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National Labour Economic Conference 2026

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Cambodia's Higher Education Expansion and Structural Transformation of the Labour Market

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Outline

1. Background
2. Research Questions
3. Data and Empirical Strategy
4. Results
5. Heterogeneity
6. Robustness
7. Conclusion
8. Appendix

Theoretical Tension: Two Schools, One Empirical Question

Human Capital School

Schultz · Becker · Romer

Education builds skills that raise productivity, earn private returns, and aggregate into economy-wide growth.

Predicts: expansion drives growth.

Structuralist School

Lewis · Kuznets · Rodrik

Returns hinge on absorptive capacity. Without high-productivity demand, attainment may rise while individuals remain in low-productivity activities.

Predicts: expansion needs transformation.

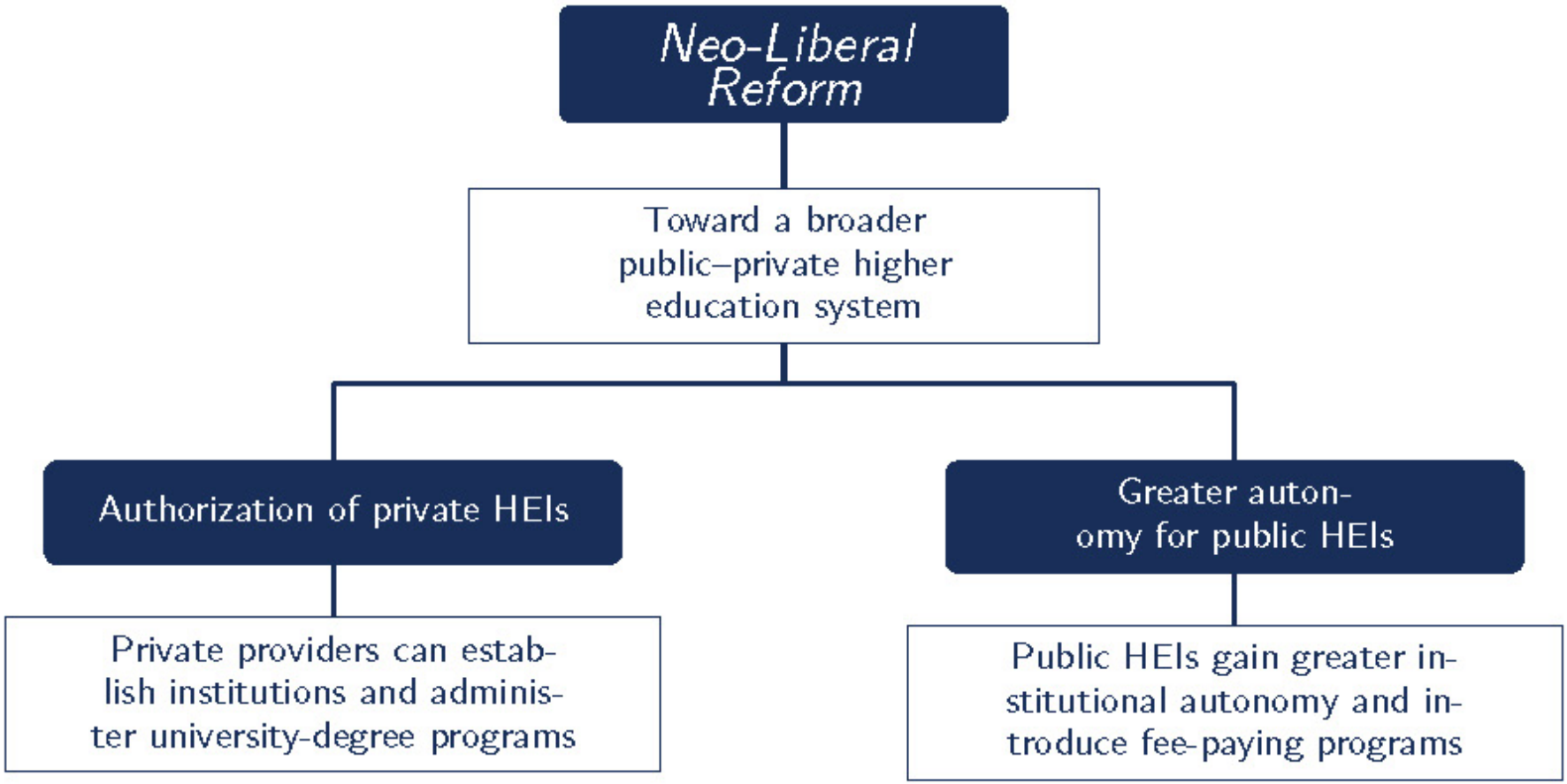
Both perspectives agree that expansion increases the supply of educated labour. They differ on whether the economy can absorb that human capital into productive employment.

What happens when a developing country expands higher education rapidly without a corresponding expansion of productive, skill-intensive employment?

Cambodia provides a useful setting: rapid higher education expansion has occurred alongside an economy whose capacity to absorb educated labour into high-productivity employment remains uncertain.

