College Crowd-In: How Private Donations Affect Alumni Giving

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Introduction

- The issue of donor behavior and crowding out has been pertinent in the economics literature, both theoretically and empirically. However, the aggregate research has not been decisive nor have many studies analyzed institutions of higher education
- Conflicting research on predictors of donor behavior:
  - Dollar-for-dollar crowd-out (Roberts, 1984)
  - Partial crowd-out (Steinberg, 1985; Andreoni and Payne 2005)
  - No crowd-out (Reece, 1979)
  - Crowd-in (Sugden, 1982; Rose-Ackerman, 1981; Schiff, 1985)
- Unlike prior research, which often focuses on the relationship between governmental and private contributions, this paper examines the effect that one group of **private** donations has on another set of **private** donations
- In particular, I ask the question, what is the effect of a change in parent, corporate, or foundation contributions on alumni contributions in US universities?

Economic Intuition

Model of Alumni Utility

- The model begins with a framework in which non-alumni agents (parent, corporation, religious organization) move first (hence reducing endogeneity) and then alumni donations subsequently occur in the following year
- Alumni will choose their contribution levels to maximize their utility. In maximizing their utility, however, alumni never directly consume the good to which they contribute
- The optimal donation provided by alumni will only depend on two arguments - the alumni's initial wealth endowment and the donations of other institutions, which recall in this evaluation, are strictly private institutions

Effect of Crowd-out versus Crowd-in

- How does a change in non-alumni donations affect alumni donations through utility maximization? There are 3 possible outcomes:
  - **Crowd-out**: alumni are over-satisfied with the non-alumni component of contributions and hence spend more of their income on private goods
  - **Crowd-in:** alumni are under-satisfied with the level of non-alumni contributions to the university. As a result, alumni will spend more money on contributions to their universities
  - **No effect:** alumni can be classified as satisfied if there is no change in spending patterns

Methodology

Econometric Specification

- The issue of donative behavior of alumni can be decomposed into two effects: the dollar donation size and the number of donors, which are respectively as follows

$$D_{it} = \alpha_0 + \alpha_1 G_{i,t-1} + \alpha_2 X_{it} + \alpha_3 T_t + \varepsilon_{it}$$

$$N_{it} = \beta_0 + \beta_1 G_{i,t-1} + \beta_2 X_{it} + \beta_3 T_t + \varepsilon_{it}$$

- D_{it} = total dollar value of donations to university *i* in year *t*
- N_{it} = total number of alumni donating to university *i* in year *t*
- $G_{i,t-1}$ = a one-year lagged matrix of donative behavior by parents, corporations, and foundations. **Note that the crowd-out/crowd-in parameters are α_1 and β_1, the coefficients on non-alumni private donations**
- X_{it} = a matrix of university characteristic variables such as school endowment, school enrollment, and school solicitation efforts
- T_t = year dummy models which account for macro level time varying shocks and also serves as a proxy for income

Empirical Execution

- 12 years of data (1995 – 2006) on donation measures and other university attributions are sourced from the Voluntary Support of Education ("VSE") Survey program, developed by the Council for Aid to Education ("CAE")
  - Able to construct a panel dataset
  - 1,422 schools – 525 public and 897 private
- Employ **fixed effects** regression analyses based on the econometric models defined above

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Results and Conclusions

Full Sample of Schools

- The 'dollars donated' econometric model implies a **crowd-in effect**: a one percent increase in parent, corporate, or foundation dollars in year (t-1) stimulates a respective 3, 3.2, and 2.7 percent increase in alumni donations in year t
  - Significant at the 1 or 5 percent level
- The 'number of alumni' specification shows that the coefficients on parent and corporations are significant and positive, respectively at the 1 percent and 5 percent levels. Foundation dollar donations, albeit not statistically significant, are nonetheless positive
- **Interpretation:** A non-alumni private donation provides a positive signal on institutional quality. Rather than being repelled by a university's increase in private funding, alumni may interpret a parent, corporate, or foundation donation as a positive attribute of the institution and hence may choose to support it further

Public vs. Private University Sub-samples

- There is statistically significant **evidence of crowd-in** within both public and private school sub-samples
- The crowd-in effect coefficients of public universities are larger in magnitude than the crowd-in effect coefficients in the full-sample analyses
- For private universities, the crowd-in coefficients are less than those from the full sample and hence less than the public university coefficients
- In essence, in a public school, the returns on a percentage increase on a non-alumni contribution are greater than they are for the total school or private schools samples
- **Interpretation**: First, a non-alumni dollar donated at a public university may exhibit a greater signal of a change in institutional quality than in the larger sample or in the private school sample. Second, students in the public school sample may be less affluent on average than those in the total or private schools sample. Those alumni who would donate a particular amount to their private institutions would do so regardless of other signals in quality, simply because they have the financial resources to do so