

## **Benefits of academic education versus vocational: Tanzania's manufacturing sector**

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**While educators in Africa have focused on supplying vocational education this has long conflicted with students' preference for an academic education. How do the returns from academic education, in terms of a higher income, compare with those of vocational training?**

Tanzania put new policies in place in the 1960s in an attempt to shift its focus from academic to vocational education and to limit the supply of secondary education. However, in the 1990s it reversed this policy and moved away from vocational schooling to a more academic education. This shift received strong backing from investors, with the view that the rate of return (increase in earnings for each level of education) to investing in general, rather than vocational, secondary education was far higher in terms of increased income.

However, research into this issue has to date produced conflicting results with strong disagreements as to the relative merits of academic relative to vocational school. It has also been argued that limited skills are central to poor performance in African countries, especially in their manufacturing firms. In this context it is an important policy issue as to how best to produce the necessary skills.

A study by the Centre for the Study of African Economics in Oxford and the Economic and Social Research Foundation in Dar-es-Salaam examines the returns to vocational education compared with that of academic education. Data was analysed from surveys of Tanzania's manufacturing sector conducted from November 1999 to January 2000, and January 2002 to February 2002.

The main findings of the study with respect to vocational education are as follows:

- In order to understand how much education increases earnings for those with vocational education relative we need to allow for when they enter the vocational stream and what type of work the student obtains after school.
  - When the student enters vocational education matters because in the Tanzanian education system vocational tends to be an outcome which is followed when the academic stream is blocked, so a student who enters after primary is different from one who enters after junior secondary school.
  - The type of work matters because how much earnings increase with education depends on the type of firms in which the student is employed. In particular the study finds that firms with more vocationally trained workers tend to pay less. This may reflect the quality of the firm or the type of activity the firm undertakes but it means that earnings can actually be lower for a vocationally trained student than one with less education.

- There are two main vocational paths through the educational system.
  - The first is to go to vocational school after primary.
  - The second is to go to technical school after O-level.
- **If we allow for this quality dimension of the firm** we find that the increase in earnings to vocational school after primary is over 20 per cent for both small and large firms. As on average such schooling last for two years this is an annual increment in earnings from attending such school of approximately 10 per cent which is higher than that obtained from primary school.
- Again **if we allow for the quality dimension of the firm** we find that students who attend technical college after O-level receive an increase in earnings of over 20 per cent if they work in a large firm but less than 10 per cent if they work in a small one. As technical college lasts on average for three years the implied increase in earnings for a year of technical college are less than 7 per cent.

The main findings of the study with respect to academic education are as follows:

- As with vocational education the type of job that the student gets after school matters for how much their wages increase for all levels of education.
- Wages increase with education more in large than small firms particularly for those with A-levels.
- There is a general pattern by which the increase in earnings from a year of education increases with its level. So those who work in large firms with primary education get an increase of 4 per cent for each of their years in primary education while those with university get an increase of 19 per cent per year for their years at university.
- This pattern of returns to education whereby the student receives a larger increase in their income per year of education the longer they stay in education is a common pattern found in data in developing countries.
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  - This pattern is, however, the opposite to that which is often asserted to be true namely that returns are highest at the primary level.

The study warns that there is no simple answer to the question as to how the returns to vocational compare with academic education. The answer will depend of when the student enters vocational education and the type of firm in which the student is eventually employed. The study does show why, at present, vocational school is so unpopular with both students and their parents. The returns for students who are successful in the academic educational stream, especially those who reach A-levels and higher, are far greater than the returns to any form of vocational or technical training. It is therefore understandable that African students and their parents prefer an academic education over vocational.

One possible reason for these higher returns to higher levels of secondary education in larger firms is that teaching narrowly defined skills rather than the ability to problem solve does not help develop the kind of general skills that the more technically advanced firms need in Tanzania.

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**Source**

'To Train or to Educate? Evidence from Tanzania', ESRC Global Poverty Research Group, Working Paper Series 051, by Godius Kahyarara and Francis Teal, 2006  
<http://www.gprg.org/pubs/workingpapers/pdfs/gprg-wps-051.pdf>

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