

What is the question?

The process that the universities and the firms form a collaborative using a matching perspective.

Why is it important?

Although UF collaboration (hereafter UFC) is prevalent nowadays, previous literature focused on the effect of UFC: how the advanced research is applied to the industry, what type of collaboration performs better, what induces UFC, etc. So far, the literature discussing the matching mechanism is relatively little. However, the matching process is crucial in the UFC since the universities and firms do not match on a random basis. On the opposite, it's rather a strategic equilibrium given universities' and firms' types (constituted of own technology, development plan, etc.) Thus, a clear understanding of the process is needed.

What is the answer?

No major conclusion reached yet.

How did the author get there?

As for the current results, they introduce a game constituted of schools and business as

individual player given payoff function $V_s(b, s) + t_{bs}$ and $V_b(b, s) - t_{bs}$ respectively. With Individual rationality(each payoffs strictly bigger than 0), and unblocking condition(like the one used in general equilibrium)

Based on the model, they present the matching value f as follows:

$$f(b, s) = X_{bs}\beta + \eta_b + \xi_s$$

Where X is a vector consisted of four interaction variables between S & B , sellers stand for universities, buyers for firms, interaction between S (top 50/25 or not) & B (prior number of USC's), between S (R&D funding level) & B (prior number of USC's), between S (prior number of USC's) & B (prior number of USC's) ; and a dummy if these partners collaborated before.

η & ζ are unobserved variables for firms and schools, separately.

Besides, they run an empirical study based on the data from USC deal data from the U.S.,

$$Q(\beta) = \frac{1}{T} \sum_{t=1}^T \frac{1}{m_t} \sum_{(b,s),(b',s') \in \mu} 1 [X_{bs}\beta + X_{b's'}\beta \geq X_{b's}\beta + X_{bs'}\beta]$$

with the score function

Real-life application:

We can take each department's intern opportunities for example.