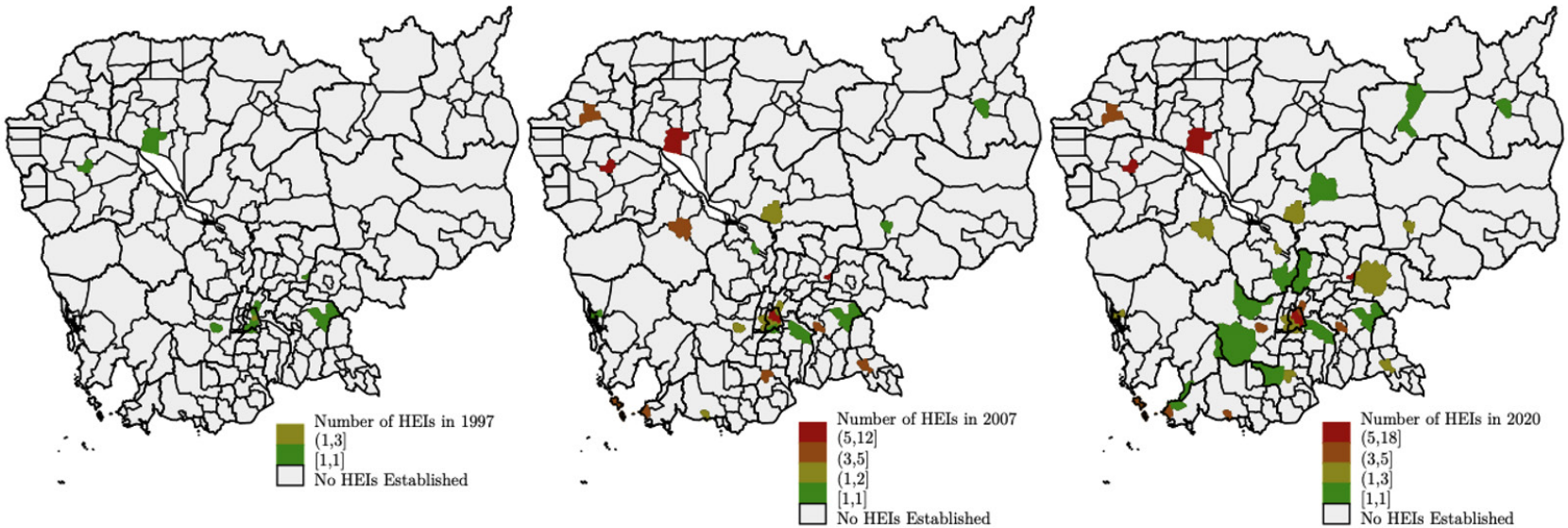
Policy Context

- Cambodia's higher education system underwent a major institutional transformation following the **1997 higher education privatization reform**.
- The reform opened higher education provision to private institutions while simultaneously changing the governance of public universities.



Rapid Expansion of Higher Education

Figure 2-2: Number of HEIs in Cambodia by Districts from 1997 to 2020



Note: Figure 2-2 displays a representation of the geographical expansion of HEIs across Cambodia, plotted according to administrative boundary level 2 at the district level.
Source: Author's calculation based on MoEYS (2020).

Higher Education Expanded Alongside Structural Transformation

Figure 2-4: Sectoral Composition of Employment between 2008 and 2019



Note: Statistics consist of employed individuals aged 15 and above.
Source: Author's calculation based on NIS (2020).

Research Questions

Central Question

How has Cambodia's rapid expansion of higher education translated into changes in employment composition and the sectoral allocation of labour?

Key Constributions

1. The paper moves beyond whether higher education expansion raises educational attainment and examines whether the resulting human capital is absorbed into productive employment?
2. The analysis asks whether higher education expansion facilitates movement toward *higher-productivity and skill-intensive activities*, or primarily reallocates labour within the existing economic structure.

Data and Empirical Strategy

- **Administrative HEI data**
  Timing and location of higher education institution establishment from Cambodia's Ministry of Education, Youth and Sport.
- **Population Census**
  Cambodian General Population Census, **2008 and 2019**.
- **Analytical sample**
  Approximately **12.56 million** working-age individuals aged 15–65.
- **Treatment**
  Cohort exposure to a local HEI during the ages of **18–25**.
- **Estimator**
  Inverse Probability Weighted Regression Adjustment (**IPWRA**) under selection on observables.
- **Inference**
  Standard errors clustered at the district level.

Identification Strategy: IPWRA

Exposure to local higher education expansion is not random. IPWRA first balances exposed and non-exposed individuals on observed characteristics and then estimates the corresponding outcome regression.

Stage 1 — Treatment model

$$\widehat{P}_{idt} = \Pr\left(D_{idt} = 1 \mid V_{idt}, \gamma_t\right) = \frac{\exp\left(\gamma_t + V'_{idt}\Gamma\right)}{1 + \exp\left(\gamma_t + V'_{idt}\Gamma\right)}$$

$$\widehat{w}_{idt} = \frac{D_{idt}}{\widehat{P}_{idt}} + \frac{1 - D_{idt}}{1 - \widehat{P}_{idt}}$$

Stage 2 — Weighted regression adjustment

$$Y_{idt} = \alpha + \beta_1 D_{idt} + \kappa_{c(i)} + \gamma_t + W'_{idt}\lambda + \varepsilon_{idt}$$

Model components

- D_{idt}: exposure to a local HEI during ages 18–25
- Y_{idt}: employment and sectoral outcomes
- V_{idt}: predetermined selection covariates
- W_{idt}: individual, household, and local controls

Identification

- Conditional independence
- Common support: $0 < P_{idt} < 1$
- Cohort and census-wave fixed effects
- District-clustered standard errors
- Doubly robust estimator

Higher Education Exposure and Changes Employment Composition

- Cohort exposure increases employment probability and reallocates individuals from **informality and self-employment** toward **wage employment**.

Table 4-4: Changes in Employment Composition

OUTCOME VARIABLES	Treatment Variable: HE Exposure		
	(1) Full Sample		Non-Migrant Sample
	(1)	(2)	(3)
Employment	0.138***	0.106***	0.098***
	(0.038) [R^2:0.101]	(0.026) [R^2: 0.287]	(0.027) [R^2: 0.257]
Wage Employment	0.090***	0.062***	0.063***
	(0.029) [R^2:0.061]	(0.021) [R^2: 0.179]	(0.024) [R^2: 0.164]
Informal Employment	-0.048**	-0.030*	-0.032
	(0.022) [R^2:0.119]	(0.018) [R^2:0.238]	(0.019) [R^2: 0.233]
Self-Employment	-0.042***	-0.032***	-0.032***
	(0.010) [R^2: 0.085]	(0.008) [R^2: 0.164]	(0.009) [R^2: 0.191]
Inverse Probability Weighting	Yes	Yes	Yes
Regression Adjustments	No	Yes	Yes
Birth-Cohort Fixed Effects	Yes	Yes	Yes
Census-Wave Fixed Effects	Yes	Yes	Yes
Number of Clusters	197	197	197
Number of Observation	12,560,979	12,560,979	9,078,008

Note: Statistical Significance is denoted by ***p<0.01, **p<0.05, and p<0.1. Robust standard errors are clustered at the district level.
Source: Author's own calculation.

Higher Education Exposure and Sectoral Reallocation

- Exposure produces a substantial movement **out of agriculture**.
- However, labour flows disproportionately into **traditional services**, with more modest absorption in manufacturing.
- Movement into modern, skill-intensive services remains limited.

