

Spinoffs and Clustering

by Russell Golman and Steven Klepper

Erik Stam

- I. Making progress
- II. Don't throw away the baby with the bathwater
- III. Pushing the frontier a bit further

Purpose

- Explain cluster emergence and growth, without agglomeration economies
- 1- Review empirics: stylized facts - I
 - 2- Build theoretical model – II, III

What do we know about cluster growth and spinoff entry (cf. Geroski's 1995)

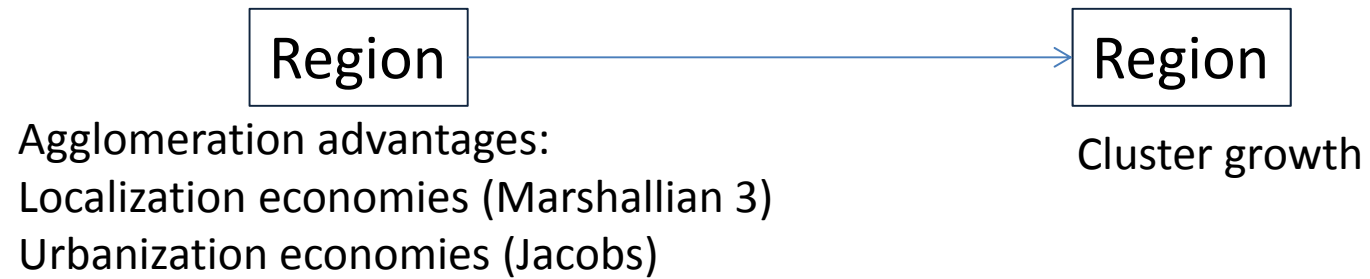
Patterns of Cluster Growth and Spinoff Entry

1. More innovative industries have more often become highly clustered.
2. Clusters typically were characterized by an early successful firm and then grew subsequently through entry.
3. A greater percentage of entrants in the clusters than elsewhere were spinoffs.
4. Spinoffs accounted for a disproportionate share of the leaders in the clusters relative to their share of entrants overall.
5. Clusters prospered after spinoffs entered, even while in some cases the flagship firm that seeded the region subsequently declined.
6. Spinoffs performed better than other entrants.
7. Larger firms spawned spinoffs at a higher rate.
8. Spinoffs from larger firms were superior performers.
9. Spinoffs that entered at a larger size tended to perform better.
10. Spinoffs in clusters outperformed spinoffs elsewhere.
11. Spinoffs initially produced similar types of products as their parents.

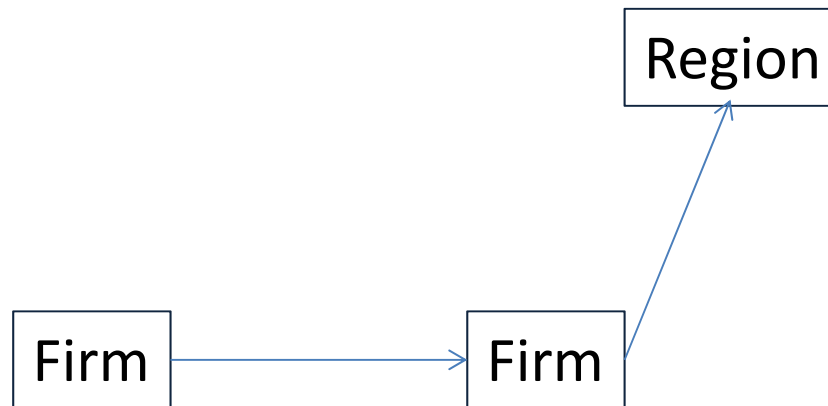
Table 1: Stylized facts based on studies of the automobile, tire, semiconductor, disk drive, and biotherapeutics industry clusters.

