



# The impact of tertiary education on development

## EVIDENCE BRIEF

The returns to tertiary education (TE) have been underestimated. TE appears to contribute substantially to both human and economic development in LLMICs.

### About this brief

This evidence brief summarises the findings from a rigorous review conducted by Oketch, McCowan and Schendel (2014), entitled "[The impact of tertiary education on development](#)".

The review was produced by the Institute of Education (University of London) and funded by the Department for International Development's (DfID) Research and Evidence Division.

The review aims to assess the evidence linking TE to a wide range of economic and human development outcomes in low- and lower-middle-income countries (LLMICs).

### How to use this brief

This brief is intended to assist policy-makers and other interested stakeholders by outlining the study's major findings and providing links to the individual references included in the review.

### Methodology

A search of 21 bibliographic databases, 7 institutional websites, and 7 existing literature reviews identified 6,677 studies of interest published since 1990. Following screening, 147 English-language studies were identified as demonstrating empirical evidence of impact of TE in at least one LLMIC. All 147 studies were appraised for quality and methodological rigour. A

further 48 studies were excluded at this stage, leaving 99 studies in the final synthesis. Of the 99 included studies, 66 consider impact via increased earnings, 24 via improved individual capabilities, 13 via increased productivity, 13 via institutions and 8 via technological transfer. Twenty-three of the studies are global or regional in nature, while 76 focus on individual country contexts (mostly from Sub-Saharan Africa and South and South-East Asia). Most of the included studies are quantitative observational studies, although qualitative and mixed-method studies were also identified.

### Key findings

The literature identified by this review is heterogeneous in terms of focus, research design and geographical context. Conclusive evidence of impact of TE is difficult to demonstrate at macro level, given inconsistencies in the use of time-lagged analysis and limitations of national datasets. Nevertheless, evidence of a range of positive outcomes and likely impacts was identified across a range of LLMICs:

- TE appears to have a stronger impact on economic growth than was previously assumed, with some studies suggesting that TE has a stronger impact than do lower levels of education.
- In addition to having a strong impact on the earnings of

graduates, there is some evidence to suggest that TE has a positive impact on productivity in the workplace, although significant barriers to impact remain.

- Studies suggest that research output in universities in LLMICs is generally low, and there is limited transfer of technology to local industries. However, the proportion of workers with higher education within a given context appears to increase the likelihood of technological uptake and adaptation.
- TE provides a range of broad, measurable benefits to graduates relating to health, gender equality and democracy, among other areas. In addition, it contributes to the strengthening of institutions, and the forming of professionals in key areas such as education and healthcare.

### Research gaps

- Despite the large body of literature on TE, there is a lack of research gauging its impact on development.
- There is robust evidence of micro-level impact, but macro-level impact is harder to identify.
- Studies considering impact tend not to address the *conditions* that affect the impact of TE on development.

# Summary of evidence

In preparation for synthesis, included studies were grouped by their association with the various potential ‘outcomes’ of TE outlined in the review’s conceptual framework. These outcomes were: increased earnings and externalities; increased workforce productivity; increased technological transfer; improved individual capabilities; and improved institutions. The table below summarises the available evidence of how TE appears to affect development in LLMICs via these outcomes and assesses the strength of the overall body of evidence in terms of the criteria suggested by the DfID ‘How to note’ on ‘Assessing the strength of evidence’ (DfID 2013).

For the purposes of the summary table, a grouping is referred to as ‘small’ if there are fewer than 20 studies, ‘medium’ if there are between 20 and 40 studies, and large if there are more than 40 studies. Evidence is classified as ‘consistent’ if all of the findings of the included studies suggest similar conclusions and ‘inconsistent’ if a diversity of conclusions was identified. This classification refers to evidence of positive impact. Some evidence groupings, such as the evidence around economic growth, were inconsistent in their comparative conclusions (that is, when relating TE to other levels of education), but consistent in showing some positive impact. Although some studies show limited impact, or absence of impact, very few studies show negative impact. The final column—‘Overall Strength of Evidence’—is a combined assessment, based on the size and consistency of each grouping.

A complete synthesis of the review findings can be found in the full review report.

OUTCOME	CHARACTERISTICS		
	SIZE	CONSISTENCY	OVERALL STRENGTH OF EVIDENCE
Individual earnings	Large (48)	Consistent	Strong
Economic growth	Medium (25)	Consistent	Medium
Productivity	Small (13)	Inconsistent	Limited
Technological transfer	Small (8)	Inconsistent	Limited
Capabilities	Medium (24)	Consistent	Medium
Institutions	Small (13)	Consistent	Medium