Table 4-5: Results of Labor Market Reallocation Effects

OUTCOME VARIABLES	Treatment Variable: HE Exposure		
	Full Sample		Non-Migrant Sample
	(1)	(2)	(3)
Agriculture	-0.141***	-0.104***	-0.099***
	(0.039) [R^2: 0.104]	(0.025) [R^2: 0.293]	(0.027) [R^2: 0.259]
Manufacturing	0.056**	0.041*	0.045*
	(0.023) [R^2: 0.055]	(0.022) [R^2: 0.117]	(0.025) [R^2: 0.111]
Industry	0.002***	0.001***	0.001***
	(0.001) [R^2:0.001]	(0.000) [R^2: 0.003]	(0.000) [R^2: 0.002]
Construction	0.011**	0.008	0.007
	(0.005) [R^2: 0.007]	(0.005) [R^2: 0.039]	(0.005) [R^2: 0.039]
Modern Services	0.001	-0.001	-0.001
	(0.002) [R^2: 0.003]	(0.001) [R^2: 0.057]	(0.001) [R^2: 0.054]
Traditional Services	0.071***	0.055***	0.045***
	(0.024) [R^2:0.067]	(0.014) [R^2:0.230]	(0.012) [R^2: 0.192]
Inverse Probability Weighting	Yes	Yes	Yes
Regression Adjustments	No	Yes	Yes
Birth-Cohort Fixed Effects	Yes	Yes	Yes
Census-Wave Fixed Effects	Yes	Yes	Yes
Number of Observation	12,560,979	12,560,979	9,078,008

Note: Statistical significance is denoted by ***p<0.01, **p<0.05, and p<0.1. Robust standard errors are clustered at the district level.
Source: Author's own calculation.

Structural Change Without Structural Upgrading



Interpretation

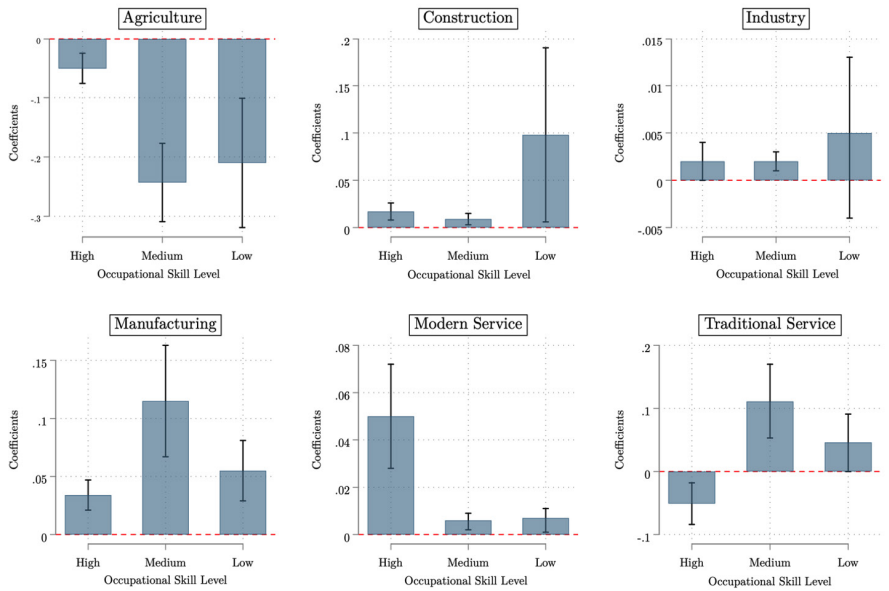
Higher education expansion facilitates labour reallocation, but the dominant destination is not the high-productivity segment of the economy.
The key question therefore becomes whether this represents genuine occupational upgrading or simply a movement of more educated workers into sectors with limited skill demand.

Skill-Biased Sectoral Sorting and Occupational Upgrading

Augmented specification:

$$Y_{idt} = \alpha + \sum_{k \in \{L,M,H\}} \delta_k SL_{k,idt} + \sum_{k \in \{L,M,H\}} \beta_{2,k} \left(D_{idt} \times SL_{k,idt} \right) + \kappa_{c(i)} + \gamma_t + W'_{idt}\lambda + \varepsilon_{idt}$$

Figure 4-4: Reallocation Effects by Key Sector and Occupational Skill Level



Note: Statistical significance is measured at a 95 percent confidence interval. Robust standard errors are clustered at the district level. The specifications include cohort and census-wave fixed effects, the full set of observable covariates, and inverse probability weighting.
Source: Author's own calculation.

- Modern services provide only a **narrow high-skill absorption channel**.
- Manufacturing and traditional services absorb exposed cohorts predominantly through **low- and medium-skill occupations**.
- Cambodia's sectoral structure therefore limits productivity-enhancing absorption of expanding human capital.

Who Benefits, and Where Does the Labour Go?

How do employment and sectoral effects vary across gender, geography, and time?

1. Gender

- **Composition:** larger employment and wage-employment gains for women.
- Women exhibit a sharper exit from informality; men exhibit a larger exit from self-employment.
- **Sorting:** women concentrate in medium-skill manufacturing, particularly garments.
- Men's access to construction and modern services is stronger.

2. Urban–Rural

- **Composition:** rural areas show larger employment and wage-employment effects.
- Informality and self-employment decline more strongly in rural areas.
- **Sorting:** rural absorption occurs mainly through low-/medium-skill manufacturing and construction.
- High-skill modern-service upgrading is concentrated in Phnom Penh.

3. Temporal Dynamics

- Employment and wage-employment effects become stronger in the second decade.
- The high-skill modern-service channel remains narrow across both periods.
- Medium-skill absorption in traditional services becomes more pronounced.
- There is little evidence of high-skill catch-up over time.

Takeaway: Higher education exposure moves cohorts into wage employment, but the sector and skill level into which they are absorbed remain strongly conditioned by gender and geography.

Robustness Checks

- **Covariate balance and common support**
  IPWRA improves comparability between exposed and non-exposed cohorts.
- **Alternative specifications**
  Estimated effects remain stable across alternative sets of controls and specifications.
- **Non-migrant sample**
  Results remain substantively similar when restricting the sample to individuals less affected by migration.
- **Placebo cohorts**
  Falsification tests provide no comparable effects among cohorts whose higher education decision window predates local HEI expansion.
- **Selection on unobservables**
  Oster-style coefficient stability bounds are used to assess sensitivity to omitted-variable bias.

What Does Higher Education Expansion Do to the Labour Market?

1. **Employment composition improves.**
   HE-exposed cohorts are more likely to work and shift from informality and self-employment toward wage employment.

2. **Agricultural exit is substantial.**
   Expansion contributes to structural reallocation away from agriculture.

3. **But reallocation is asymmetric.**
   Most movement is toward *traditional services*, with relatively limited absorption into modern skill-intensive activities.

4. **Occupational upgrading remains incomplete.**
   Manufacturing and traditional services absorb much of the additional human capital through low- and medium-skill occupations.

5. **The constraint is increasingly demand-side.**
   Expanding the supply of educated labour does not automatically generate high-productivity employment.

The Bigger Development Question

Higher education expansion can increase the supply of human capital.

