Table 1: Balance Table of Treatment and Control Groups

|  |  |  |  |
| --- | --- | --- | --- |
|  | Control | Treatment | Difference |
| Academic Quality | 0.515 | 0.466 | 0.049 |
| Athletic Quality | 0.424 | 0.551 | -0.127\*\* |
| Near Big Market | 0.360 | 0.700 | -0.340\*\*\* |

Notes: Treatment and control groups are balanced only in the academic quality of their teaching, with a non-significant difference of 0.049 units. However, treatment and control are significantly unbalanced in athletic quality (control is 0.127 unit smaller) and distance to big market (control is 0.340 unit smaller).

Q3:

The ranking Committee plausibly select schools based on its athletic quality that signal a school’s potential to win the tournament, as well as its closeness to near big market, which can be a proxy for its prior media exposure for popularity (e.g., NYU receives more media exposure than UVA). It can also be reasonably inferred that the academic quality of the school can have a downstream implicit impact on committee’s judgement through “halo effect” (e.g., US News Top 20 Universities). Therefore, all three variables should be used for propensity score.

Q4:

a)

A simple linear regression model is shown below

|  |  |  |
| --- | --- | --- |
| Model 1: Linear Regression Model for Treatment Assignment | | |
|  | Ranked |  |
|  |  |  |
| academic quality | -0.183 |  |
|  | (-1.14) |  |
|  |  |  |
| athletic quality | 0.412\* |  |
|  | -2.53 |  |
|  |  |  |
| near big market | 0.356\*\*\* |  |
|  | -3.84 |  |
|  |  |  |
| \_cons | 0.2 |  |
|  | -1.54 |  |
|  |  |  |
| N | 100 |  |
|  |  |  |
| t statistics in parentheses |  |  |
| ="\* p<0.05 | \*\* p<0.01 | \*\*\* p<0.001" |

As shown in the model, academic quality is not a significant predictor of being ranked, while athletic quality and closeness to big market are. Academic quality is dropped in predicting propensity score for its non-significance.

b) see STATA codes

Q6:

Figure 1: Distribution of Propensity Score in Treatment and Control Conditions

Chart, bar chart, histogram

Description automatically generated

Notes: Distribution of propensity score for schools in treatment condition is colored in red, and which in control condition is non-colored. Schools with propensity score below 0.25 and above 0.8 are dropped for lack of significant overlap.

Q7.

|  |  |  |
| --- | --- | --- |
| Table 3: Linear & Propensity-matched Regressions of Alumni Donations | | |
|  | Linear | Propensity-matched |
| Ranked | 500.5\*\*\* | 500.5\*\*\* |
|  | -2035.07 | -2249.1 |
|  |  |  |
| Academic Qual | 99.83\*\*\* | 99.89\*\*\* |
|  | -228.52 | -269.34 |
|  |  |  |
| Athletic Qual | 48.06\*\*\* | 49.90\*\*\* |
|  | -9.28 | -108.74 |
|  |  |  |
| Big Market | 998.1\*\*\* | 999.7\*\*\* |
|  | -239.59 | -4119.27 |
| Observations | 82 | 82 |
| Table 3 presents linear regression and propensity-matched regressions of alumni donations a school receive on whether it being ranked, controlling for academic quality, athletic quality, and its closeness to big markets. All predictors in both models are significant at 0.1% level and the magnitudes are similar between the two models. Blocking fixed effect based on propensity scores are dropped. Being ranked on Top Basketball Programs significant increases alumni donations by $500k for a university. | | |
| \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001 | | |