A Discussion on
“Debt, managers and cartels”
(S. Piccolo & G. Spagnolo)
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1. Contribution/Motivation

2. Assumptions

3. Results

4. Possible Extensions

5. Minor Comments
Main results and contribution

The paper studies how banks (debts) affect the incentive to collude

- **Results:** debts facilitate collusion when leveraged firms are led by self-interested managers
  - **Anti-collusive effect:** undercutting rivals secures the full monopoly profit in one period
  - **Pro-collusive effect:** because defaulting managers experience a loss of reputation that might increase with the amount of unrepaid debt
- The second effect dominates when the sensitivity of the managers reputation loss to the unrepaid debt is sufficiently high
- **Debts and NPS jointly facilitate collusion** when responsiveness to bankruptcy costs are sufficiently high
Is the credit system really the real collusive device? It is matter of how bankruptcy costs affect the payoff of the player deciding the collusive strategy (manager)

Collusive effect: “...because defaulting managers experience a loss of reputation proportional to the amount of unpaid debt, increasing firms’ indebtedness also makes the punishment phase more costly for the managers”.
1) Reputational/bankruptcy costs (2/2)

- Empirical evidence about the absence of bankruptcy costs for the firms/shareholders

- Shareholders decide the borrowing policy without facing any cost of bankruptcy

- Delegation seems a way to motivate the introduction of the bankruptcy costs (only on the manager) and increase the cost of a deviation from the collusive path

- If shareholders faced bankruptcy costs would the main result of the paper change?
2) Deviation strategy (1/2)

- Deviation entails bankruptcy. Assumption taken from Maksimovic, however:
  - This is a more crucial assumption for your model because bankruptcy costs determine your main result (Maksimovic has no bankruptcy costs)
  - In Maksimovic firms are self-managed. You impose the same strategy to new different players (managers)

- How does the model work with other deviation strategies?
  - Milder punishment strategies (i.e. a zero total profit/no bankruptcy, a price such that $\pi_i^\tau \cong b$)
  - Stick and carrot
  - NO bankruptcy occurs up to a certain number of periods with $\pi_i^\tau < b$
2) Deviation strategy (2/2)

✓ Trigger strategy:

“Collusive path \((L, \alpha)\); otherwise punishment path \(p=mc\) in every subsequent period”

- But...no more subsequent periods exist once bankruptcy occurs \((b>punishment\ profit=0\) only in one period)
- The failed firm is sold to a new short-life owner, then the firm is not longer a player in this game after a deviation occurs
- What if the buying owner was the lending bank?
- Firms can remain in the market and keep deciding whether to collude
3) Credit market

- *In the punishment path* a credit system could be *tragically in bankruptcy*

- Punishment (applied by all players) implies bankruptcy for any borrower (then for any lender too)

- Would this credit market be credible?
  - Failed firms have a potential owner
  - What about *failed banks*?
4) Renegotiation

- Firms renegotiate to another contract inducing deviation (deviation-contract)

\[
V(\alpha, b) \geq \tilde{V}(\alpha, b).
\]

\[
\tilde{V}(\alpha, b) \equiv \max_{\tilde{\alpha} \in [0,1]} \left\{ (1 - \tilde{\alpha}) (N\pi - b) : \tilde{\alpha} (N\pi - b) - \delta (C + \phi b) \geq \frac{\alpha}{1 - \delta} (\pi - b) \right\}, \tag{4.2}
\]

\[
V(\alpha, b) \equiv \frac{1 - \alpha}{1 - \delta} (\pi - b).
\]

- What if renegotiating to another contract implies no deviation?
- The paper should be clear about whether renegotiation to a “deviation contract” always dominates a renegotiation to a “NO-deviation contract”
  - Probably the assumption \( \alpha > 0 \) and \( \bar{u} > 0 \) are not innocuous here
  - Maximizing 4.2 w.r.t. \( \alpha \), when renegotiating to a NO-deviation contract, would probably give \( \tilde{\alpha} = 0 \)?
5) Policy implications and robustness check

- If contracts are fully observable and legally enforced, could the antitrust use this information on $L^*$ and $\alpha^*$ to infer tacit collusive behaviors?

- Robustness check to the case of:
  - Asymmetric firms
    - Not all firms go in bankrupt
  - Increasing profitability in the market over run
    - The anti-collusive effect induced by the necessity of repaying the debt in the long run with only a share of the monopoly profit could be reduced
6) Minor comments

- Check for the proof of lemma 3 in the appendix

Proof of Lemma 3. We need to show that for any pair \((\alpha, b)\) such that

\[
\frac{1}{1 - \delta} (\pi - b) \leq N \pi - b - \delta (C + \phi b),
\]

then \(V(\alpha, b) > \tilde{V}(\alpha, b)\). Using definition of \(V(\cdot)\) and \(\tilde{V}(\cdot)\), it is easy to show that

\[
V(\alpha, b) - \tilde{V}(\alpha, b) = N \pi - b - \delta (C + \phi b) - \frac{1}{1 - \delta} (\pi - b),
\]

Finally, notice that at \((\alpha, b) = (\alpha^*, b^*)\) the above condition rewrites as

\[
V(\alpha^*, b^*) - \frac{1 - \alpha^*}{1 - \delta} (\pi - b^*) = \frac{\delta (C + \phi b^*) (1 - \alpha^*)}{\alpha^*} > 0,
\]