But its contribution to structural transformation depends on whether the economy creates **productive, skill-intensive jobs** capable of absorbing that human capital.

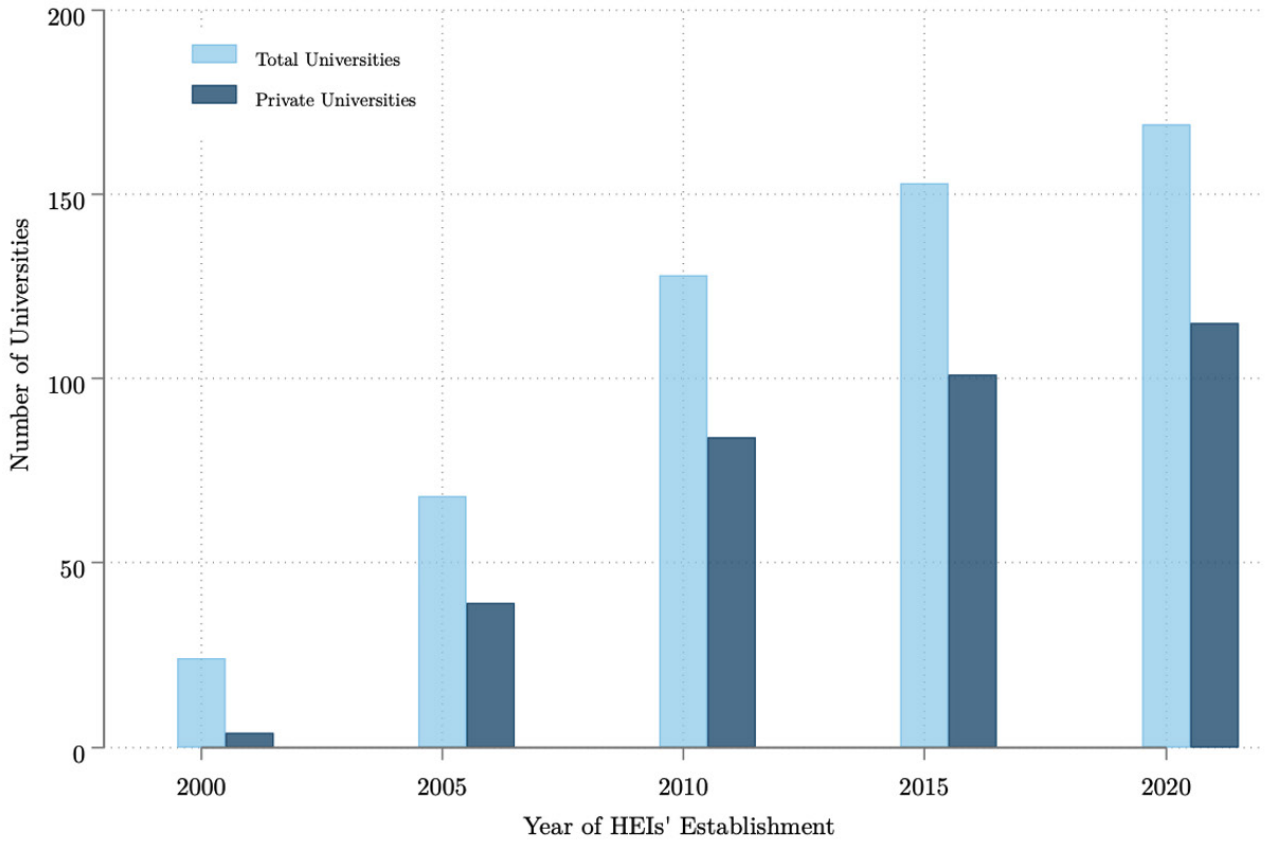
Education policy and structural transformation cannot be treated independently.

Thank you

Questions and Comments

Appendix

Figure 2-1: Growing Trends of Higher Education Institutions from 2000 to 2020



Note: The numbers for both private and public HEIs are estimated based on the latest data from government agencies as of 2020. This includes institutions under the jurisdiction of MoEYS, the Ministry of Labor and Vocational Training (MLVT), and the other 15-line ministries.
Source: Author's Construction based on MoEYS (2020).

