On the Interaction between Bank Credit and Labor: the Role of Capital-Labor Substitution

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Paper Overview

- GM Antwerp closure = **Labor Supply Shock** (blue-collar workers) $\uparrow$

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- **Local** firms absorb the shock (i.e. increase employment) if

		L/K Substitution	
		High	Low
Credit Access	High	**Y**	**Y**
	Low	**Y**	**N**

Interpretation of the Results

When cost of L $\downarrow$

- **High L/K** firms do **NOT RELY** on **credit** to finance employment
  - $\mathbf{L} \uparrow \Rightarrow \mathbf{K} \downarrow$
  - use other sources of funding (e.g., equity)
    - (Output $\simeq$)

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  - use other sources of funding (e.g., equity)
    - (Output $\simeq$)
- **Low L/K** firms **RELY** on **credit** to finance employment
  - $\mathbf{L} \uparrow \Leftrightarrow \mathbf{K} \uparrow$
  - K is financed with bank loans (collateral)
    - (Output $\uparrow$)

Bank Credit, Labor Shocks, Production Technology

1. GM Antwerp closure $\rightarrow$ labor supply $\uparrow$ $\rightarrow$ Effects on employment for nearby firms
2. Heterogeneity in response:
   2.1 Financial constraints
   2.2 Technology
   2.3 Financial constraints $\times$ Technology

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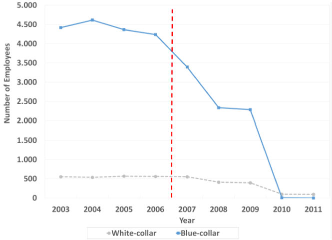

GM Layoffs

- 2007-2008: share of early retirements
- Characteristics of early vs late dismissed workers

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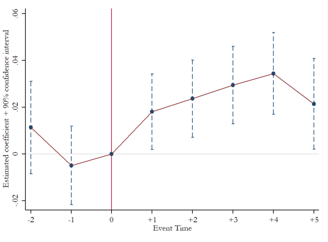

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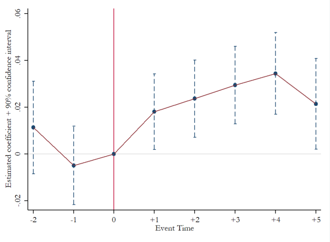

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- 2007-2008: share of early retirements ?
- Characteristics of early vs late dismissed workers ?
- Pre-trends: after the GFC, new trends (e.g., concentration) may have started earlier in more developed areas..

#2: Time Varying Credit Constraints

Do **credit constraints** explain heterogeneity in employment response of treated firms?

- Estimate $\hat{\beta}_{bt}$ from $\Delta C_{ibt} = \alpha_{ILSt} + \beta_{bt} + \varepsilon_{ibt}$: bank-year credit "shock"
- Use bank shares to compute $\bar{\beta}_{it} = \sum_b q_{bit} \hat{\beta}_{bt}$: firm-year credit "shock"
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- Assumption: **switching bank is costly** ($q_{bit} \simeq$ constant)

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- Incentives to switch massively intensify with the crisis (e.g., Dexia, Fortis..)

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- Switchers (Dexia $q \downarrow$ & KBC $q \uparrow$) may have better growth opportunities?
  - How much do your results depend on switchers?
  - What if you fix access to credit (e.g., $\bar{\beta}_{i2006}$)?

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- High L/K firms do NOT RELY on credit to finance employment
  - L $\uparrow \Rightarrow$ K $\downarrow$
  - use other sources of funding (e.g., equity)
    - **Output** $\simeq$
- Low L/K firms RELY on credit to finance employment
  - L $\uparrow \Leftrightarrow$ K $\uparrow$
  - K can only be financed with bank loans (collateral)
    - **Output** $\uparrow$ **:** $\rightarrow$ **need to face growing demand!**

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- **Bank Credit?**
  - $\rightarrow$ loans can finance both labor and tangible capital (see Lian and Ma, 2021)! Slightly different story...
- **Other Sources?** Retained earnings, trade credit ...
  - $\bar{b}_{it}$ may correlate with firm growth, capacity utilization, market power

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- L $\uparrow$ + K $\simeq \Rightarrow$ **Output $\uparrow$:** $\rightarrow$ **need to face growing demand!** (High Credit $\simeq$ Growth Opportunities?)

Contribution

Credit Availability $\rightarrow$ Labor

Contribution

Credit Availability → **Capital** → Labor

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...however, other studies show Credit $\rightarrow$ **Capital** $\rightarrow$ Labor , using credit shocks (Laeven et al., 2023; Pezone, 2023).

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- Credit shocks $\neq$ shock to cost of K or L: Credit can be stored in cash!
- Temporary credit shocks can have permanent effects on technology (e.g., automation)
- Financial capital is more mobile than labor $\Rightarrow$ more informative for (local) policy intervention
  - Immigration
  - Labor regulation (e.g., non-competes, retirement ..)

Final Thought: Effects on Human Capital?

Displaced GM workers seem to be

- mostly absorbed outside their sector (assuming GM is low L/K)
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Potential loss in human capital due to credit constraints + technology?