# Trade, Human Capital, and Income Risk

Deng, Krishna, Senses & Stegmaier

Discussion by Ricardo Reyes-Heroles

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    ADH (2013), Pierce & Schott (2016),...
  - RISK (variance of unexpected shocks)
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- **How?** Empirical analysis exploiting longitudinal worker-level data for Germany between 1976-2012
  1. Estimate industry-specific time-varying (persistent) labor income risk
  2. Study causal link between trade and risk
  3. Analyze how causal link varies across workers that differ in their skill-specificity

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- **Data contributions:**
  - High quality data $\rightarrow$ new estimates for labor income risk and evidence of cohort effects: *time-varying parameters for different cohorts and industries*
  - Novel evidence for Germany on effects of trade on income risk: M $\uparrow$ risk, X $\downarrow$ risk.
    $\rightarrow$ mean $\uparrow$ in $M_j / Emp_j$ 2000-2007 $\Rightarrow$ 9 percent increase in income risk
- **Mechanism contributions:**
  - Classify workers by skill-specificity $\rightarrow$ income risk negatively related to sill-specificity (industry/occupational tenure, individual occupational centrality)
  - Increase in risk caused by increase in $NM_j$ higher for workers with high levels of industry-specific human capital

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$\rightarrow$ Great paper! Clean analysis, clear contribution, and lots of room for future research.

# Role of Human Capital: Empirical Strategy & Estimates

→ Baseline specification (control for cohort effects):

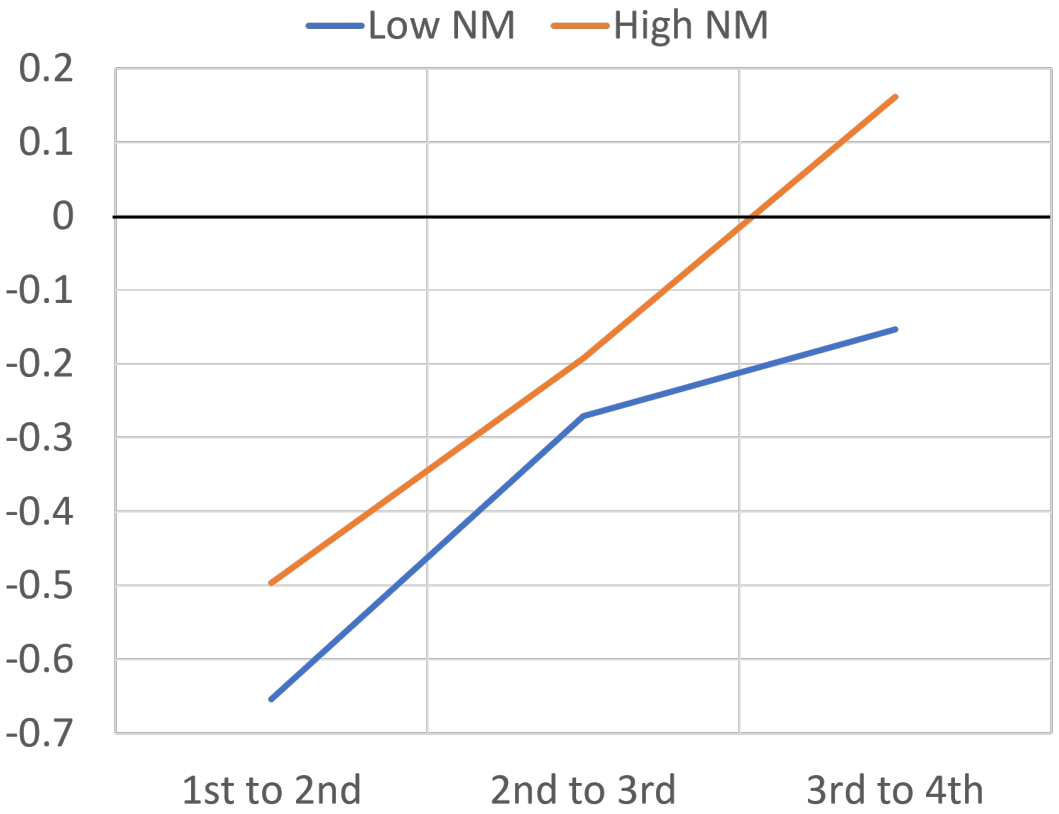
$$\log \sigma^2_{\epsilon jpq} = \gamma_p + \gamma_j + \delta_j p + \beta Z_{jpq} + \sum_{i=2}^{4} \gamma^j S^i_{jpq} + \sum_{i=1}^{4} \gamma^j_N (NM_{jp} \times S^i_{jpq}) + \nu_{jpq}$$

