The Scarring Effects of Firm Shutdowns on Workers' Wages: a Distributional Perspective

Johannes Seebauer[1]; Matteo Targa[2]; Johannes König[1]; Maximilian Longmuir[3]
[1]DIW Berlin / SOEP, [2]Università Roma Tre, [3]Stone Center / CUNY Graduate Center

Abstract

We combine the wage determination model of Bonhomme, Lamadon, and Manresa (2019) with an event study framework to study the wage trajectories of heterogeneous workers after firm shutdowns. As our database, we use the universe of matched employer-employee data from 1975 to 2001 of Italy's Veneto region, one of the leading Italian regional economies. Aggregate wage losses directly after a shutdown are 4.5% of the daily wage, which almost halves after six years. This average loss conceals substantial heterogeneity: high-wage, top-type workers face initial losses of 12.4%, which remain persistent even after six years. Conversely, initial losses for bottom-type workers are 2.6%, which become statistically insignificant after six years. We identify losses in firm tenure as the main source of wage reductions following the shutdown of a worker's firm. From a methodological perspective, we show that the current workhorse model of wage determination of Abowd, Kramarz, and Margolis (1999) does not capture this heterogeneity and produces misleading conclusions regarding the sources of wage losses. This is due to limited mobility bias.

Data and Methods

BLM and AKM Models

We estimate wage effects of firm shutdowns using:

- **Bonhomme-Lamadon-Manresa (BLM) Model**: A dynamic framework categorizing workers and firms into types and classes, accounting for endogenous mobility, state dependence, and worker-firm complementarities.
- **Abowd-Kramarz-Margolis (AKM) Model**: A static model estimating worker and firm fixed effects, used for benchmarking.

Event Study

We compare treated workers (displaced by shutdowns) with matched controls using a linear regression model:

$$Y_{i,t} = \sum_{k=-6,k\neq-4}^{6} \gamma_k P_{i,t}^k + \sum_{k=-6,k\neq-4}^{6} \gamma_k P_{i,t}^k \times T_i + \nu_i + \tau_t + \epsilon_{i,t},$$

where $Y_{i,t}$ is the log daily wage for person i in year t, $P_{i,t}^k$ is a set of relative period-dummies running from -6 to 6, but excluding matching periode $k = -4$. This examines wage trajectories from six years pre- to six years post-shutdown.

Data

We use administrative matched employer-employee data from Italy's Veneto region (1975–2001), which tracks workers' employment and wage histories. The analysis includes:

- Male workers (ages 18–65) and female workers (ages 18–60).
- 8,866 firm shutdowns (1989–1994).
- 19,846 displaced workers matched to 101,253 controls using Coarsened Exact Matching.

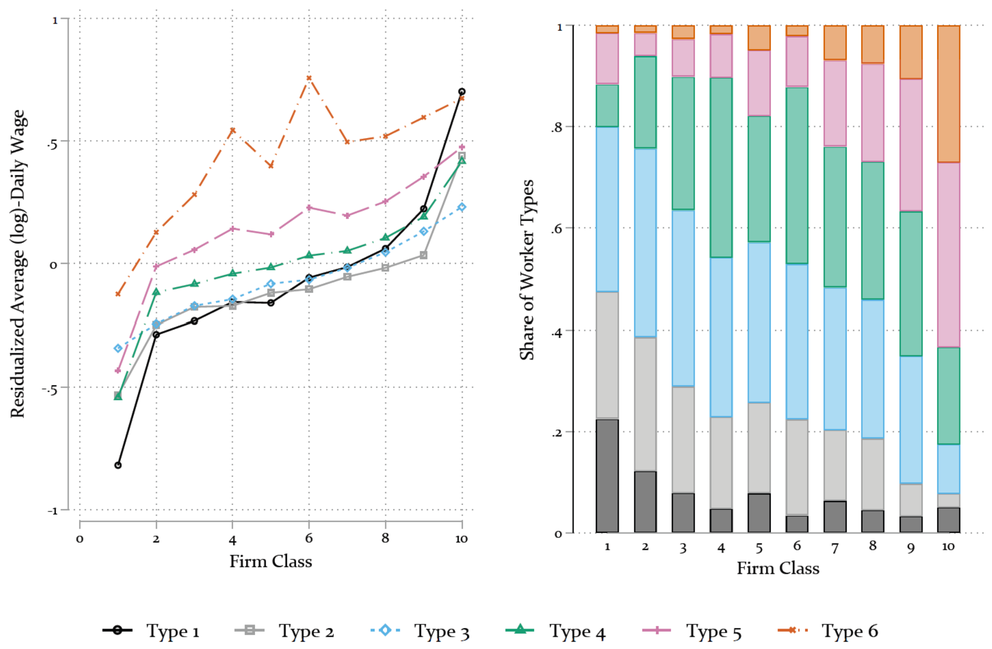

Figure 1. BLM Worker Types and Firm Classes.