## NOTES:

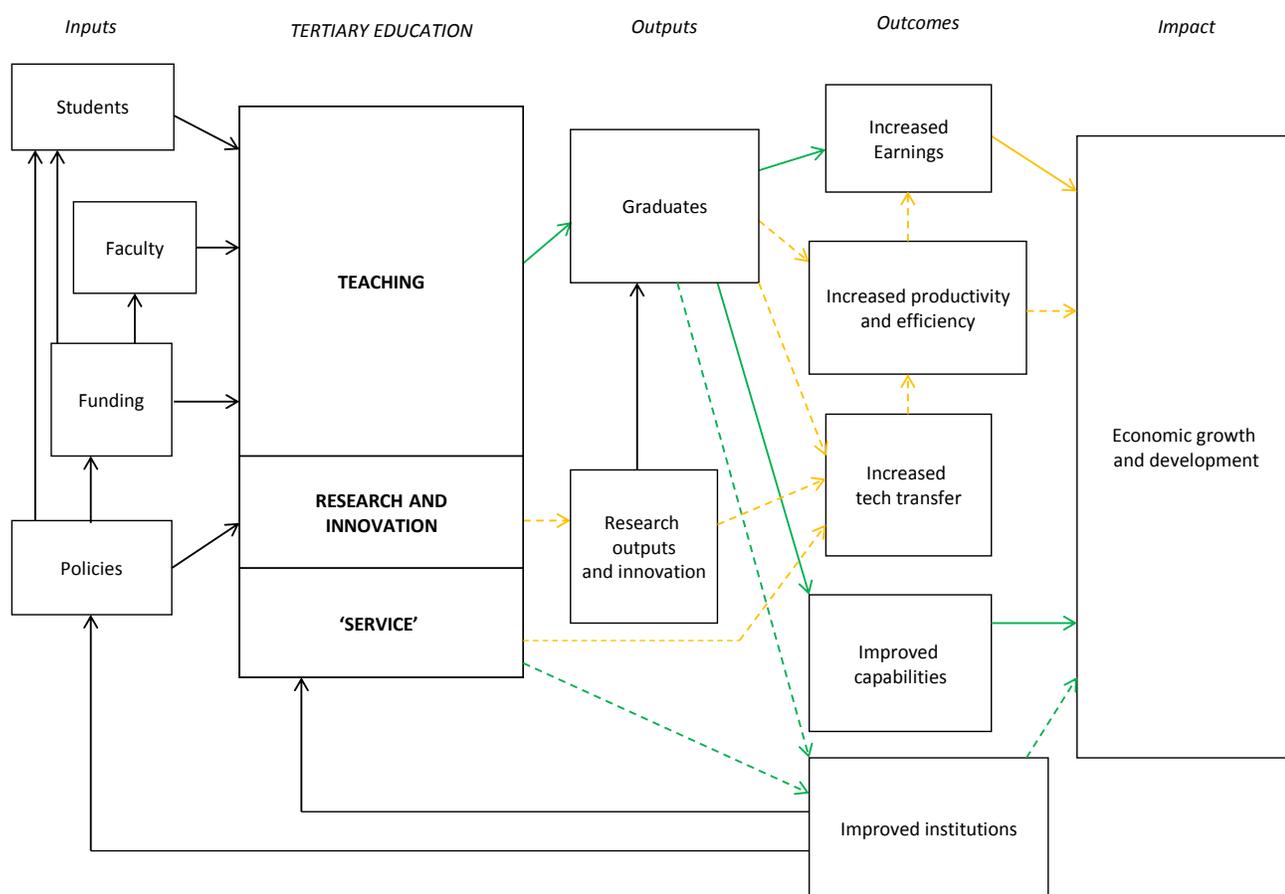
- Quality’ was not included in the summary table, as all included studies met the necessary standards assessed during quality appraisal.
- ‘Context’ was also not included, as the ‘How to note’ recommendation of classifying groups of studies as either ‘global’ or ‘context-specific’ does not fully apply to a review of this scope. Each group of studies reflects findings from a broad range of contexts, but the impossibility of identifying an effect that applies in exactly the same manner across all contexts prevents the use of the term ‘global’ when classifying this body of evidence.
- As some studies investigate multiple pathways, the frequencies in this table do not add up to 99.

# The pathways to impact

A conceptual framework was developed in order to structure the review of literature. Drawing on theories relating TE to human-capital development, endogenous development, capabilities and institutional growth, multiple potential pathways to impact were identified.

At the end of the review process, the conceptual framework was revisited, in order to examine the applicability of the framework to LLMIC contexts. The reviewed evidence suggests that the conceptual framework is broadly applicable to lower-income contexts. The review did, however, expose some areas of inconsistency in the literature, as well as a significant lack of evidence around certain pathways.

The review findings are represented by the colour-coding on the diagram below. Consistent evidence of impact is represented by a green arrow, while inconsistent evidence is represented in yellow. The pathways to impact around which there is limited evidence (that is, from fewer than 20 studies) are highlighted with dashed (as opposed to solid) arrows on the diagram.



It is crucial to note that the pathways to impact identified in the framework rest on certain assumptions, including: sufficient primary and secondary education; sufficient quality of research, teaching and learning; academic freedom; and equality of access and opportunities within TE. As these conditions rarely hold in LLMICs, the lack of impact observed in some studies may not indicate a lack of validity of the pathway in question, but may be the result of certain barriers within the system, such as poor-quality teaching and curricula, or lack of a conducive research environment. While there is a large body of literature that analyses these barriers (517 were identified by this study), additional research is needed showing how impact (or lack of it) is linked to changes in these potentially limiting factors.

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