

Progress to date on the review of the benchmarking approach

UKPISG 17/02†

Issue

1. In response to the 2013 fundamental review of the UK performance indicators (UKPIs) for higher education (HE), a review of the benchmarking approach for UKPIs was agreed. UKPISG are invited to consider the UK Performance Indicators Technical Group's (UKPITG) latest position with respect to this review.

Recommendations

2. UKPISG to consider the outline for a fundamental review of the benchmarking approach used in the UKPIs and the Teaching Excellence Framework (TEF).

Discussion

3. At their previous meetings the UKPISG have considered the fundamental review of the benchmarking approach used in the UKPIs, which was agreed in response to the 2013 fundamental review of the UKPIs. At the point of the group's last meeting, UKPITG's work on this review had established four strands of review work and made some progress with regard to establishing principles for the selection of benchmarking factors and groupings used within them.

4. In recent months, the delivery of Year Two of the Department for Education's (DfE) Teaching Excellence Framework has focussed particular attention on the statistical benchmarking approaches used within institution-level metrics. The assessment process for TEF draws upon a range of evidence which includes metrics based on those published within the UKPIs and the National Student Survey, and utilises a similar (but not identical) approach to statistical benchmarking to that used in UKPIs.

5. In order to ensure public confidence in the robustness of the metrics used in UKPIs and TEF, the DfE and HEFCE now wish to reformulate the terms of the review of UKPIs so that the objectives and research questions are pertinent to both applications, whilst building on the work that has already been successfully completed.

6. Annex A sets out the objectives, research questions, mechanism, deliverables and schedules for a fundamental review of the benchmarking approach used in UKPIs and the TEF.

Further information

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Annex A: Review of benchmarking approach for metrics used in the UK HE Performance Indicators and Teaching Excellence Framework

Introduction

This document sets out the objectives, research questions, mechanism, deliverables and schedules for a fundamental review of the benchmarking approach used in UK HE Performance Indicators (UKPIs) and the Teaching Excellence Framework (TEF). It is set in the context of, and builds upon, a wider review programme for the HE Performance Indicators which commenced in 2013 under the auspices of the UK Performance Indicators Steering Group (UKPISG), chaired by the Higher Education Funding Council for England (HEFCE). The first stage of this was an independent assessment of the rationale, purpose and policy drivers for the UKPIs, the usage and the users of the UKPIs across the UK, and whether UKPIs were still fit for purpose. The reports from this initial stage are available from the HEFCE website¹.

Following acceptance of the key recommendations from this first stage assessment, a rolling review programme commenced. This was designed to address each of the main topic areas of the UKPIs in turn, starting with the widening participation indicators and then moving on to the research indicators. At the time of writing the rolling review has undertaken extensive analysis of the first two topic areas, resulting in the discontinuation of two previous indicators and detailed recommendations for the construction of a number of new indicators. These new indicators are currently under development.

The White Paper: Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice (May 2016) reiterates the Government's manifesto commitment to introduce a Teaching Excellence Framework (TEF). The TEF is intended to provide clear information to students about where teaching quality is best and where students have achieved the best outcomes. It also seeks to encourage a stronger focus on the quality of teaching in higher education.

The assessment process for TEF draws upon a range of evidence in relation to teaching quality, its impact and outcomes. This evidence includes metrics based on those published within the UKPIs² and the National Student Survey and utilises a similar (but not identical) approach to statistical benchmarking to that used in UKPIs.

In order to ensure public confidence in the robustness of the metrics used in UKPIs and TEF, the Department for Education (DfE) and HEFCE now wish to reformulate the terms of the review of UKPIs so that the objectives and research questions are pertinent to both applications, whilst building on the work that has already been successfully completed.

¹ <http://www.hefce.ac.uk/pubs/rereports/Year/2013/ukpireview/Title.92177.en.html>

² There are two key differences in the metrics used in TEF and those used in the UKPIs – firstly coverage in that TEF metrics include HE delivered in FE Colleges and Alternative Providers in England, and secondly that TEF metrics are attributed to the HE provider that delivers the teaching unlike UKPIs which attribute metrics to the registering HE provider.

Review dimensions

There are two stages to the current review.

The first stage is divided into three strands of activity addressing the key dimensions of the generic framework for benchmarking:

- a) Independent assessment of the statistical approach currently used for benchmarking
- b) Review of the principles and methodology employed in the selection and application of factors used in benchmarking calculations. This includes the approach to defining groups within factors.
- c) User consultation with regards to the benchmarking approach used within UKPIs and TEF

The second stage of the review will operate as follows:

- i. If the independent assessment of the current statistical approach finds significant weaknesses that cannot readily be addressed, a further piece of work may be commissioned to develop a new approach.
- ii. The principles and methodology resulting from strand B above will be applied to all current indicators, their factors and groupings. For example, once the principles for the selection of factors have been determined, the factors used in each of the existing indicators will be assessed for compliance. This may result in recommendations for changes to current factors and groupings.

A. Independent assessment of the statistical approach to the benchmarking

Objective

To explore and assess the statistical approach used to generate benchmark values for indicators, together with the method used to identify and flag significant differences between calculated indicators and their benchmark values. To take a view on the effectiveness of the statistical approach when applied to the creation of objective metrics describing aspects of the performance of UK higher education providers. To note any caveats or weaknesses in the approach when used for this purpose, and to propose any improvements that may address identified weaknesses. An exploration of approaches to benchmarking used in other public sector environments has already been undertaken and is therefore out of scope for this assessment.

