Overview

Document with U.S. Compustat and Chilean micro data that:
- Trade credit use increases in markups
- Markup effect stronger when borrowing costs higher
- Rationalize findings in model with
- Positive markups
- Costly financial intermediation (borrowing rate exceeds deposits rate)

⇒ Financing cost advantage of trade credit.

Introduction

Trade credit is the most important form of short-term finance for firms. In 2019, U.S. non-financial firms had $4.5 trillion in trade credit outstanding, equaling 21 percent of U.S. GDP.

Intuition for main mechanism

Trade Credit: Seller borrows production cost $C$:

\[ FC^{TC} = r_b \text{Production Cost} \] (1)

Cash in Advance: Buyer borrows revenue $R = \mu C$; seller deposits surplus liquidity $R - C = (\mu - 1)C$:

\[ FC^{CIA} = r_b \mu C - r_d (\mu - 1)C \text{ Bank Deposit} \] (2)

Difference in financing costs:

\[ \Delta FC = FC^{CIA} - FC^{TC} = (\mu - 1)(r_b - r_d)C \] (3)

⇒ If there is a positive markup and the borrowing rate is above the deposit rate, cash in advance has higher financing costs than trade credit.

Proposition 1: Payment Choice: Domestic Case

Suppose the borrowing rate is above the deposit rate, $r_b > r_d$, and firms charge a positive markup over effective costs ($\mu > 1 + r_b$). Then, firms should always use trade credit.

Proposition 3: Trade Credit and Markups

Suppose $(1 + r_b^*) \lambda^* > (1 + r_d) \lambda$, where $(\lambda, \lambda^*)$ are functions of domestic and foreign contract enforcement. Then:

1. The use of trade credit increases with the markup $\mu$.
2. This effect increases with $r_b^*$ and $\lambda^*$ and decreases with $r_d$ and $\lambda$.

Data

- Chile: (i) Customs-level data, containing payment mode information; (ii) Production-level data at the firm-product level from ENIA, 2003-2007.
- Chilean data key for identification: It allows instrumenting markups with physical productivity (TFPQ), and controlling for exhaustive set of fixed effects, including firm-year fixed effects.

Table 1: Baseline Results

<table>
<thead>
<tr>
<th>Specification</th>
<th>OLS (1)</th>
<th>OLS (2)</th>
<th>Reduced Form (3)</th>
<th>First Stage (4)</th>
<th>Second Stage (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ln(markup)</td>
<td>$\gamma_1 \ln(TFPQ_{it}) + \gamma_2 \ln(L_{it}) + \alpha_1 + \alpha_f + \alpha_{ijt} + \epsilon_{ijt}$</td>
<td>$\rho_{ijt} = \beta_1 \ln(\mu) + \beta_2 \ln(L_{it}) + \delta_1 + \delta_f + \delta_{ijt} + \epsilon_{ijt}$</td>
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</tbody>
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Empirical Specification

First Stage

\[ \ln(\mu_{ijt}) = \gamma_1 \ln(TFPQ_{ijt}) + \gamma_2 \ln(L_{ijt}) + \alpha_1 + \alpha_f + \alpha_{ijt} + \epsilon_{ijt} \] (4)

Second Stage

\[ \rho_{ijt} = \beta_1 \ln(\mu_{ijt}) + \beta_2 \ln(L_{ijt}) + \delta_1 + \delta_f + \delta_{ijt} + \epsilon_{ijt} \] (5)

Results

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<tr>
<td>ln(markup)</td>
<td>$0.368$</td>
<td>$0.371$</td>
<td>$0.692$</td>
<td>$0.368$</td>
<td>$0.368$</td>
</tr>
<tr>
<td>ln(TFPQ)</td>
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Graphical Evidence

Figure 1: Trade Credit Share Increases with Markups: U.S. Evidence

Conclusions

- Strong link between trade credit provision and markups
- Trade credit allows firms to save on financial intermediation
- International trade data useful to shed light on trade credit trade-offs (because enforcement is harder across borders)

Contact Information

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