

## Further response to Govinder et al. (2014): Flaws in the Equity Index

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We note the response of Govinder et al.<sup>1</sup> to our comments<sup>2</sup> on an earlier article of theirs<sup>3</sup> on the proposed Equity Index (EI) to measure the transformation of higher education in South Africa. Despite their attempts to allay concerns about the intrinsic weaknesses of the EI, many concerns remain. The purpose of this brief response is not to attempt to re-argue each and every point – we leave most to readers to decide – but to highlight some of the more fundamental issues with which the authors failed to deal adequately.

### On the mathematics of the Equity Index

Govinder et al. claim that the mathematics of the EI is not and has not been shown to be flawed.<sup>1</sup> This is simply not true. We have pointed out that the formulation preferred by Govinder et al. is not only mathematically incorrect, but also that it leads to double counting. Apart from this, as pointed out by others<sup>4</sup>, the underlying logic of using a Euclidean distance as a measure of this sort is both inappropriate and wrong. The authors seem to think that mathematical criticism can be dismissed by simply saying it is not so. And it is this point, above all others, that has not been adequately addressed.

Secondly, the authors' understanding of distance – *vide* the assertion in their response that 'EIs are calculated using the distance formula, mathematically they can indeed be added together or subtracted from each other (as can distances in general)' – is quaint. If one takes Johannesburg as the origin, and one notes that the distance from Johannesburg to Bloemfontein is 400 km, while that from Johannesburg to Durban is 600 km, nothing can be inferred from this information about the distance from Bloemfontein to Durban (650 km). Distances can only be added or subtracted if all relevant points are located on the same straight line passing through the chosen origin. Nonetheless, the authors pursue a red herring by insinuating that we claimed that Table 5 of their paper demonstrated their addition of EIs. On the contrary, we never refer to Table 5, but to Figure 2, which does indeed present the EIs for institutions as being the sum of the respective staffing component EIs. Poor presentation of the data in Figure 2 cannot be attributed to the vagaries of 'greyscale' as the authors suggest. The contradiction between the assertion above that the EIs can be added, and their vigorous (to the point of misrepresenting our argument) defence of their *not* having added EIs in Table 5 is puzzling.

Thirdly, although as we pointed out, and as was repeated by the authors<sup>1</sup>, the relative ranking of the higher education institutions (HEIs) does not change when using the correct version of the EI, the authors quietly ignore the point that the range and hence the designation of objective quadrants do change.

Finally, the authors confuse the undoubted utility of being able to decompose the EI by race and sex with mathematical correctness. The fact that on their – mathematically incorrect – version, the EI can be decomposed offers no proof of its mathematical validity, and a 'useful' result is not actually useful if it is premised on flawed logic.

### On transformation and legislation

Govinder et al. claim that the EI is 'based on the Constitution' of South Africa. This is trite. The Constitution requires all South Africans to work towards the transformation of our society, with transformation seen as representing the process of change, rather than a defined end-point. We certainly do not contest that transformation is a national imperative or argue that HEIs are exempt from the broader need to transform South African society.

However, labour legislation in South Africa, which also has to be consistent with the Constitution, protects the rights of employed workers. All else being equal, transformation can be expected to be slower in institutions where staff turnover is low. It is not clear whether the authors are proposing raising staff turnover rates (perhaps through making working conditions unpleasant, or perhaps paying people to take on a form of employment that is not counted in the EI) in order to bring about transformation faster. But even if this were the case, the authors seem to have adopted a peculiarly ahistorical stance on the issue of the staffing of South Africa's universities. In our initial comments, we demonstrated (in our Figure 1) that it is likely that much of the poor pace of transformation in South African HEIs might be rooted in South Africa's past. While this is in no way a justification for future lack of transformation, it is naïve to disregard the pernicious legacy of apartheid in terms of who got access to higher education; who got higher degrees; and therefore who is currently qualified to be employed as academic staff at HEIs in South Africa. As we noted, the distribution by race and sex of the South African population aged 25–64 with higher degrees is overwhelmingly skewed towards white South Africans. While this must change, and is changing, it is not helpful during this change to blame the slow pace of demographic change of HEIs on these institutions alone or even on the sector as a whole.

### On the data and other aspects of the Equity Index

Govinder et al. suggest that the issue of inclusion of foreigners is a matter that is not yet settled. But as we noted in our Commentary, the germane issue is that the *Employment Equity Act* defines the classes of employee for transformation purposes more specifically than that currently captured by demographic data in a census or on the HEMIS database.

Apart from this, Govinder et al. have misused the census data, treating those with unstated race in the census as foreigners (which most are not) and those born outside South Africa (with stated race) as being South African. However, until the data collection in the census and the HEMIS data is changed to permit the identification of foreigners (as required by EE legislation), the utility of the EI is highly questionable. In addition, in order to compare

EI and 'quality', the data on research output (or any other measure of output, such as numbers of graduates) would also have to be equivalently classified, which they are not. Finally, although in society as a whole, foreign-born residents may be comparatively rare, in some HEIs they can constitute a significant minority of staff. Any system that rewards not employing foreign academics implicitly would seem to weight a narrow parochialism and nationalism more highly than the transfer or production of knowledge.

## Conclusions

In spite of the length of their rebuttal, readers of this correspondence will note that the authors have largely failed to engage with the major theoretical considerations raised in the commentaries. We re-iterate that the mathematics of their EI is incorrect. We, with other commentators, also repeat that demographic transformation is but one of many aspects of transformation. The danger of an index such as this is that those other aspects are sidelined. Our approach would be to be more inclusive – to build a 'dashboard of indicators' of the multiple dimensions of transformation that can be appraised simultaneously, rather than privileging one (supposedly quantifiable) aspect of transformation over those which are less analytically tractable, such as the apparent tension between high research output and being less transformed, or the role of

universities in serving the developmental needs of a society at a critical juncture, or the need to balance quality of education against quantity of education, or the need to massify higher education. It is our view that the EI as it currently stands adds little value to the debate on the transformation of higher education in South Africa. Much more careful and rigorous thought is required before such metrics should be applied.

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