

Financial Education as an Equalizer: Gender-Differentiated Causal Evidence from Japan

Chikafumi Nakamura

Chuo University

Abstract

This study applies propensity score matching (PSM) and inverse probability weighting (IPW) to estimate the causal effect of formal financial education on financial literacy in Japan. Using nationally representative survey data from Japan Financial Literacy and Education Corporation (J-FLEC) spanning 2016, 2019, and 2022 ($N = 79,475$), we address selection bias inherent in observational studies of educational interventions. Naïve comparison reveals a substantial literacy gap of 10.17 points (on a 100-point scale) between those with formal financial education and those without. However, after matching on 15 pre-treatment covariates including household financial education, behavioral characteristics, and socioeconomic attributes, the average treatment effect on the treated (ATT) is substantially attenuated to 2.51 points ($SE = 0.41$, $p < .001$), representing a 75% reduction in bias. IPW analysis confirms robustness, yielding a nearly identical estimate of 2.48 points ($SE = 0.39$, $p < .001$). Crucially, we discover pronounced gender heterogeneity: women gain 6.24 points ($SE = 0.65$, $p < .001$) compared to only 1.21 points ($SE = 0.52$, $p < .05$) for men—approximately a five-fold difference. Year-by-year analysis confirms temporal stability of causal effects across survey waves. These findings demonstrate that formal financial education functions as an equalizing mechanism, with particular effectiveness for women who begin with lower baseline literacy. This study provides the rigorous causal evidence on financial education effects in Japan using quasi-experimental methods.

Keywords: financial literacy; financial education; causal inference; gender heterogeneity

JEL Classification: I21, D14, G53