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Employers' willingness to train in developing contexts: Survey-experimental exploration in Uzbekistan and Nepal

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ABSTRACT

Employers offer training when they anticipate financial returns, but evidence from lower-income contexts remains limited. We survey employers in Uzbekistan and Nepal using vignettes that vary program characteristics, trainee profiles, and institutional factors. Uzbek employers favor short programs, while Nepali employers prioritize immediate financial returns, regardless of their magnitude. Both prefer young adult trainees and strong employer involvement in program design. These findings challenge the expectation that longer, low-wage programs are most attractive and suggest that short-term, intensive workplace learning may serve as a steppingstone to more formal training opportunities in lower-income contexts.

Key words: willingness to train, financial return, upper-secondary vocational programs, workplace learning

INTRODUCTION

Research on apprentice training shows that employers offer training programs when they expect a financial return, either during or shortly after the program (Wolter *et al.*, 2006). Returns depend on factors such as program duration, trainee wages, workplace productivity, and hiring and adjustment cost savings (Lerman, 2019; Wolter *et al.*, 2006). However, most evidence comes from high-income countries with established training systems. This study examines employer willingness to offer training in lower-income contexts where such programs are less developed. Are the determinants of willingness to train the same, or are other factors at play?

We conduct survey experiments with employers in Uzbekistan and Nepal, where workplace learning is being introduced to upper-secondary vocational programs. Using vignettes that vary program characteristics (duration, wages, workplace learning time), trainee characteristics (age, gender, other socio-economic factors), and institutional arrangements (value of the qualification, relationship between education and employment system actors), we assess employer willingness to train.

The results show that in terms of program characteristics, Uzbek employers express a strong preference for shorter programs. In terms of financial aspects, Uzbek employers do not seem to be affected by scenarios where wages for trainees are lower. Nepali employers prefer programs that generate a financial return during the program itself, but they are indifferent to the magnitude of the return. Trainee characteristics generally do not matter to employers, except for age—employers in both countries prefer young adults aged 18-30. Employers in both countries prefer scenarios where they have a clear role and impact on the design and implementation of the program.

These findings challenge prior research suggesting employers favour longer, low-wage programs (Moretti *et*

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al., 2017) but reinforce the importance of employer-education system linkages (Bolli *et al.*, 2018). Employers in lower-income contexts, who may be seeking a shorter-term training so staff can be transitioned to full-time work quickly, may consider new training programs as a type of intense on-the-job learning, as a first proof of concept towards a fully-fledged training program.

METHODS AND RESEARCH DESIGN

Survey experiment design

We conduct two survey experiments embedded in employer surveys in Nepal and Uzbekistan. Both countries are in a phase of developing vocational education programs with workplace training components. In Nepal, workplace training has traditionally been informal, often through family-run businesses or small enterprises, with limited structured apprenticeship programs (Bolli *et al.*, 2024; Paudel & Parajuli, 2023; Renold *et al.*, 2024). Uzbekistan has a stronger history of state-led vocational training, but formal apprenticeships are still emerging as a key element of workforce development. Both countries are transitioning from school-based models to more structured workplace learning approaches. Survey experiments involve respondents evaluating scenarios with randomly varied attributes (Auspurg & Hinz, 2022). This approach allows us to identify causal relationships between employer decisions and hypothetical trainee or program characteristics.

In Nepal, members of employer associations participated in a factorial survey, rating their likelihood of offering training based on vignettes that varied program length, company net benefit, and trainee attributes (age, gender, ethnicity) on a 5-point Likert scale. In Uzbekistan, hotel industry employers completed a discrete choice experiment, selecting between two training scenarios or "no training". Scenarios varied by trainee wage (low, medium, high), age (16, 18, 20), program duration (1, 2, 3 years), workplace learning time (20%, 40%, 60%) qualification formality (in-house, industry, government-recognized), and employer involvement (school-led, cooperative, employer-led).

Despite differences in setup, both experiments capture key factors—program characteristics, trainee attributes, and institutional settings—shaping employer training decisions. While the Nepal experiment measures responses to individual scenarios and allows for respondents to express more nuanced views, the Uzbekistan experiment forces choices, mimicking real-life decision-making. We analyze each survey separately and synthesize findings to discuss implications.

Sampling and data

In Nepal, the survey was shared by employer associations to 2785 companies, resulting in 598 complete responses. Respondents evaluated a total of 2202 vignettes (3.7 vignettes per respondent), representing various industries, with a strong emphasis on manufacturing and mid-sized enterprises. In Uzbekistan, the survey targeted the hotel industry, reaching 743 employers, 365 of whom completed the survey and evaluated 628 choice sets (1.7 per respondent).