Appendix

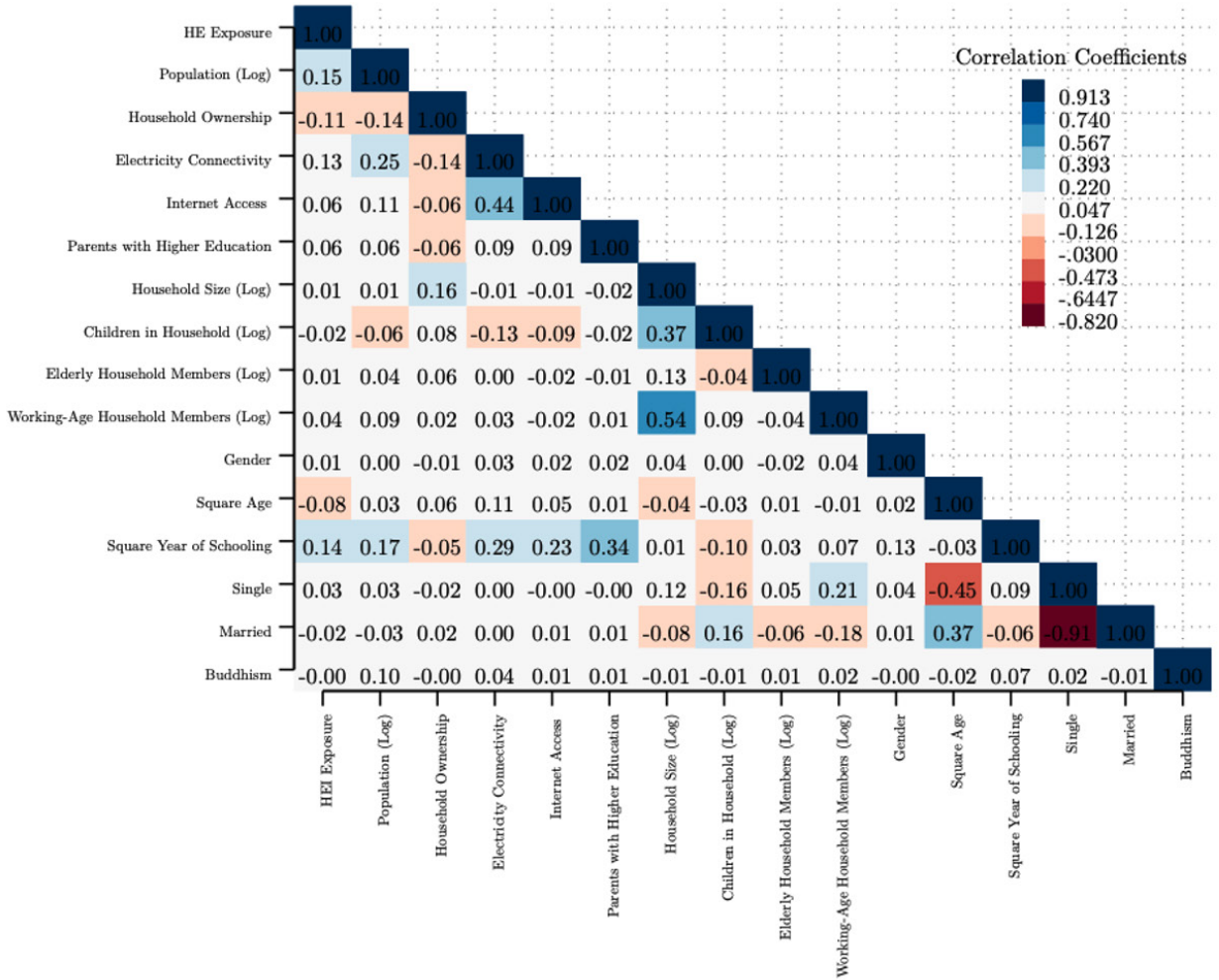
Appendix 4-2: Full Summary Statistics

VARIABLES	Summary Statistics				
	Observations	Mean	Std. Dev.	Min	Max
Panel A - Outcome Variables					
Employment	12,560,979	0.443	0.497	0	1
Wage Employment	12,560,979	0.280	0.449	0	1
Informal Employment	12,560,979	0.341	0.474	0	1
Self-Employment	12,560,979	0.379	0.485	0	1
Agriculture	12,560,979	0.583	0.493	0	1
Manufacturing	12,560,979	0.116	0.320	0	1
Industry	12,560,979	0.004	0.062	0	1
Construction	12,560,979	0.042	0.201	0	1
Modern Services	12,560,979	0.012	0.108	0	1
Traditional Services	12,560,979	0.243	0.429	0	1
Panel B - Treatment Variable					
HE Exposure	12,560,979	0.060	0.238	0	1
Panel C - Control Variables					
Population (Log)	12,560,979	11.446	0.614	8.281	12.597
Regions	12,560,979	2.986	1.464	1	5
Household Ownership	12,560,979	0.912	0.283	0	1
Electricity Connectivity	12,560,979	0.611	0.488	0	1
Standardized Household Asset, Television	12,560,979	0.032	1.021	-1.063	13.084
Standardized Household Asset, Computer	12,560,979	0.014	1.029	-0.213	21.181
Standardized Household Asset, Motorbike	12,560,979	0.048	1.034	-0.989	9.019
Standardized Household Asset, Car	12,560,979	0.022	1.054	-0.262	21.851
Internet Access	12,560,979	0.307	0.461	0	1
Parents with Higher Education	12,560,979	0.015	0.121	0	1
Household Size (Log)	12,560,979	1.776	0.352	0.693	5.252
Children in Household (Log)	12,560,979	1.193	0.544	0	4.898
Elderly Household Members (Log)	12,560,979	1.901	0.366	0	6.521
Working-Age Household Members (Log)	12,560,979	0.244	0.392	0	4.663
Gender	12,560,979	0.505	0.500	0	1
Square Age	12,560,979	1244.932	828.390	225	4225
Square Year of Schooling	12,560,979	49.803	55.904	0	324
Single	12,560,979	0.254	0.435	0	1
Married	12,560,979	0.707	0.455	0	1
Buddhism	12,560,979	0.968	0.176	0	1

Source: Author's own calculation.

Appendix

Appendix 4-3: Correlation Matrix of Observed Covariates



Source: Author's calculation.

Appendix

- We re-estimate the baseline specification on cohorts who were aged between 29 and 36. These placebo cohorts were already at least four years beyond the upper bound of that eligibility window (25) at the time of HEI establishment in their district residence and could not plausibly have benefited because they had already aged out of the typical HE entry window.

Figure 4-2: Placebo Test of Changes in Employment Composition

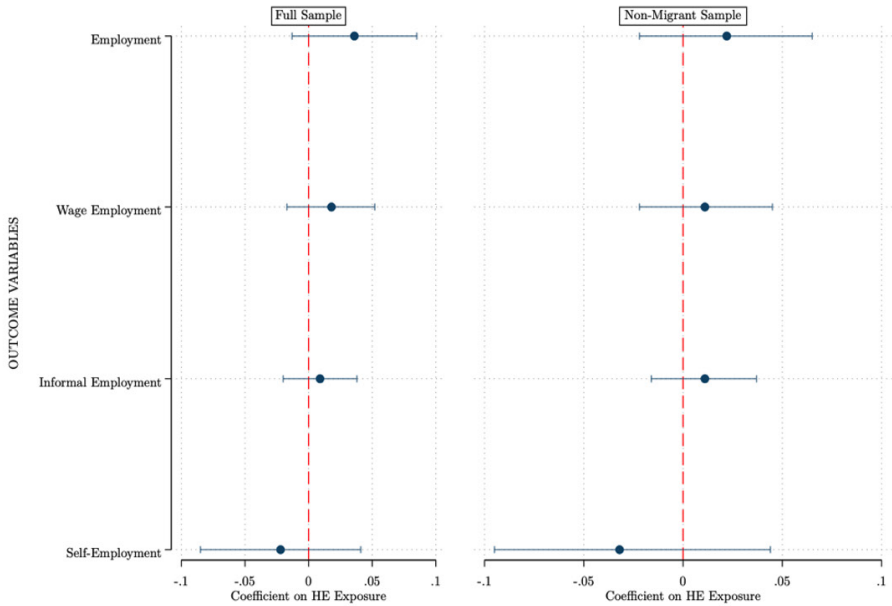
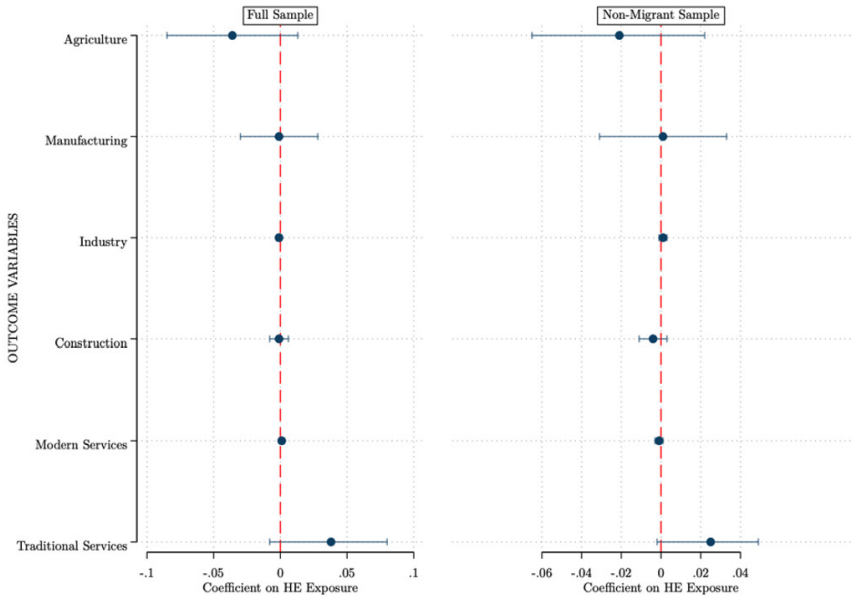


