Cluster policy in developing countries:
The ugly, the bad, and the not-so-bad

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Motivation

• Pervasiveness of ‘cluster initiatives’ in developed countries

• Many attempts in developing countries

• Objective:

Are cluster initiatives a good idea in developing countries?
Main message

• Industrial policy is regional policy

• But doing ‘activist’ industrial policy locally is not a good idea...

• ... especially in developing countries

• However, letting places specialise more should provide benefits

"Don’t actively pursue clusters but don’t prevent from happening (and possibly respond to the needs of existing ones)"
Background 1: Specialisation / Localisation of industries

- Cities and regions do specialise
- Industries have a tendency to agglomerate (Ellison and Glaeser, 1997; Duranton and Overman, 2005)
  - Overwhelming evidence of developed economies
  - More sketchy for developing countries (Henderson, 2005)
- There are benefits to agglomeration / localisation but we don’t know how they percolate (Rosenthal and Strange, 2004)
Background 2: Regional disparities

• Regional disparities are pervasive
  – In developed countries
  – Much larger in developing countries (Aten and Heston, 2005; Milanovic, 2004)

• Rising in many countries
From here:

• Two temptations
  – Use industrial policy to reduce regional disparities
  – Do industrial policy locally

• One thing to keep in mind
  – Industrial policy will have regional implications
Cluster initiatives

• Originating from Porter (1990; 1998; 2000a; 2000b)

• Thousands of initiative worldwide including hundreds in developing countries (Sölvell, Lindqvist, and Ketels, 2003; Ketels, Lindqvist, and Sölvell, 2006)

• Porter’s definition: "A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities."
Why cluster initiatives?

• The short answer: "Improve competitiveness"

• Porter’s longer answer: The ‘diamond’
In a recent two-part article, I explore and statistically test the sequential process by which the diamond must upgrade if an economy is to advance (Porter, 1998b). Parallel improvements in the sophistication of company operations and strategies and the quality of the diamond provide the microeconomic foundations of economic development.

A few elements of this framework deserve highlighting because they are important to understanding the role of clusters in competition. Factor inputs range from tangible assets such as physical infrastructure to information, the legal system, and university research institutes that all firms draw on in competition. To increase productivity, factor inputs must improve in efficiency, quality, and (ultimately) specialization to particular cluster areas. Specialized factors, especially those integral to innovation and upgrading (e.g., a specialized university research institute), not only are necessary to attain high levels of productivity but also tend to be less tradable or available from elsewhere.

The context for firm strategy and rivalry refers to the rules, incentives, and norms governing the type and intensity of local rivalry. Economies with low productivity are characterized by little local rivalry. Most competition, if present at all, comes from imports. Local rivalry, if occurring at all, involves imitation. Price is the sole competitive variable, and firms hold down wages to compete in local and foreign markets. Competition involves minimal investment.

Moving to an advanced economy requires that vigorous local rivalry develop. Rivalry must shift from low wages to low total cost, and this requires upgrading the efficiency of manufacturing and service delivery. Ultimately, rivalry also must evolve from cost to include differentiation. Competition must shift from imitation to innovation and from low investment to high investment in not only physical assets but also intangibles (e.g., skills, technology). Clusters, as will be evident, play an integral role in these transitions.
The problems with Porter’s diamond

• Apparent complexity but structurally simple
• It is not a theory
• It does not make the case for cluster policies
The simplest cluster model

Assume

• Uncompensated external effects in production leading to local increasing returns

• Congestion costs

=> Real wages are bell-shaped as a function of cluster employment
Net income

Population

$N_Z$
Lessons from the simplest cluster model

The two main inefficiencies associated with clusters

• The cluster co-ordination failure
  – Clusters tend to be ‘too big’
  – => Restrict the size of existing clusters
  – => Create new ones

• Uncompensated externalities in production
  – External effects at the root of agglomeration/clustering also make production inefficient in clusters
  – Need to fix inefficiencies in production
Hence cluster policies should do two things

• Solve the co-ordination failure and impose optimal cluster size
  (but what is it?)

• Fix inefficiencies in production
  (but we don’t even know which market failures really matter)

• Both sets of policies are needed
• These recommendations seem very hard to implement in practice

• Considering a more sophisticated cluster model complicates the policy recommendation further
  – Imperfect mobility of workers
  – Imperfect mobility of knowledge
  – Market failures on the cost side (congestion, etc)
  – Cluster dynamics and industry mobility
  – Political economy
• The magnitude of localisation economies does not justify the large investments recommended by cluster proponents
Conclusions

• Do industrial policy (maybe) but do it nationally

• Keep in mind that this will have regional implications

• Not spending large amounts on cluster initiatives does not mean that specialisation / localisation should be discouraged

• Not doing cluster policies does not mean that local governments should do nothing
For more on cluster initiatives:


Available at:

http://individual.utoronto.ca/gilles/Papers/Cluster.pdf
References