Both surveys had relatively high response rates, especially for survey experiments, as comparable survey experiments with employers have response rates between 15% and 40% (Caves & McDonald, 2023; McDonald & Korber, 2023). The Nepal survey, with a 21.5% response rate, was distributed *via* an open link through intermediaries. The Uzbekistan survey, sent through individualized email links, achieved a 49% response rate. In both surveys, 39% of respondents indicated that they offered some kind of training in their workplace.

The two different experimental setups require two slightly different analytical strategies. In Nepal, we opt for an ordinary least square (OLS) model for ease of interpretation. In Uzbekistan, we use a logit model. Since respondents may have varying ratings thresholds, we include respondent-level fixed effects to measure only the differences in rating within respondents.

RESULTS

The regression analyses for both Nepal and Uzbekistan reveal distinct patterns in how program characteristics, trainee demographics, and institutional arrangements influence employer decisions to engage in training programs.

Nepal

The regression results for Nepal in Table 1 reveal that program characteristics, trainee demographics, and contextual factors significantly shape employer decisions to engage in training programs. Cost-neutral short training (program 2) has a significant negative effect, with respondents almost one full point less likely on the five-point scale to indicate their willingness to train if the short-term training does not create a financial return. When compared to a short training with a return of 5000 Nepali rupees, or about one-quarter of the monthly minimum wage in Nepal (reference program 1). Longer, higher-return programs (programs 3 and 4) do not show statistically significant differences. Among trainee demographics, the oldest trainees are penalized by 0.8 points on the 5-pont scale compared to a 20-year-old. The gender of the trainee does not appear to influence

Table 1: Results for Nepal

Variable	Coefficient (SE)	Variable	Coefficient (SE)	Variable	Coefficient (SE)	Variable	Coefficient (SE)
Ref. cat.: Program 1 (short-term, 5000 return)		Ref. cat.: Age 20		Ref. cat.: Male		Ref. cat.: Ethnicity 1	
Program 2 (short-term, cost-neutral)	-0.0776 (0.0266)**	Age 25	-0.0292 (0.0305)	Gender (Female = 1)	0.0128 (0.0199)	Ethnicity 2	0.0231 (0.0311)
Program 3 (24 month, 10,000 return)	0.0404 (0.0267)	Age 30	-0.0467 (0.0308)			Ethnicity 3	0.0560 (0.0308)*
Program 4 (24 month, 100,000 return)	0.0105 (0.0264)	Age 35	-0.0409 (0.0307)			Ethnicity 4	0.0626 (0.0317)*
		Age 40	-0.0796 (0.0309)**			Ethnicity 5	0.0730 (0.0314)**

This table presents the results from a fixed-effects (within) regression model. The dependent variable is "offering training". The model contains a constant with a coefficient of 3.6668 and a standard error of 0.0336, which significant at the level 0.01. SE are reported in parentheses. Significance levels: *$P < 0.10$, **$P < 0.05$, ***$P < 0.01$. SE, standard error.

employer decisions to train. Ethnicity is ordered from 1 (highest caste) to 5 (lowest caste). The results for ethnicity indicate that employers may be more inclined to engage in training with individuals from lower castes, with vignettes with participants from the lower three castes each ranked 0.5-0.7 points higher by respondents than those with participates from the highest caste. Additionally, the high rho value (0.8867) suggests that a substantial portion of the variance is driven by unobserved individual-level factors, emphasizing the importance of personal attributes and contextual influences in shaping employer engagement with training programs.

Uzbekistan

The results for Uzbekistan shown in Figure 1 (average marginal effects) reveal that program characteristics, participant demographics, and contextual factors shape employer decisions to engage in training programs. Age has a significant positive effect ($P = 0.004$), indicating that 18- and 20-year-olds are 7 and 14 percentage points, respectively, more likely to be considered for training than a 16-year-old. Conversely, training duration has a significant negative effect ($P = 0.000$), with each additional training year resulting in a 7-percentage point drop in willingness to train. Employer-education linkage ($P = 0.053$) seems only to marginally positively affect employers' willingness to train, while other factors do not strongly influence employer decisions.

CONCLUSION

This study provides empirical insights into employers' willingness to train in lower-income contexts. We find that employers in Uzbekistan favour shorter training, while those in Nepal prioritize even modest immediate financial returns. Additionally, both contexts emphasize the importance of strong employer involvement in program design, suggesting that employer-education system linkages play a crucial role in fostering successful training programs.