Figure 4-3: Placebo Test of Labor Reallocation Effects



Note: Figures 4-2 and 4-3 report placebo tests, restricting the sample to individuals who were aged 29-36 at the time of HEI establishment in their district of residence. The specifications include cohort and census-wave fixed effects, the full set of observable covariates, and inverse probability weighting. Robust standard errors are clustered at the district level.
Source: Author's own calculation.

Appendix: Chapter 4

Table 4-6: Reallocation by Key Sector and Occupational Skill Level in the Formal Economy

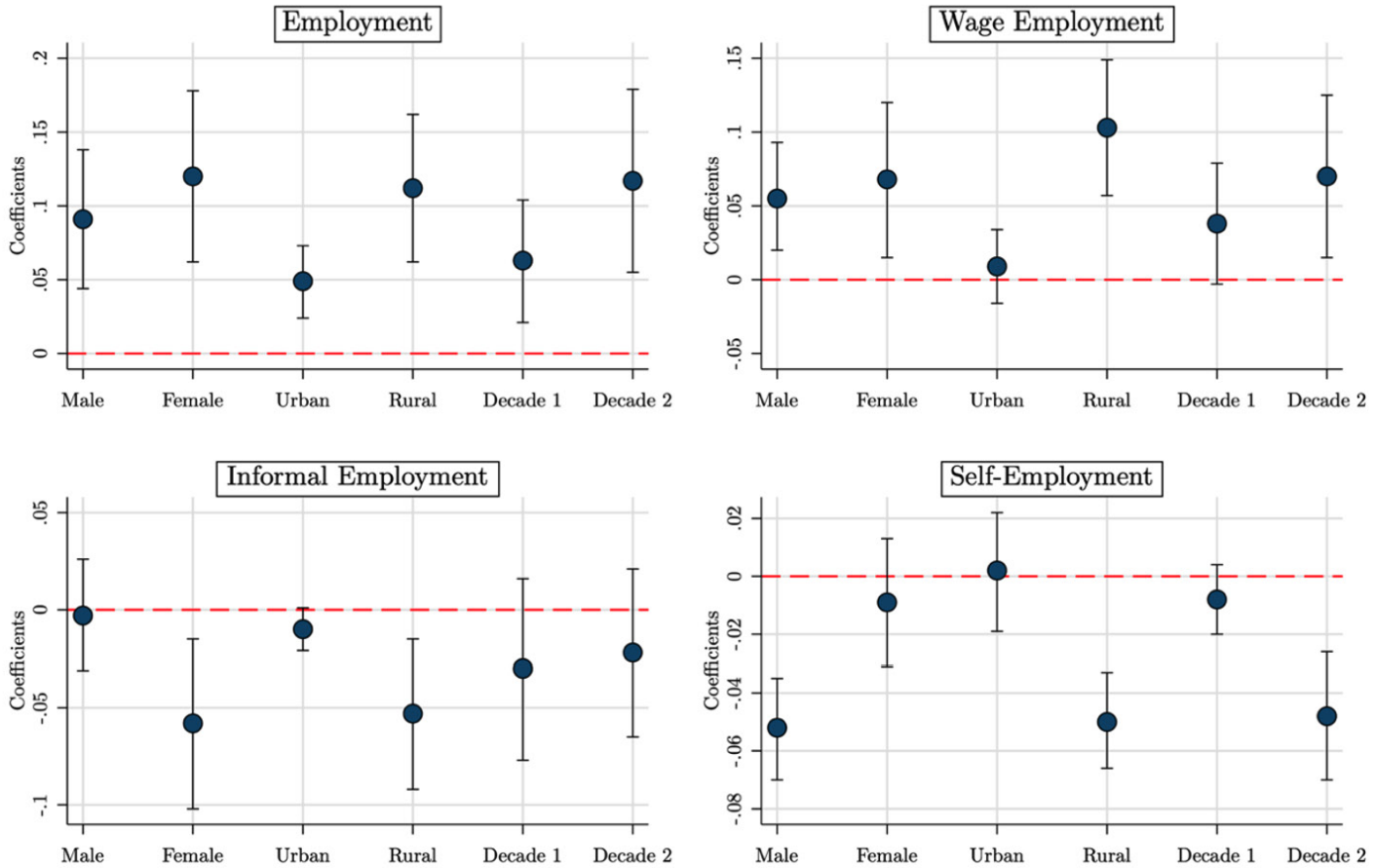
	OUTCOME VARIABLES					
	Agriculture	Manufacturing	Industry	Construction	Modern Services	Traditional Services
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Variable:						
HE Exposure	0.033***	-0.042*	-0.001	-0.018***	-0.026***	0.049**
	(0.006)	(0.022)	(0.001)	(0.006)	(0.004)	(0.022)
Occupational Skill Level:						
--High	0.015***	-0.041***	0.012***	0.086***	0.117***	-0.190***
	(0.003)	(0.008)	(0.001)	(0.005)	(0.007)	(0.011)
--Medium	0.030***	0.294***	0.014***	0.112***	0.009***	-0.469***
	(0.006)	(0.020)	(0.001)	(0.008)	(0.001)	(0.022)
--Low	0.291***	-0.209***	0.011***	0.416***	0.013***	-0.529***
	(0.035)	(0.011)	(0.001)	(0.026)	(0.002)	(0.021)
Interaction with HE Exposure						
*High Skill	-0.016***	0.021**	0.004***	0.021***	0.060***	-0.087***
	(0.004)	(0.009)	(0.001)	(0.007)	(0.014)	(0.017)
*Medium Skill	-0.037***	0.088***	0.001	-0.007	0.022***	-0.062**
	(0.006)	(0.031)	(0.001)	(0.006)	(0.003)	(0.028)
*Low Skill	-0.124**	0.028	0.003	0.104**	0.019***	-0.027
	(0.062)	(0.018)	(0.004)	(0.049)	(0.003)	(0.025)
R-squared	0.186	0.446	0.003	0.255	0.124	0.273
Inverse Probability Weighting	Yes	Yes	Yes	Yes	Yes	Yes
Regression Adjustments	Yes	Yes	Yes	Yes	Yes	Yes
Birth-Cohort Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Census-Wave Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observation	3,573,451	3,573,451	3,573,451	3,573,451	3,573,451	3,573,451

Note: Statistical Significance denotes at ***p<0.01, **p<0.05, and p<0.1. Robust standard errors are clustered at the district level.

