Do auctions induce a winner’s curse?
New evidence from the corporate takeover market

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Motivation

• Winner’s curse: Winning bid exceeds the intrinsic value of the target
• Two key predictions of winner’s curse hypothesis:
  1. Magnitude of the curse increases with the number of the bidders
  2. Magnitude of the curse increases with the uncertainty of the target
• Whether bidders are cursed is an empirical question

• Difficulty: lack of benchmark market value, i.e. intrinsic value
• Previous researches often turned to controlled experiment
  • (Kagel and Levin, 1986) target value is randomly drawn
Research design

• This paper investigated corporate takeover market
• Two kinds of transactions: auctions and negotiations
• For prediction 1: Regress the net-of-market-return of a (-1,+1) window of the bidder to an *auction dummy*. (Also use other measures of competition)
• For prediction 2: Regress the net-of-market-return on a proxy for uncertainty
Strength

- This paper applied standard empirical approach and was subject to less bias
- Hand-collected data from SEC files
  - Beneficial Corporation: 29 potential bidders, only 1 public
- Dealt with endogeneity between takeover competition and bidder returns
  - Heckman’s method
  - Simultaneous equation analysis
Results: OLS

<table>
<thead>
<tr>
<th>Competition proxies</th>
<th>Coefficient</th>
<th>Uncertainty (Intangible assets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auction</td>
<td>-0.010 (0.281)</td>
<td>0.033 (0.024)</td>
</tr>
<tr>
<td>Contacted</td>
<td>-0.003 (0.410)</td>
<td>0.033 (0.028)</td>
</tr>
<tr>
<td>Confidential</td>
<td>-0.006 (0.193)</td>
<td>0.032 (0.027)</td>
</tr>
<tr>
<td>Private bidders</td>
<td>-0.020 (0.109)</td>
<td>0.033 (0.026)</td>
</tr>
<tr>
<td>Public bidders</td>
<td>-0.017 (0.391)</td>
<td>0.032 (0.032)</td>
</tr>
</tbody>
</table>

- Coefficients of competition variables are negative but insignificant
- Coefficients of uncertainty proxy are positive and significant
- Not consistent with winner’s curse hypothesis
Results: Heckman

- Regress a dummy for selling procedure on certain characteristics
- Incorporate predicted value of transaction propensity and Heckman’s lambda
- Results are similar to OLS regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure*</td>
<td>-0.007 (0.827)</td>
</tr>
<tr>
<td>Intangible</td>
<td>0.033 (0.031)</td>
</tr>
<tr>
<td>Lambda</td>
<td>-0.001 (0.950)</td>
</tr>
</tbody>
</table>
Results: Simultaneous equation analysis

\[ \text{Return} = \beta_0 + \beta_1 \text{Procedure} + \beta_2 \text{ExogenousA} \]

\[ \text{Procedure} = \eta_0 + \eta_1 \text{Return} + \eta_2 \text{ExogenousB} \]

- First stage: regress return and procedure on the intersection of exogenous variables, and get the predicted value \( \text{return}^* \) and \( \text{procedure}^* \)
- Second stage: incorporate the predicted value in to regression
- Still inconsistent with winner’s curse hypothesis

<table>
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<th>Variables</th>
<th>Returns</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure*</td>
<td>0.002 (0.895)</td>
<td></td>
</tr>
<tr>
<td>Returns*</td>
<td></td>
<td>4.831 (0.425)</td>
</tr>
<tr>
<td>Intangible assets</td>
<td>0.031 (0.046)</td>
<td>0.367 (0.262)</td>
</tr>
</tbody>
</table>
Conclusion and comments

• No evidence supporting winner’s curse hypothesis
• Novel dataset; sound methodology
• Natural limitations to regression studies: open to alternative interpretation
  • Is bidder return really a good signal for whether the bidder is cursed?
  • External validity of the results