Our findings have implications for vocational education and training (VET) system design. Policymakers should consider structuring training programs that balance financial viability for employers with meaningful skill development for trainees. Programs in lower-income contexts may benefit from shorter, intensive workplace learning, employer-driven training design, flexible compensation structures, and targeted support for disadvantaged groups.

These findings underscore the importance of context-specific approaches when designing training initiatives. While frameworks from high-income countries provide valuable insights, direct replication may not yield the same results. Instead, tailoring VET programs to create employer incentives and respond to labor market structures in each country is essential for fostering sustainable, employer-driven training.

DECLARATIONS

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Author contributions

Caves KM: Conceptualization, Methodology, Validation, Investigation, Writing—original draft, Supervision, Project administration. McDonald P: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Writing—original draft, Writing—review and editing, Supervision, Project administration. Palayil MA: Data curation; Methodology, Validation, Formal Analysis, Writing—Original draft, Visualization. Lickert EM:

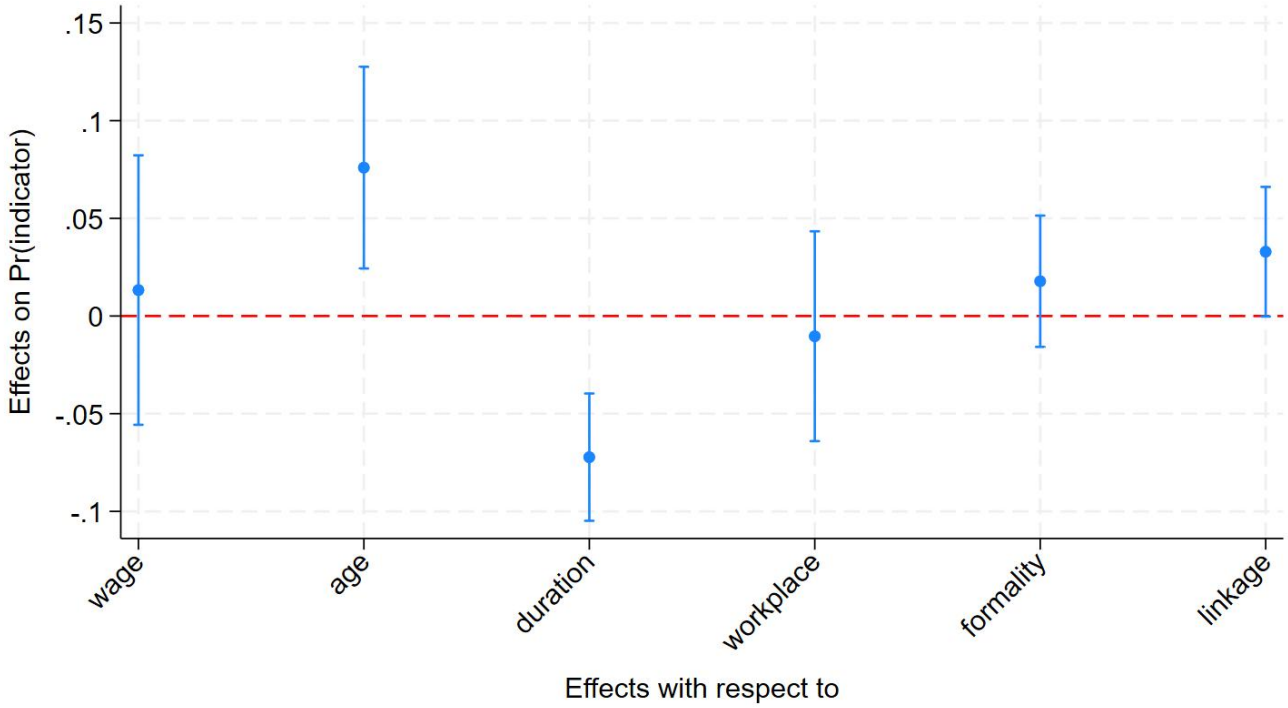

Figure 1. Results for Uzbekistan.

Conceptualization, Data curation, Methodology, Validation, Formal analysis, Writing—Original Draft, Writing—Review and editing. Renold U: Conceptualization, Investigation, Resources, Writing—Review and editing, Supervision, Project administration, Funding acquisition. All authors have read and approved the final version of the manuscript.

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Conflict of interest
The authors have no conflicts of interest to declare.

Data availability statement
Data used to support the findings of this study are available from the corresponding author upon request.

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