

**THE EFFECTS OF UNIVERSITY EDUCATION
ON INFORMAL EMPLOYMENT AND EARNINGS:
EVIDENCE FROM THAILAND**

Churaporn Charoenporn

National Graduate Institute for Policy Studies (GRIPS)

Summary of Dissertation

Informal employment refers to work that falls outside the purview of official regulation. It plays a role in absorbing excess labor and offers employment flexibility. However, many informal activities are associated with reduced tax revenues and a lack of social security. As numerous formal sector jobs require a university degree, policymakers consider the provision of university education a policy instrument for reducing participation in the informal sector. This study aims to examine whether and to what extent university expansion policy affects university attainment, informal employment, and earnings.

The study estimates the effects of university opening in Thailand between 2004 and 2005 on university completion and informal employment. Using a difference-in-differences approach, we exploit the variation in university expansion exposure across provinces and birth cohorts as an exogenous source of university attainment variation. We find that the university expansion policy increases women's and men's university completion rates by 6% and 4%, reducing men's self-employment and agricultural work by 1–2% but has almost no impact on women. Although the increase in men's university attainment is too small to apply instrumental-variable (IV) estimation, the enormous rise in women's university graduation in response to the university expansion is

sufficiently significant. Women's IV results suggest that a university degree significantly reduces their irregular work and broadly-defined informality by 81% and 73%, respectively.

The results show profound gender differences in adjusting career choices for the university expansion. The opening shifts women from informal service sectors to formal jobs in education or public administration. In contrast, men tend to change employment status within the informal sector instead of moving to the formal sector. The data suggest many men leave agricultural sectors but remain working part-time.

The study expands the difference-in-differences approach to examining the heterogeneous effects of university opening by field of study. The results suggest that the university expansion policy induces workers not majoring in science, technology, engineering, and health/medicine (non-STEM majors) to leave informal jobs for higher pay in the formal sector. Every 10-ppts increase in university opening intensity reduces informality by 3% or less for young women and no more than 7% for young men. It increases women's and men's formal-sector hourly wages by 1%.

In contrast, the university opening induces young workers in STEM fields to work informally, and the effects are more evident for women than men. Every 10-ppts increase in university expansion intensity *increases* women's informality by 6–21% if in STE-majors (including science, technology, and engineering while excluding health/medicine fields) and by 20–50% if in health majors. The same estimates are below 8% for men in STE fields and 41% or less for those in health fields. Also, the university expansion decreases the university education returns for those in STEM fields. These counterintuitive results are because workers whose education choices would comply with a university opening tend to be particularly low in skills.

Most STEM university graduates work in non-STEM occupations. Compared to STEM occupations, those non-STEM jobs do not pay well even in the formal sector. Low monetary payoffs to a university degree or a formal job have pushed many STEM workers into the informal sector. According to the previous literature, an increase in informal employment among STEM university graduates could result from a shortage of desirable STEM jobs (Cappelli, 2015), a mismatch between imported technologies and local STEM workers' skills (Acemoglu and Zilibotti, 2001), or skill obsolescence due to rapid technological changes (Deming and Noray, 2020).

Finally, the finding that university expansion successfully improves educational opportunities but has a limited effect on the informal sector's size raises concerns about whether the university expansion has effectively improved the labor market conditions.