Table 10: International Trade and Income Risk by Industry-Tenure Quartile

| | Dependent Variable: log(Income Risk) ($K = 2$ years) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Pooled | Cohort Sample | | | | | |
| | (1) Baseline IV | (2) Baseline IV | (3) IV Weights at 1982 | (4) Beg-of-Panel Trade | (5) Cluster by Industry | (6) Last Panel Omitted | (7) BIBB Centrality |
| Net Imports × Ind-Tenure Q1 | 0.004 | 0.005 | 0.007* | 0.007 | 0.005 | 0.004* | 0.005 |
| | (0.003) | (0.003) | (0.004) | (0.004) | (0.004) | (0.002) | (0.003) |
| Net Imports × Ind-Tenure Q2 | 0.004 | 0.007** | 0.007** | 0.009** | 0.007** | 0.006*** | 0.007** |
| | (0.003) | (0.003) | (0.003) | (0.004) | (0.003) | (0.002) | (0.003) |
| Net Imports × Ind-Tenure Q3 | 0.006** | 0.008** | 0.010** | 0.010*** | 0.008** | 0.008*** | 0.008** |
| | (0.002) | (0.003) | (0.004) | (0.004) | (0.003) | (0.003) | (0.003) |
| Net Imports × Ind-Tenure Q4 | 0.007*** | 0.012*** | 0.014*** | 0.015*** | 0.012*** | 0.009* | 0.011*** |
| | (0.002) | (0.003) | (0.003) | (0.004) | (0.004) | (0.005) | (0.003) |
| Ind-Tenure Q2 | -0.865*** | -0.682*** | -0.685*** | -0.680*** | -0.682*** | -0.717*** | -0.694*** |
| | (0.048) | (0.031) | (0.032) | (0.032) | (0.030) | (0.035) | (0.033) |
| Ind-Tenure Q3 | -1.161*** | -0.967*** | -0.965*** | -0.968*** | -0.967*** | -1.056*** | -1.022*** |
| | (0.078) | (0.047) | (0.046) | (0.045) | (0.046) | (0.049) | (0.066) |
| Ind-Tenure Q4 | -1.384*** | -1.176*** | -1.172*** | -1.178*** | -1.176*** | -1.274*** | -1.250*** |
| | (0.105) | (0.068) | (0.066) | (0.066) | (0.074) | (0.068) | (0.091) |
| Centrality (BIBB) | | | | | | | -3.627** |
| | | | | | | | (1.821) |

# Role of Human Capital: Empirical Strategy & Estimates

$\rightarrow$ Consider $\Delta \log \sigma^2_{\epsilon jpq-1 \rightarrow q} = NM \times (\gamma^q_N - \gamma^{q-1}_N) + (\gamma^q - \gamma^{q-1})$
for $NM$ corresponding to mean and 90th percentile in 2007-2012:



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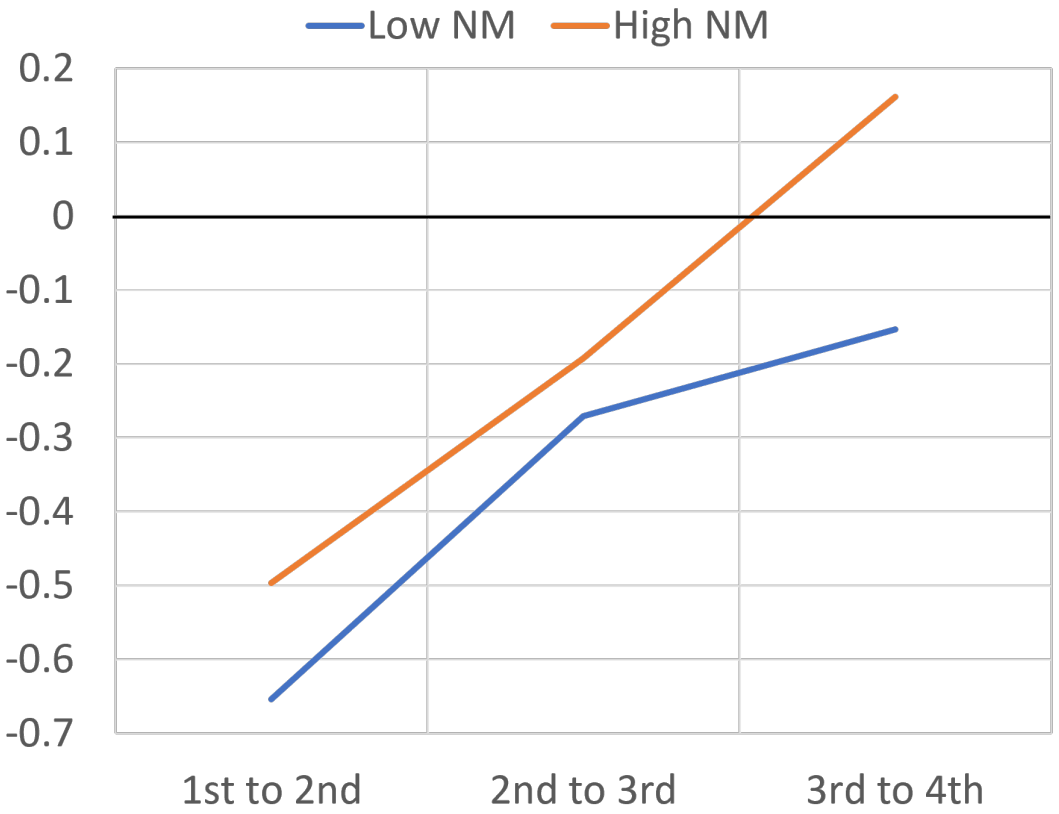


**Comment 1:** Why $NM$ here but $M$ and $X$ separately in previous regressions? Hard to compare estimates.

# Other Comments ("Food for Thought")

## Drivers of Labor Income Risk and Endogenous Human Capital

**Comment 2:** Can you say more about the drivers of labor income risk?

- Unemployment risk?
- Job-to-job transitions?
- Earnings risk? (conditional stable employment)

**Comment 3:** Results can have very different implications for human capital accumulation:

- Degree of specificity of H is crucial
- Some types of H are actually opposite to specific $\rightarrow$ 'broad': Ferriere, Navarro and Reyes-Heroles (2021)