Gender difference in human capital accumulation and utilization

An international perspective

What is the question?
Some people (female) may not take advantage of their skill, despite high levels of skill possession.

Why should we care about it?
We need objective measures the relation with years of education and work experiences.

What is the answer?
1. Strong social norms toward traditional gender roles suppressed female skill-utilization.
2. Long maternal leave system and strict employment protection exacerbated under-utilization of female skill.
3. Public sector and service sector provided better job opportunities for skilled females, as well as labor union.
4. These effects of social norms and social institutions were more crucial for females with a child.

How did you get this?
1. Questionnaires were collected for adults aged 25-29 years.
2. Using two parameter logistic model to analysis.

\[ \text{Pr}(y_{ij} = 1 | a_j, b_j, \theta_i) = \frac{\exp(a_j(\theta_i - b_j))}{1 + \exp(a_j(\theta_i - b_j))} \]

- The prior distribution of \( \theta_i \) is standard normal
- After estimating \( a_j \)'s and \( b_j \)'s by MLE, \( \hat{\theta}_i \) was calculated as Baysian mean predictor.

3. Mismatch indicator
\[ \text{mismatch} = \text{percentile (skilluse)} - \text{percentile (skill)} \]
Positive value \( \to \) over-utilization
Negative value \( \to \) under-utilization
4. To reveal their relationships

\[ \text{Work}_{ij} = \beta_0^f \text{Skill}_{ij} + \beta_1^f \text{Index}_{ij} + \beta_2^f \text{ExCommunist}_i + \epsilon \]

- \( \text{Work}_{ij} \) was a dummy variable indicating labor force participation, and \( \text{X}_{ij} \) included age and years of education

5. The empirical model

\[ \text{Mismatch}_{ij} = \beta_0^f \text{Female}_{ij} + \beta_1^f \text{Index}_{ij} + \beta_2^f \text{ExCommunist}_i + \epsilon \]