college enrollment. Applying to

2018 the same 2007 college-total higher education ratio suggests that some 38% of Indian higher education is private unaided compared to 15% private government-aided. The unaided share of PHE has leaped from 54% in 2007 to 72% in 2018. Shortly thereafter the Indian government contemplated a huge reform to terminate affiliated colleges, with massive transformation into a higher education system of degree-granting colleges and universities. However far the initiative may get, it immediately reflected deep displeasure with decades of rampant private institutional proliferation. Quite evidently, the world's largest private sector has been overwhelmingly and increasingly marked by its privateness.

IV. Final Remarks

Rather than offering a full-fledged conclusion, this working paper ends with a few summary comments on this paper's role as part of a long-term undertaking to construct and maintain the most formidable possible dataset on private, public, and therefore also total higher education enrollment globally.

If only for the US, Japan, and a sprinkling of other countries, PHE has had an important global well back into the 19th century. The geographical spread of PHE would become enormous in the latter decades of the 20th century and then become virtually ubiquitous globally. It is no surprise that data gathering would trail. No doubt the delay was exacerbated by the slowness to recognize PHE's enormous growth and spread. Never globally planned, it was very rarely anticipated. As it occurred, it was often at least half dismissed as not "true higher education," including especially where it blossomed in non-university form. PHE has not easily gained legitimacy or full recognition—despite the towering US historical and contemporary reality, itself reflecting incredible exceptionalism.

Indeed, even the gathering of global data on public higher education followed only decades over massive presence and growth. When UIS-UNESCO finally, at the turn of this century, engaged this large task, it often could report only on the public sector, even sometimes failing to distinguish between it and total enrollment. Of course, when we speak here of global enrollment, we are discussing the aggregation of national enrollments, even if we then sub-aggregate by region and sub-region. Limitations and errors in national data collection get reflected in the UIS compilations, notwithstanding improved efforts to ameliorate on both fronts. Even as PROPHE has taken such efforts further and often filled in otherwise missing data and corrected erroneous data, national deficiencies take a toll on global (along with regional and sub-regional) compilations.

As it happened until nearly 2015, the non-inclusion of private enrollment occurred in the world's two (by then) largest higher education enrollment systems, including in the one with by

far the largest single national PHE enrollment. Computation and analysis (rarely made) from such a gapped dataset would have yielded seriously flawed impressions about total enrollment and especially about private enrollment—about both its size and its share of the pie.

The data challenges presented by the Chinese and Indian cases overlapped one another in kind while they each had its own difficulties on top of those. Several problems faced in analyzing these countries arise, in varied incarnations, in other countries. Key tables and linked files in Levy (2024) as well as on the PROPHE website http://www.prophe.org/en/global-data/ (see especially http://www.prophe.org/en/download/guide-prophe-enrollment-dataset-2000-2015/, and http://www.prophe.org/en/download/prophe-country-notes-2000-2015/) provide guidance born of experience and understanding of the global PHE panorama.

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