

Towards an index of stratification in higher education

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This paper seeks to explore the relationship between institutional stratification(s) and the quantitative and qualitative dimensions of the development of higher education systems. It proposes to reflect on the effect of institutional stratification on national systems and vice-versa, on the ways in which the effect of stratification can be evaluated or estimated through an index, and on potential comparisons that can be made, internationally and intra-nationally.

The question of stratification in higher education: origins and implications

This research builds upon a previous paper in which we sought to compare and contrast the key trends in public/private funding and provision of higher education in the Brazilian and UK contexts and examine their effects in terms of funding sustainability, equity and quality (McCowan 2007; Carpentier 2012; Carpentier & McCowan 2013). One of the key lessons from that study was that the evaluation of such effects must look at expansion of higher education in terms of availability, accessibility and 'horizontalness' - the extent to which opportunities are uneven for different types of student.

The question of horizontalness is indeed increasingly important and connected to the idea of stratification of higher education system. Historical analyses of higher education have traditionally considered the expansion of the systems as a process of accretion (Lowe, 2014), as seen in Watson's (2014) geological analogy in relation to the UK. The development of higher education systems though stratification is based on various rationales and factors (including institutions' aims and activities, their social, political, economic or religious functions) which have a key impact on their resources, their policies, processes and practices in terms of equity and quality.

These origins and consequences of stratification, as well as their implications in terms of policy and society, have been widely studied. The debates have led to associations of stratification or differences with analyses in terms of diversity, choice or specialisation or more critical interpretations in terms of inequality or separation. Another contested area related to the origins and effects of stratification are the debates on measurements and especially on rankings (Marginson, 2014) which increasingly tend to drive rather than reflecting government and institutions' strategies and actions. We propose here to look at those debates and at the possible contribution a gauge of the trends and processes of stratification.

Towards an index: promises and challenges

The index of stratification assesses differences and inequalities between institutions within a higher education system (for the most part national systems). In this sense, it is distinct from the Gini index, which compares income inequalities between *individuals* within a country. An educational index comparable to the Gini has been established by World Bank researchers, using the indicator of years and levels of schooling as its basis (Thomas et al, 2000). While this indicator gives us useful information about inequalities of access, it is inadequate as a full gauge of equity, as it does not take into account the differential experiences and outcomes of education. The index established here assesses these characteristics in relation to institutions, so as to gauge the relative equity or inequity of the opportunities provided to students entering higher education.

Stratification can involve diverse elements, some quantitative and some qualitative, some measurable and some highly elusive. The prestige gained by certain elite institutions through past achievements -and the impact of this prestige on its graduates' opportunities- are hard to gauge or quantify. Any index then will inevitably come up short on certain dimensions, and will be necessarily reductive.

This paper does not attempt to put forward a definitive methodology for the index. Refining the individual indicators, determining their weighting and other mathematical considerations will be part of the second phase of this project. Instead, the paper will focus on the broad areas of coverage of the index.

It is proposed that the index should have four components: admissions, student outcomes, funding and research:

1. *Admissions*

Possible indicator: the proportion of students from different socio-economic backgrounds admitted onto courses.

2. *Student outcomes*

Possible indicators: completion rates; degree classes awarded or other exit exam or learning achievement results; conversion of degree into other opportunities

3. *Funding*

Possible indicators: total funding for institution from public and private sources; expenditure per student

4. *Research output*

Possible indicators: number of publications; number of citations; number or proportion of PhD students;

Clearly, when comparing across countries, there will be significant challenges of finding comparable indicators. For example, countries may vary in the ways they assess socio-economic background (if this data exists at all). Furthermore, there are significant disagreements and controversies around some of these indicators, particularly those concerning research and scholarship. This paper acknowledges the significant practical difficulties in finding comparable cross-national data, and disagreements over whether these proxies actually represent what they purport to, but aims first to establish key principles of the index, before assessing its operationalisation.

The purpose of this index is to compare national systems in terms of their degree of stratification or the nature of their stratification. One way to do this would be to have a single composite indicator -- for example, a number between 0 and 1 as is the case with Gini. While this approach aids ranking, the disadvantage is in its lack of attention to the different types of stratification. For example, a system may have 5% of highly elite institutions, while the remaining 95% are relatively horizontal. Another system may have a gradually sloping curve of stratification across all institutions. Furthermore, it would be important to assess stratification in relation to the specific sub-categories (funding, research etc.) as well as having an overall indicator.

Finally, there are considerations of the broader purposes and uses of indexes and rankings. Concerns over the validity and effects of rankings have led to their rejection by many academics, while at the same time they continue to increase their influence over institutions and governments. This paper aims to engage with the rankings debate, not by avoiding all indexes and indicators, but introducing a crucial missing element, that of the equity of distribution of opportunities across the system.

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