Source: Author's own calculation.

Appendix

Figure 4-5: Heterogeneous Effects of Employment Composition



Note: Statistical significance is measured at a 95 percent confidence interval. Robust standard errors are clustered at the district level. The specifications include cohort and census-wave fixed effects, the full set of observable covariates, and inverse probability weighting.
Source: Author's own calculation.

Appendix

Table 4-7: Heterogeneous Reallocation Effects by Key Sector and Occupational Skill Level

	Panel A - Agriculture						Panel B - Manufacturing					
	Male	Female	Urban	Rural	Decade 1	Decade 2	Male	Female	Urban	Rural	Decade 1	Decade 2
Interaction with HE Exposure												
*High Skill	-0.031**	-0.033	-0.040***	-0.049***	0.027	-0.038**	0.019***	0.029**	0.050***	0.029**	0.002	0.033***
	(0.012)	(0.027)	(0.009)	(0.014)	(0.022)	(0.015)	(0.004)	(0.012)	(0.009)	(0.013)	(0.006)	(0.008)
*Medium Skill	-0.210***	-0.218***	-0.123***	-0.238***	-0.167***	-0.218***	0.062***	0.122***	0.057**	0.169***	0.086***	0.106***
	(0.036)	(0.035)	(0.020)	(0.038)	(0.043)	(0.038)	(0.014)	(0.034)	(0.023)	(0.037)	(0.024)	(0.030)
*Low Skill	-0.190***	-0.160**	-0.103***	-0.238**	-0.248***	-0.130**	0.032***	0.029	0.060***	0.068***	0.035***	0.049***
	(0.045)	(0.074)	(0.021)	(0.105)	(0.053)	(0.061)	(0.008)	(0.019)	(0.012)	(0.021)	(0.012)	(0.013)
R-squared	0.384	0.348	0.197	0.244	0.467	0.240	0.240	0.075	0.166	0.176	0.127	0.132
	Panel C - Industry						**Panel D - Construction**					
	Male	Female	Urban	Rural	Decade 1	Decade 2	Male	Female	Urban	Rural	Decade 1	Decade 2
Interaction with HE Exposure												
*High Skill	0.004**	0.000	0.001	0.003	-0.002	0.004***	0.026***	0.004	0.010**	0.027**	0.005*	0.014**
	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.004)	(0.011)	(0.003)	(0.006)
*Medium Skill	0.003***	0.001**	0.001	0.002***	0.001*	0.002***	0.018***	0.003	0.002	0.015***	0.008**	0.004
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.005)	(0.002)	(0.002)	(0.003)	(0.004)	(0.003)
*Low Skill	0.004	0.011	0.002	0.006	0.008	0.003	0.116***	0.038	0.051*	0.142*	0.187***	0.034
	(0.003)	(0.008)	(0.003)	(0.007)	(0.009)	(0.002)	(0.045)	(0.043)	(0.026)	(0.080)	(0.046)	(0.057)
R-squared	0.004	0.014	0.006	0.005	0.014	0.004	0.260	0.162	0.256	0.232	0.292	0.225
	Panel E - Modern Service						**Panel F - Traditional Service**					
	Male	Female	Urban	Rural	Decade 1	Decade 2	Male	Female	Urban	Rural	Decade 1	Decade 2
Interaction with HE Exposure												
*High Skill	0.064***	0.028*	0.021	0.005	0.070***	0.032**	-0.082***	-0.027	-0.039**	-0.091***	-0.101***	-0.045**
	(0.012)	(0.016)	(0.013)	(0.012)	(0.013)	(0.013)	(0.015)	(0.034)	(0.016)	(0.021)	(0.025)	(0.020)
*Medium Skill	0.007***	0.001	0.005**	0.007***	0.003***	0.004*	0.119***	0.092***	0.059**	0.049***	0.069**	0.102***
	(0.001)	(0.004)	(0.002)	(0.001)	(0.001)	(0.002)	(0.031)	(0.024)	(0.027)	(0.011)	(0.033)	(0.035)
*Low Skill	0.008***	0.005	0.009***	0.006***	0.006***	0.005**	0.031	0.079**	-0.018	0.020	0.012	0.040
	(0.001)	(0.005)	(0.002)	(0.001)	(0.002)	(0.002)	(0.022)	(0.035)	(0.024)	(0.019)	(0.030)	(0.028)
R-squared	0.139	0.114	0.133	0.106	0.117	0.135	0.269	0.251	0.138	0.217	0.330	0.219
Number of Observation	6,338,787	6,222,192	4,237,976	8,323,003	5,972,729	6,588,250	6,338,787	6,222,192	4,237,976	8,323,003	5,972,729	6,588,250

Note: Statistical Significance is denoted by ***p<0.01, **p<0.05, and p<0.1. Robust standard errors are clustered at the district level. Robust standard errors are clustered at the district level. The specifications include cohort and census-wave fixed effects, the full set of observable covariates, and inverse probability weighting.
Source: Author's own calculation.

Appendix

Appendix 4-4: Cohort-by-District Results of Changes in Employment Composition

OUTCOME VARIABLES	Treatment Variable: HE Exposure	
	(1) Full Sample	Non-Migrant Sample
	(1)	(2)
Employment	0.159***	0.168***
	(0.016) [R^2:0.600]	(0.017) [R^2: 0.568]
Wage Employment	0.096***	0.105***
	(0.011) [R^2:0.538]	(0.012) [R^2: 0.503]
Informal Employment	-0.105***	-0.106***
	(0.012) [R^2: 0.757]	(0.013) [R^2: 0.748]
Self-Employment	-0.018**	-0.017**
	(0.007) [R^2:0.700]	(0.007) [R^2: 0.682]
Number of Observation	39,143	38,555
Number of Districts	197	197
Birth-Cohort Fixed Effects	Yes	Yes
District Fixed Effects	Yes	Yes
Census-Wave Fixed Effects	Yes	Yes
District-Specific Time Trends	Yes	Yes

Note: Statistical Significance denotes at ***p<0.01, **p<0.05, and p<0.1. Robust standard errors are clustered at the district level.
Source: Authors' calculation.

