FDI-Driven Frontier Shocks and Gendered Employment Adjustment

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MOTIVATION

Technological change reshapes labor demand through task reallocation and frontier expansion. While the literature has extensively studied automation and AI exposure, less is known about how global capital reallocation — particularly FDI-driven technological frontier shifts — affects gendered employment structures across industries.

This paper investigates whether FDI-induced frontier shocks generate asymmetric employment adjustments across male-dominated, female-dominated, and gender-balanced industries.

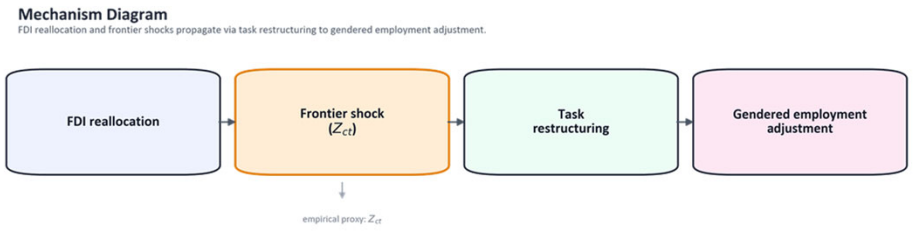
METHODS

This study uses an industry-level panel dataset (ISIC Rev.4) covering 2015–2022, combining OECD FDI statistics, inter-country input–output data, ILO employment by gender, and World Bank macroeconomic indicators. A frontier exposure index (Z_{ct}) is constructed to capture FDI-driven technological reallocation interacting with local industry structure.

The empirical specification estimates the employment response to frontier shocks and heterogeneous adjustment across industry gender composition and structural characteristics:

$$Y_{cst} = \beta_1 Z_{ct} + \beta_2 Z_{ct} \times Type_s + \beta_3 Z_{ct} \times Types \times M_{cst} + X_{ct} + \alpha_{cs} + \tau_t$$

where Y_{cst} denotes total, female, or male employment; $Type_s$captures industry gender composition (male-dominated, female-dominated, balanced); and M_{cst} represents structural moderators, including pre-determined STEM intensity and AI task exposure. Country × industry and year fixed effects are included, and standard errors are clustered at the country–industry level.



OBJECTIVES

- ❑ Estimate the employment impact of FDI-driven frontier shocks
- ❑ Test whether employment adjustment differs by industry gender composition
- ❑ Examine the moderating role of STEM intensity and task exposure

MAIN RESULTS

- ✓ Frontier shocks generate broad contraction with gender-differentiated magnitudes rather than gender substitution.
- ✓ Female employment declines disproportionately within balanced sectors.
- ✓ STEM intensity mitigates contraction effects.
- ✓ Limited amplification through AI exposure.

Figure 1. Frontier Shock and Gender-Differentiated Employment Effects by Industry Type

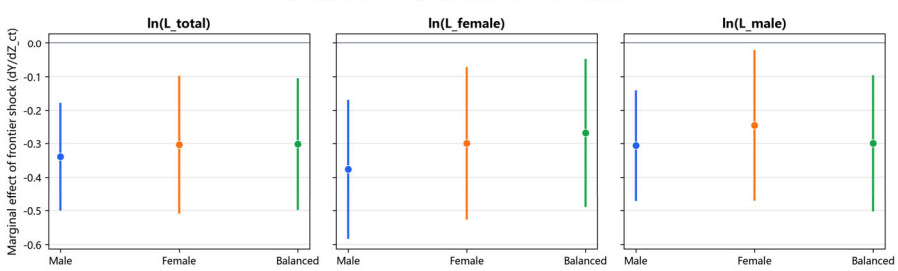
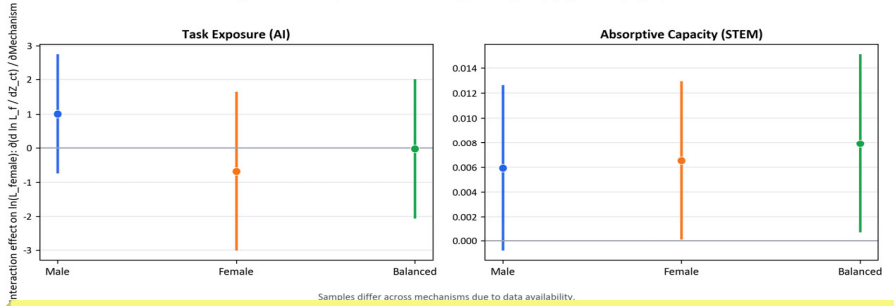


Figure 2. Task Exposure versus Absorptive Capacity (by industry type)



MAIN REFERENCES

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