Results

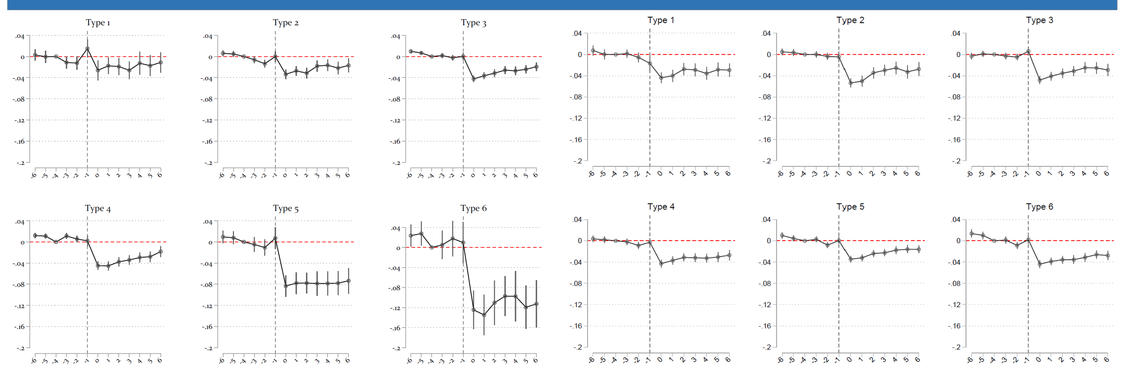

Figure 2. Wage Losses by Worker Type according to the **BLM**.

Figure 3. Wage Losses by Worker Type according to the **AKM**

- BLM Framework: Captures heterogeneity in wage losses by worker type.
- Top Worker Types: Suffer persistent wage losses post-shutdown.
- Bottom Worker Types: Experience full wage recovery over time.
- Key Insight: The estimates highlight the unequal impact of firm shutdowns.
- AKM Finding Masks heterogeneity across worker due to limited mobility bias (Andrews et al. 2008, 2012).

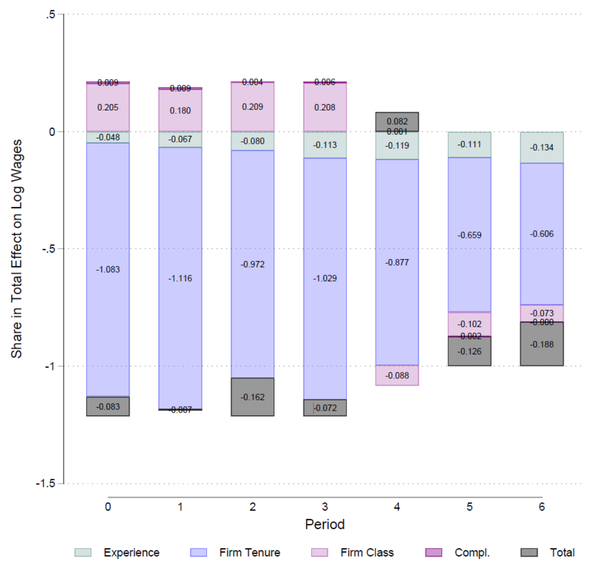

Figure 3. Decomposition: Losses for Low BLM Types (1 – 3)

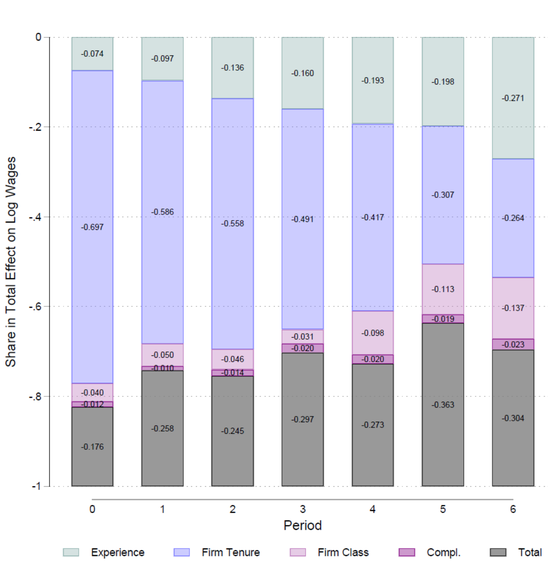

Figure 4. Decomposition: Losses for High BLM Types (4 – 6)

Low Types (Figure 3):

- Wage losses primarily driven by loss of firm tenure
- Firm class changes have a positive effect, accounting for 18–21% of wage recovery in the first four years, reflecting upgrading in firm class.

High Types (Figure 4):

- Loss of firm tenure is still the largest contributor but declines over time (70% in period 0 to 26% by period 6).
- Loss of labor market experience grows in importance, from 7% in period 0 to 27% by period 6.
- Firm effects are negative, indicating downgrading in firm class post-shutdown, with stronger effects in later periods (10–14% in final three years).

Conclusions

Distributional Finding:

Firm shutdowns affect workers' wages unequally, with losses increasing in worker type. Low-type workers experience smaller, transitory losses, while high-type workers face substantial, persistent wage declines.

Key Drivers of Wage Losses:

For low-type workers, upgrading to higher firm classes mitigates some losses, but the loss of firm tenure remains the dominant factor.

For high-type workers, downgrading in firm class is more common, but the primary drivers are the loss of firm tenure and labor market experience.

Model Insights:

The BLM framework captures the heterogeneity in wage losses. In contrast, the AKM model underestimates this heterogeneity and emphasizes firm effects, partly due to limited mobility bias.

Contact

Maximilian Longmuir
Stone Center on Socio-Economic Inequality,
Graduate Center, City University of New York
Email: mlongmuir@gc.cuny.edu

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