Obsession:
proof aspatial explanation of spatial
concentration

Old



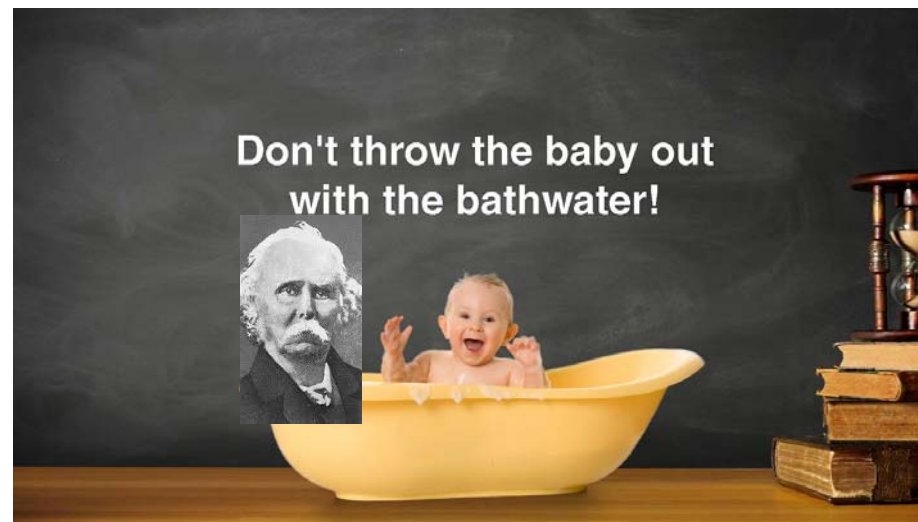
New



Obsession:
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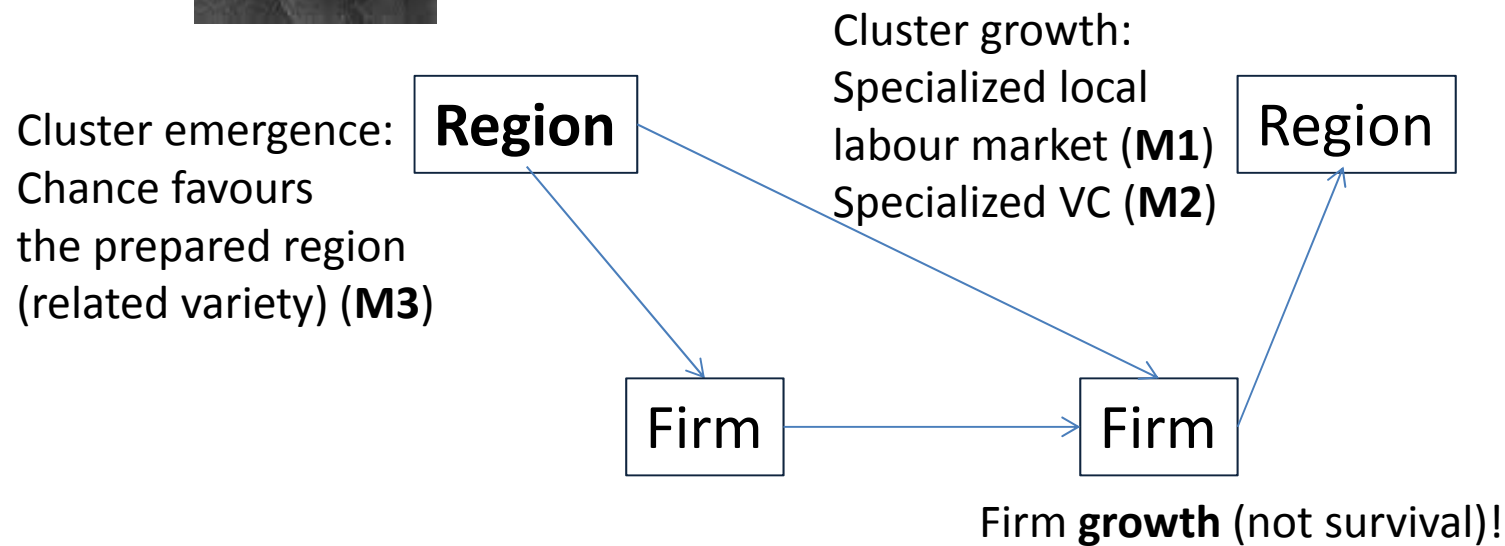
Positively formulated:
firms matter in space

But:

