Cluster Typologies and Firm Survival: Substitutive and Complementary Effects

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Problem Statement & Purpose

The term "cluster," which refers to geographic groupings of firms, has been attacked by scholars for its perceived vagary, a critique we echo given the heterogeneity in theoretical bases for co-location of firms. Within Marshallian externalities, clusters can be either driven by supply side effects (shared knowledge, labor pools, or suppliers) or demand side effects (i.e., lowering customer search costs). Clustering can also be driven by cooperation between foreign entrants from the same home country, benefits from industrial diversity (Jacobs), or they can be internal – that is, firms from the same parent company can benefit from learning effects. We examine whether cluster benefits can be "stacked."

Methods

We used a publicly-available dataset from Texas, which offers detailed, establishment-level data on all firms in the state that pay sales tax. We drew from the clothing and software industries due to their theoretical relevance. All firms were founded in 2015; our outcome condition was survival for 5 years.

Calibration

We used percentile values of clustering at the Metropolitan Statistical Area level, with some exceptions (ask us for details)

Causal Conditions

We used country-of-origin (COO) clusters, Marshallian clusters (demand/supply side), internal, urban, and Jacobsian clustering.

Outcome Condition

Survival after 5 years for firms founded in 2015; no results were found for the negation of survival that passed minimum PRI thresholds.

Necessity Analysis

We used the standard .9 necessity metric to assess necessary conditions; none passed this level, however.

Results

Complex Solution Shown

Cluster Type	Config. 1	Config. 2	Config. 3	Config. 4
Jacobs	Ø	•	•	•
Supply Side	Ø	•	•	•
Demand Side			Ø	•
COO	Ø	Ø	Ø	•
Internal	•	Ø	•	Ø
Urban	Ø	Ø	•	•
Raw Coverage	.011	.109	.018	.005
Unique Coverage	.011	.109	.018	.005
PRI	.82	.84	.72	1

Implications

- Consistent with prior research, we find that Jacobs and supply-side Marshallian externalities function as complements.
- Country-of-origin clusters help organizations learn from nearby firms from similar institutional contexts, helping overcome the liability of foreignness. Our results show that this effect can be stacked with the benefits of supply-side, demand-side, and industrial diversity clusters, but not with internal clusters.
- Foreign direct investment is an inherently risky strategy. Yet, COO clusters do not consistently survive for long in rural areas, which are characterized by reduced risk in business ventures due to factors such as difficulty in redeploying assets. One possible explanation for this effect is that rural stakeholders are more hostile towards foreign economic activity.
- Internal clusters co-occur with Jacobs and supply-side clusters in urban but not rural areas, suggesting that supply-side effects or knowledge recombination can all readily occur within subunits of a parent firm.