# The Direct and Indirect Effects of a Dual Apprenticeship Program in Côte d'Ivoire

**Researchers:**

Bruno Crépon

Patrick Premand

**Sector(s):** Education, Labor Markets

**Fieldwork:** Innovations for Poverty Action (IPA)

**Location:** Ivory Coast

**Sample:** 1,842 youths, 731 firms

**Initiative(s):** Post-Primary Education Initiative (PPE)

**Target group:** Job seekers Youth

**Outcome of interest:** Earnings and income Employment

**Intervention type:** Apprenticeships and on-the-job training Coaching and mentoring Training Subsidies Scholarships Vocational training (TVET)

**AEA RCT registration number:** AEARCTR-0002726

**Data:** https://doi.org/10.60572/hn8v-8x69

**Partner organization(s):** World Bank, Ivorian Office for the Coordination of Youth Employment Programs (BCP-Emploi)

In Sub-Saharan Africa, wage job opportunities are limited, and a vast majority of young people are engaged in low-productive work. Many governments support formal apprenticeship programs to help youth find suitable employment, but there is limited evidence on the direct and indirect effects of these public interventions. Researchers partnered with the World Bank and the government of Cote d'Ivoire to evaluate the impact of a subsidized dual apprenticeship program targeting both youth and firms. The apprenticeship program increased participation among youth in formal apprenticeships, and participating firms hired more formal apprentices after the program was implemented. The increase in the number of apprentices entering firms was also associated with an increase in the quality of work provided by apprentices, suggesting that apprenticeship programs can have broader benefits for firms in the economy.

## Policy issue

Data from 2014 suggested that around 20 percent of African youth participated in traditional apprenticeships, while fewer than 5 percent attended technical and vocational training.[1] Since traditional apprenticeships are one of the main sources of skill acquisition for youth in low- and middle-income countries, some governments are prioritizing formalizing traditional apprenticeship schemes to facilitate access to apprenticeships as well as to improve training quality and labor outcomes. These formal apprenticeship systems typically combine theoretical and practical training for youth. However, there is little evidence on the effectiveness of such programs on both youth and firms.

Researchers conducted a randomized evaluation of a subsidized formal apprenticeship program in Cote d'Ivoire. What was the effect of the formal apprenticeship program on youth? Beyond effects on youth, did these apprenticeship programs benefit firms? What was the overall effect on the private market for apprenticeships?

## Context of the evaluation

In 2010, the government of Cote d'Ivoire and the World Bank jointly launched an emergency youth employment and skills development project. It was designed to improve access to temporary employment and skills development opportunities for youth. It included a formal apprenticeship program, which targeted low-skilled youth, aged 18 to 24 years old, in the main urban areas of the country.The program aimed to place youth in firms, where they would receive on-the-job training as well as theoretical training, under the supervision of a master craftsmen. Apprenticeship positions that were the most popular at the time included car or motor mechanic, metal worker, boilermaker, welder, painter, plumber, and bricklayer.

Youth in the study were predominantly male, with 63 percent having completed primary school and 17 percent having completed lower secondary school. Of the firms offering apprenticeship positions, 84 percent had no formal legal status and 68 percent did not keep financial records. During the time of the study, firms had 6.3 permanent employees on average, of which 3.3 were apprentices.



Young people participating in apprenticeship program in Côte d'Ivoire.

Photo credit: Shutterstock

## Details of the intervention

Researchers partnered with the World Bank and the government of Cote d'Ivoire to evaluate the short-term impacts of a subsidized dual apprenticeship program on youth employment, earnings and activities, as well as firms' workforce, sales and profits.

Out of 731 companies that applied to host apprentices, researchers randomly selected 361 firms to participate. The remaining firms were assigned to the comparison group. Of 1,842 eligible youth aged 18 to 24 who applied to the apprenticeship program, approximately half were randomly selected to participate and were matched to apprenticeship positions offered by firms in the treatment group according to their choice of trade. The other half formed a comparison group and did not receive an apprenticeship position through the program. On average, firms in the treatment group were assigned 2.5 apprentices.

The apprenticeship program began in 2015 and lasted one to two years, depending on the occupation. Youth received insurance coverage, work equipment, and a monthly allowance of 30,000 CFA Francs (approximately US$54 in 2018 or half the formal minimum wage) to cover meals and transportation costs. In addition to practical on-the-job training within the firms, youth were also eligible to receive 180 hours of complementary theoretical training per year, and could request one-on-one advice from apprenticeship counselors. At the end of the apprenticeship, each participant was tested on their practical skills and theoretical knowledge of the job and received a certificate upon completing the apprenticeship.

About 20 months after apprentices were matched with firms, researchers conducted a follow-up phone survey to measure youths' employment status, earnings and activities. They also measured firms' workforce, sales, and profits. To measure if the government program affected the private market for apprenticeships, researchers collected data on the skills and profiles of apprentices who joined or left firms after the study began.

## Results and policy lessons

Youth in the program increased participation in formal apprenticeships and decreased participation in traditional apprenticeships, compared to youth who were not in the program. Firms in the program hired more formal apprentices but fewer traditional apprentices compared to firms that were in the comparison group.

*Formal apprenticeships:* The apprenticeship program increased participation in formal apprenticeships by 71.2 percentage points (from 3.8 percent in the comparison group). The proportion of youths in the program that participated in traditional apprenticeships fell by 18.5 percentage points (down from 22.5 percent in the comparison group), and the proportion of youths that pursued further education fell by 36.3 percentage points (down from 51.4 percent in the comparison group).

*Firms Employment:* Formal and traditional apprentices joined and left firms throughout the study period. 20 months after the program was implemented, participating firms ultimately had 0.8 more formal apprentices compared to 0.1 in the comparison group. The results suggest for each formal apprentice placed in a firm, 0.2 traditional apprentices were displaced. In other words, firms who hired participants from the formal program did so at the expense of hiring more traditional apprentices.

*Youth Employment and Earnings:* The program had no impactsnths after the start of the programrcent less from wages and 33 percent less from self-employment he program was implement on average earnings for youth 20 months after the start of the program. Apprentices in the program earned 41.7 percent less from wages and 33 percent less from self-employment relative to those in the comparison group. However, this decrease is fully compensated by the combination of an increase in total apprenticeship wages of 68 percent, as well as the monthly income provided by the program.

*Benefit to firms:* Apprentices in the program worked on average 23 percent more days relative to individuals in the comparison group who worked an average of 30 days. The quality of work (measured by the amount that firms would be willing to pay to accomplish the same tasks) for program apprentices was also 62 percent higher per month relative to those who were not in the program. However, there were no direct impacts on firm profits and revenues.

On average, the program cost CFA 1,135,030 (approximately US$2,045) per youth for a 24-month apprenticeship. Although there were no direct impacts on firm profits, researchers suggest that the indirect benefits on firms (through increase in days worked as well as better quality of work produced by apprentices) may be sufficient to make the program cost-effective in the short term. They also suggest that skills development training programs targeting youth could have broader benefits for firms in the

economy.

---

1. Filmer, D., L. Fox, K. Brooks, A. Goya, T. Mengistae, P. Premand, D. Ringold, S. Sharma, and S. Zorya (2014): Youth employment in sub-Saharan Africa, World Bank, Africa Development Series.