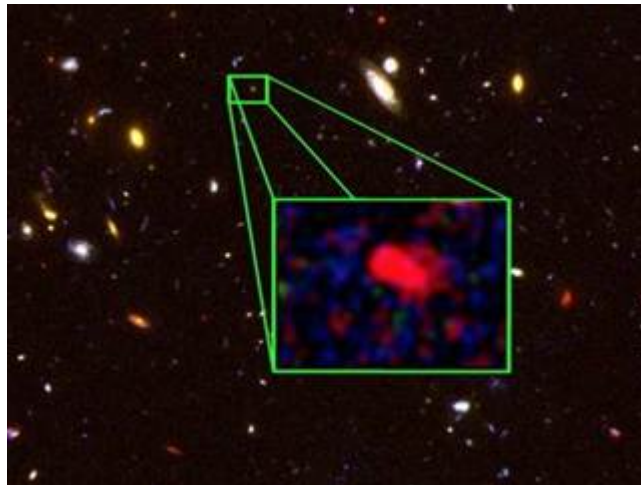




Marshall hits back...



Pushing the frontier a bit further



Pushing the frontier a bit further

- How can group properties (organizational capabilities) be transferred via individuals?
- Counterfactuals?
 - Under what (regional!?) circumstances did the virtuous circle not take off?
 - Endless localized growth? Stagnation, decline? Agglomeration disadvantages? (Stam & Martin 2008)
- Spin-offs have an entry ticket to localization economies (Klepper 2007) / also from other regions (not only survival, but also growth)?

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Selection bias in stylized facts?

- Based on 5 cases: evolution of 5 U.S. industries that are well known for clustering (automobiles around Detroit, tires around Akron (Ohio), semiconductors and disk drives around Silicon Valley, and biotherapeutics around San Francisco, Boston, and San Diego)
- Sampling on the dependent variable: why did other industries (same industries in other countries) not cluster in space (emergence & growth)?
 - Silicon Valley vs Dallas

Critique or Complement to Localization Economies?

- A- Geographic clustering of industries is typically attributed to localization economies
- B- Recent studies across innovative industries suggest that explosive cluster growth is associated with the entry and success of spinoff firms.
- C- Develop a model to explain the patterns regarding cluster growth and spinoff formation and performance, without relying on agglomeration externalities: clustering follows from spinoffs locating near their parents. In our model, firms grow and spinoffs form through the discovery of new submarkets based on innovation. Rapid and successful innovation creates more opportunities for spinoff entry and drives a region's growth ('Innovation begets more innovation')

Critique

- Agglomeration economies: localization and/or urbanization economies?
- Recombinant growth: related variety => expanding with related submarkets ('firms expand into new submarkets that are related to submarkets with which they already have experience') / Now only in conclusion:
 - Frenken et al. 200x RST
 - Frenken & Boschma 2007 JEG
- Channels: labour market pooling, spin-offs, interorganizational networks

Complement

- Better micro-foundations!
- New wave of cluster studies; see *Regional Studies* review Frenken, Cefis & Stam: cluster x firm heterogeneity
- Creation of production capabilities
 - Transfer mechanism (group property)?
- ‘Our model does not feature traditional agglomeration economies’
 - No advantage of being close to a specialized labour market?!
 - Spin-offs are a channel of knowledge spillovers, a key element of localization economies
 - Spin-offs have an entry ticket to localization economies (Klepper 20xx MS)

- ‘We assume that the existence of one submarket has no effect on the demand or costs in other submarkets’: what about labour market competition? (higher wages?!)
- Spin-offs of spin-offs? (why grow, and not create more spin-offs instead?)
- Why locate near parent? Cognitive bias (cf Pred 196x; Sorenson et al. 200x) or optimizing decision? IS THE WRONG QUESTION
- WHY GROW NEAR PARENT?
 - Growth is the distinctive element (either in leader firm or spin-offs....), not start-up (self-employed)

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Understanding regional growth:
individuals x firms x cluster

Cluster emergence, growth, ...

- Virtuous circle (section 5)
- No eternal cluster growth: cluster lifecycle! (cf. automobile, shipbuilding, clothing industries)
- Endless localized growth? Stagnation, decline? Agglomeration disadvantages? (Stam & Martin 2008)