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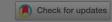
# Measuring productivity change in higher education: an application of Hicks-Moorsteen total factor productivity index to Malaysian public universities

Amir Arjomandi M. Mad Ithnin Salleh & Abbas Mohammadzadeh

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## **Abstract**

This paper offers an in-depth analysis of efficiency and productivity changes using the Hicks-Moorsteen total factor productivity index, in the context of higher education institutions. Unlike the Malmquist method, this approach makes no assumptions about

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Q Keywords: total factor productivity higher education institutions

efficiency

QJEL classification codes:: C14 D24 H52 I21

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# Disclosure statement

No potential conflict of interest was reported by the authors.

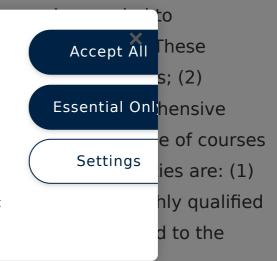
# Notes

- 1. Gilbert and Wilson (1998), Glass and McKillop (2000), and Arjomandi, Valadkhani, and Harvie (2011) experienced this difficulty in their studies of the Korean banks, UK building societies, and Iranian banks, respectively.
- 2. Briec and Kerstens (2004) also proposed an interesting difference-based variation of the Malmquist index known as the Luenberger-Hicks-Moorsteen indicator in the literature. For more recent theoretical contributions on the Hicks-Moorsteen index, also see Briec and Kerstens (2011), Briec, Kerstens, and Peypoch (2012), and Kerstens and Van de Woestyne (2014).
- 3. Research universities are well-established, research-intensive institutions. According

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original objective of their establishment. They have the same characteristics as research universities.

- 4. All research is on the focused and established institutions: Universiti Malaya, Universiti Sains Malaysia, Universiti Kebangsaan Malaysia, Universiti Putra Malaysia, and Universiti Teknologi Malaysia.
- 5. Also called multi-disciplinary universities, which focus on a wide cross-section of courses and fields of study: Universiti Islam Antarabangsa Malaysia, Universiti Malaysia Sarawak, Universiti Malaysia Sabah, and Universiti Teknologi MARA.
- 6. They concentrate on specified disciplines linked to the original objective of their establishment: Universiti Utara Malaysia, Universiti Pendidikan Sultan Idris, Universiti Malaysia Terengganu, Universiti Sains Islam Malaysia, Universiti Tun Hussein Onn, Universiti Teknikal Melaka Malaysia, Universiti Malaysia Pahang, and Universiti Malaysia Perlis.
- 7. Peer-review approach is an evaluation process of research output carried out by qualified individuals within the relevant areas. This approach was adopted by Johnes (1995) and Meng et al. (2008).
- 8. This is entirely consistent with the theory behind technical changes explained by O'Donnell (2012a).

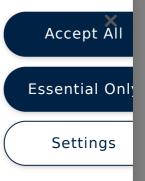
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#### Mad Ithnin Salleh

Dr Mad Ithnin Salleh obtained his doctoral degree from the University of Wollongong, Australia, specialising in efficiency and productivity. His area of interest includes performance measurement, efficiency and productivity, and developing a quantitative method for management and quality management system. He is currently a senior lecturer at the Faculty of Business and Economics, Sultan Idris Education University, Malaysia.

#### Abbas Mohammadzadeh

Mr Abbas Mohammadzadeh is a PhD candidate in economics and also a casual teaching academic at the School of Accounting, Economics and Finance, University of Wollongong. His main research interests include macroeconomics, natural resource and energy economics, applied econometrics, international trade and finance, and efficiency and productivity.

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