Research questions

Is the overall approach statistically robust and does it follow established statistical good practice?

Is the approach used to identify and flag significant differences between indicators and benchmarks statistically robust? Is it fair and reasonable when applied to HE provider performance?

Are the thresholds of three times the standard deviation and three percentage points for UKPIs and twice the standard deviation and two percentage points for TEF metrics considered reasonable and in line with statistical good practice?

How effective is the approach to benchmarking in the two use cases cited on the UKPIs website:

- a. When assessing the performance of an HE provider compared to the sector as a whole
- b. When deciding whether it is fair and reasonable to compare indicators for two HE providers.

To what extent does the granularity of data categories affect the robustness of the approach (number of HEPs being described, indicators at subject level or other disaggregated level within HEPs or the numbers of factors and groupings within factors)?

How does the approach fare with analysis units (e.g. HEPs or subject groups) with very different population sizes?

Where material differences in measured performance exist between providers (provider/subject units), how effective is the approach in capturing those differences?

How effective are the mechanisms for explaining the approach to data users and HE providers? How transparent are the details of the approach?

Does the approach to dissemination of the indicators support effective use by HE Providers in understanding and improving their performance?

Mechanism

An independent academic-led review. The academic review team to be selected through a research tendering process (possibly issuing a call through the Royal Statistical Society).

Deliverables

A report detailing the findings of the assessment, with recommendations for improvement. To include recommendations on explaining any new recommended approaches.

Schedule

Research tender to be issued in March 2017. Tender responses assessed with successful bidder selected by end April. Review work commencing start of May to conclude and report by end September 2017.

Current status (February 2017)

This strand has not yet commenced.

B. Review of the principles and methodology employed in the selection and application of factors used in benchmarking calculations

Objective

To assess the validity and completeness of the principles used in the selection of factors. Also to assess the principles and methodology used to determine groupings within benchmarking factors. Following agreement on the principles, to test all current indicators for compliance thereby building an evidence based justification for the selection and application of factors.

Research questions

What are the most appropriate principles involved in the selection of factors for UKPI and TEF indicators?

Is there a clear rationale for including/excluding factors in certain indicators?

Do the factors used in current indicators comply with principles when indicators are generated at subject level?

On what basis should the composition of factor groupings be determined?

Is there an optimal range for the numbers of groupings used in each factor?

Does the optimal range for numbers of groupings change if the indicators are disaggregated by subject?

Is there a clear rationale for the use of different groupings applied to the same factor when used in different indicator benchmarks?

Mechanism

Review to be undertaken by HEFCE and HESA staff.

Deliverables

An updated and agreed set of principles (stage 1).

A report detailing compliance to principles for all current indicators with recommendations for any changes required. This report should aim to establish a justification for the choice of each factor in each current indicator that can be published in order to reinforce public confidence in the metrics (stage 2).

Schedule

Agreed set of principles by end March 2017.

Report on compliance with principles and justification of factors selected by end June 2017.

Current status (February 2017)

An updated set of principles for **selection of factors** has been agreed by the UKPIs Technical Group (UKPITG) as follows:

1. The selection of benchmarking factors should adhere to the same principles as the indicators themselves.
2. In addition, benchmarking factors should:

3. Be correlated with what is being measured.
4. Be material, in that they should vary significantly from one institution to another. Materiality should be considered in the context of an ambition to minimise the risk of an institution having a significant impact on their own benchmark.
5. Be outside of the institutions' control, or otherwise undesirable for them to control for.
6. Not be uniformly distributed across institutions, rather the factor should differentially affect institutions' benchmarks.
7. Be a direct measure rather than a proxy.

A set of principles for **defining groupings within factors** has also been agreed by the UKPITG as follows:

Groupings within factors should:

1. have as few categories as possible;
2. be homogeneous with respect to the indicator to which they refer;
3. make practical sense;
4. be relatively evenly spread;
5. be used consistently across all UKPIs where possible, allowing other UKPIs to act as context statistics;
6. be determined empirically;
7. be reviewed periodically to ensure they continue to be homogeneous, make practical sense and are relatively evenly spread.
8. In addition an analysis of methodology used over many years of production of the UKPIs and derivation of factor groupings has been undertaken to inform the above principles.

A literature review has been undertaken to identify and investigate approaches to benchmarking used in other sectors.

C. User consultation with regards to the benchmarking approach used within UKPIs

Objective

To identify and implement appropriate stakeholder engagement mechanisms to support the overall review process and maximise buy-in to the review recommendations. To consult specifically on principles proposed for factors and groupings.

Research questions

What stakeholder groups would be appropriate for this engagement?

What are the most effective engagement mechanisms?

Do stakeholders support recommended principles or do they wish to propose changes?

Do stakeholders consider the published explanations of benchmarking methodology and principles to be comprehensible and transparent?

Mechanism

Stakeholder engagement to be planned and implemented by HEFCE and HESA staff.

Deliverables

Stakeholder engagement plan.

Report(s) on stakeholder feedback.

Schedule

Stakeholder engagement plan delivered by end March 2017.

Report(s) on stakeholder delivered according to engagement plan.

Current status (February 2017)

A number of stakeholder groups and engagement opportunities have been identified and documented.

Governance

Governance for the review to be through the UK Performance Indicators Steering Group, supported by the UK Performance Indicators Technical Group.