The Technology and Productivity Paradox in Africa

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There is an assumption that adoption of innovations and technology leads to increased productivity and to economic transformation. In modern economic literature, productivity is often a top indicator of long-term economic growth and transformation, with increases in productivity leading to sustained advancements in standards of living and human wellbeing. In most instances, changes in innovation and technology are the only attributable sources of permanent increases in productivity. With advances in technology globally, including in Africa, one would expect productivity increases to correlate with technology upgrades and overall economic transformation. However, ongoing research ACET indicates this is not necessarily the case. A proposed research initiative would explore this paradox to better understand the linkages between technology and structural change, and if poor correlations are a result of poor policy incentives or other factors.

There is relatively little contemporary research at the Africa firm level or from a country-level policy perspective on this causality between technology and productivity. Many reports refer to anecdotal evidence, while the broader academic research points to contrasting perspectives, particularly regarding large versus small economies, and between large and small firms. Going forward there needs to be a greater focus on research to inform policies that help address d the patterns of rising capital intensity, while developing methods to avoid undercounting industrial productivity.

Objectives/ Motivation and research questions

The research will inform the public and private sector to better target and support technological upgrading in ways that better ensures gains in productivity. The research questions will include, for example how local firms' linkages with multinational companies affect firms' labor productivity and technological upgrading. It may also include differential impact of foreign investors originating from different countries on domestic firms' labor productivity and upgrading. Other research questions may focus on capacity needed to appropriately adopt new technologies, while in other cases it may focus on financing needed to fully adopt innovative solutions. Some research questions will emphasize the need for quality infrastructure to support digital technologies.

Results

The results will include a series of research papers on a structures series of topics, followed by dissemination events and sand-box exercises in selected countries to test theories and approaches to improve technology driven productivity.

Recommendations

The research will likely spur recommendations on policy, access to finance, skills and capacity, incentives, and public-private collaboration.

The present one-pager is based on the working paper entitled "The Technology and Productivity Paradox in Africa".