Appendix: Chapter 4

Appendix 4-5: Cohort-by-District Results of Labour-Market Reallocation Effects

OUTCOME VARIABLES	Treatment Variable: HE Exposure	
	Full Sample	Non-Migrant Sample
	(1)	(2)
Agriculture	-0.165***	-0.165***
	(0.016) [R^2: 0.741]	(0.017) [R^2: 0.740]
Manufacturing	0.045***	0.044***
	(0.010) [R^2: 0.354]	(0.010) [R^2: 0.343]
Industry	0.002***	0.002***
	(0.002) [R^2:0.069]	(0.000) [R^2: 0.045]
Construction	0.009***	0.012***
	(0.002) [R^2: 0.353]	(0.002) [R^2: 0.345]
Modern Services	0.012***	0.014***
	(0.002) [R^2:0.316]	(0.002) [R^2: 0.286]
Traditional Services	0.091***	0.096***
	(0.012) [R^2: 0.601]	(0.013) [R^2: 0.566]
Number of Observation	39,143	38,555
Number of Districts	197	197
Birth-Cohort Fixed Effects	Yes	Yes
District Fixed Effects	Yes	Yes
Census-Wave Fixed Effects	Yes	Yes
District-Specific Time Trends	Yes	Yes

Note: Statistical Significance denotes at ***p<0.01, **p<0.05, and p<0.1. Robust standard errors are clustered at the district level.
Source: Authors' calculation.

Appendix

Appendix 4-6: Coefficient Stability Test for Employment Composition

	OUTCOME VARIABLES			
Full Sample	Employment (1)	Wage Employment (2)	Informal Employment (3)	Self-Employment (4)
Panel A: Controlled Effects $\widehat{\beta}$	0.106***	0.062***	-0.030*	-0.032***
	(0.026) [R^2: 0.322]	(0.021) [R^2: 0.179]	(0.018) [R^2:0.238]	(0.008) [R^2: 0.164]
Panel B: Identified Set:				
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,}\delta = 1.0)]$	[0.117]	[0.066]	[-0.033]	[-0.033]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,}\delta = 1.3)]$	[0.186]	[0.124]	[-0.061]	[-0.048]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,}\delta = 2.0)]$	[0.129)	[0.081]	[-0.039]	[-0.037]
Non-Migrant Sample	Employment (1)	Wage Employment (2)	Informal Employment (3)	Self-Employment (4)
Panel A: Controlled Effects $\widehat{\beta}$	0.098***	0.063***	-0.032	-0.032***
	(0.027) [R2: 0.257]	(0.024) [R2: 0.164]	(0.019) [R2: 0.233]	(0.009) [R2: 0.191]
Panel B: Identified Set:				
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,}\delta = 1.0)]$	[0.102]	[0.065]	[-0.033]	[-0.032]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,}\delta = 1.3)]$	[0.132]	[0.092]	[-0.050]	[-0.037]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,}\delta = 2.0)]$	[0.108]	[0.072]	[-0.037]	[-0.033]

Notes: Statistical significance denotes at *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors are clustered at the district level. The treatment variable is HE exposure. The results reported in Panel A correspond to the controlled estimates from Columns (2) and (3) of Table 4-4 respectively, which include cohort and census-wave fixed effects, the full set of observable covariates, and inverse probability weighting. Reported R^2 values refer to the within R^2 from the adjusted specification. Panel B reports Oster (2019) coefficient stability bounds under the proportional selection assumption.
Source: Author's calculation.

Appendix

Appendix 4-7: Coefficient Stability Test for Labor Reallocation Effects

	OUTCOME VARIABLES					
Full Sample	Agriculture (1)	Manufacturing (2)	Industry (3)	Construction (4)	Modern Services (5)	Traditional Services (6)
Panel A: Controlled Effects $\widehat{\beta}$	-0.104***	0.041*	0.001***	0.008	-0.001	0.055***
	(0.025) [R^2: 0.324]	(0.022) [R^2: 0.117]	(0.000) [R^2: 0.003]	(0.005) [R^2: 0.039]	(0.001) [R^2: 0.057]	(0.014) [R^2:0.230]
Panel B: Identified Set:						
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,} \delta = 1.0)]$	[-0.117]	[0.042]	[0.001]	[0.008]	[-0.001]	[0.059]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,} \delta = 1.3)]$	[-0.186]	[0.067]	[0.002]	[0.015]	[0.006]	[0.092]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,} \delta = 2.0)]$	[-0.130]	[0.049]	[0.002]	[0.010]	[0.001]	[0.066]

Non-Migrant Sample	Agriculture (1)	Manufacturing (2)	Industry (3)	Construction (4)	Modern Services (5)	Traditional Services (6)
Panel A: Controlled Effects $\widehat{\beta}$	-0.099***	0.045*	0.001***	0.007	-0.001	0.045***
	(0.027) [R^2: 0.259]	(0.025) [R^2: 0.111]	(0.000) [R^2: 0.002]	(0.005) [R^2: 0.039]	(0.001) [R^2: 0.054]	(0.012) [R^2: 0.192]
Panel B: Identified Set:						
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,} \delta = 1.0)]$	[-0.102]	[0.046]	[0.001]	[0.007]	[-0.001]	[0.046]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,} \delta = 1.3)]$	[-0.132]	[0.058]	[0.002]	[0.014]	[0.002]	[0.055]
$[\widehat{\beta}, \beta * (\mathcal{R}_{Max,} \delta = 2.0)]$	[-0.109]	[0.049]	[0.001]	[0.009]	[0.001]	[0.048]

Notes: Statistical significance denotes at *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors are clustered at the district level. The treatment variable is HE exposure. The results reported in Panel A correspond to the controlled estimates from Columns (2) and (3) of Table 4-5, respectively, which include cohort and census-wave fixed effects, the full set of observable covariates, and inverse probability weighting. Reported R^2 values refer to the within R^2 from the adjusted specification. Panel B reports Oster (2019) coefficient stability bounds under the proportional selection assumption.
Source: Author's calculation.

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ការពង្រីកឧត្តមសិក្សារបស់កម្ពុជា និងបរិវត្តកម្មរចនាសម្ព័ន្ធទីផ្សារការងារ

Cambodia's Higher Education Expansion and Structural Transformation of the Labour Market



Presenter

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Discussant