

## **The economics of clusters. Lessons from the French experience**

*Forthcoming in the Journal of Economic Geography*

*doi: 10.1093/jeg/lbr029*

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Oxford: Oxford University Press, 2010

ISBN: 978-0199592203

170pp. £35.00 (Hardback)

Much has been written about clusters, often broadly understood as spatial concentrations of firms in the same or related industries. Whilst there seems to be some saturation effect in the academic community, clusters still seem to be a fashionable tool in public policy. In particular in the wake of Michael Porter's significant marketing efforts to disseminate the view of increasing competitiveness through clustering, many policy makers have focused on promoting industry clusters. Although there are different versions of cluster theories and policies, this is widely based on the assumption that the spatial concentration of industries is associated with benefits for the firms as well as for the region. Yet, despite the vast amount of literature on this topic, the economic effects of clusters are still unclear (Martin and Sunley, 2003). In particular, there is a lack of empirical work which critically examines the benefits vis-à-vis the costs of clustering.

The important contribution of this book is to tackle this issue and to quantitatively assess the economic role of clustering and cluster policies in France on the basis of systematic statistical analyses. After a succinct introductory chapter 1, the book consists of four parts.

Chapter 2 provides a foundational discussion on the economic rationale of clusters and cluster policies. Step-by-step the authors develop economic arguments on local increasing returns in a non-technical and easily accessible style. The chapter emphasizes that the rationale of cluster policies should be to counter inefficiencies, which is an underexplored topic in the cluster literature. Yet, the authors highlight the potential negative effects of cluster policies: problems related to the political economy (e.g. the 'capture' of governments by industries) and specialization-induced vulnerability to external shocks.

Chapter 3 describes the evolution of French economic geography. It discusses the lack of clear evidence for a causal link between the evolution of spatial concentration and the performance of industrial sectors. The chapter argues that there is a need for more sophisticated econometric studies at the firm level.

Chapter 4 presents the methodology and the empirical results on the economic gains from clusters in France. Whilst the book discusses the insights in a non-technical fashion, more detailed results can be found in Martin et al. (2011a, 2011b). The analysis at the firm level confirms the existence of agglomeration economies. The higher the number of employees in a given sector and a given territory, the higher the productivity of firms. However, the effect is modest: increasing productivity by 5 per cent would require doubling the size of an existing cluster. Furthermore, the results also suggest that those economies are partly internalized by the firms in their location choices. Further productivity gains due to agglomeration economies would require a considerable change

of the spatial distribution of French firms. Doubling the size of clusters would require a radical spatial re-distribution, which seems to be beyond the realistic scope of cluster policies. A refreshing aspect of the book is that it critically discusses the costs of cluster policies in comparison to the benefits that are likely to be only modest: “no economic miracle there. [...] The enthusiastic message of the proponents of cluster policies must be revised downwards” (p. 16).

Interestingly, their study could not identify a clear pattern in terms of which sectors cluster more and which ones gain more from clustering; a minority of sectors even sees the productivity decreased through clustering. In particular, high-technology sectors, which have been the focus of many policies, do not seem to benefit more than other sectors. All this suggests that neither a ‘one-size-fits all’ cluster policy, nor a focus only on high-tech seems to be promising. These results are in line with an emerging empirical literature which is critical about some widely held views on the advantages of clusters (e.g. Frideres, 2011; Huber, forthcoming; Yu and Jackson, 2011).

Finally, chapter 5 critically elaborates on the French Cluster policy called ‘Local Productive Systems’, which aimed to promote agglomeration externalities and cluster dynamics through funding collaboration and collective actions. Overall, the results do not show any systematic effect of the cluster policy on productivity of the firms and on the size of the clusters. Only single-plant firms experienced a small benefit regarding productivity of about 3%, which, however, disappeared after two years. Yet, as the authors admit, the Local Productive Systems policy was of a very small scale and did not mobilize a lot of money, which somewhat limits the power of the case. Hence, it does not seem particularly surprising that the effects were limited. Furthermore, there was a selection effect in that the policy tended to involve firms, sectors and regions in relative decline.

The book concludes that, although there are economic benefits of clusters, existing cluster policies do not seem to be effective in increasing the size of clusters or increasing productivity. Since firms anyway tend to internalize the gains (and costs of) clustering in their location choice, increasing the size of clusters through public subsidies seems to be misguided. The authors maintain that alternative public policies that stop holding back the development of ‘natural’ clusters seem more promising. In particular, they highlight the potential of policies that encourage labour and firm mobility, which in turn facilitates the development of ‘natural’ clusters and makes workers less vulnerable to external shocks. Specifically, the book maintains that, next to investment in local research and education, it seems promising to focus on investment in public infrastructure that reduces congestion costs, and on regulation on local zoning which reduce the costs of firms to relocate. It is argued that productivity-enhancing policies might be most appropriate for central governments, whilst local policies seem to be best for reducing costs and developing local public goods (e.g. regarding land-use planning or transport policies).

Arguably, for any author it is challenging to provide an overview of the extensive and diverse interdisciplinary literature on clusters. Therefore, it is perhaps not surprising that I missed references to certain debates such as differentiated, context-sensitive approaches to cluster policies (e.g. Fromhold-Eisebith and Eisebith, 2005; McDonald et al., 2007; Sternberg et al., 2010; Tödtling and Trippel, 2005), the role of knowledge bases (e.g.

Asheim and Coenen, 2005), or important work on the geographical dimensions of innovation (e.g. Breschi and Lissoni, 2009).

More fundamentally, clustering effects are mainly studied on the basis of spatial agglomerations of industries, but the analysis does not examine the exact mechanisms of local externalities in detail. This, to some extent, seems to be an unavoidable limitation of the national dataset. As a consequence, the discussion of cluster policies is mainly centered on encouraging the location of firms in spatial agglomerations. Yet, forms of cluster policies that focus on specific contexts and types of local linkages are underexplored. This suggests that—despite of the extensive literature on clusters—there is still demand for both kinds of studies: large-scale statistical modeling of the economic effects of clustering as well as context-sensitive case studies on the individual- and firm-level mechanisms.

Overall, there is much to praise in this contribution. The book deserves to be essential reading for students and scholars interested in the economic effects of clustering and empirically informed cluster policies. Modern, time-crunched academics might appreciate the reasonably low number of pages.

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## References

- Asheim B T, Coenen L, 2005, "Knowledge bases and regional innovation systems: comparing Nordic clusters" *Research Policy* **34** 1173-1190
- Breschi S, Lissoni F, 2009, "Mobility of skilled workers and co-invention networks: an anatomy of localized knowledge flows" *Journal of Economic Geography* **9** 439-468
- Frideres L, 2011 *Spatial industrial clustering and competitive advantage: comparing firms inside and outside industry clusters* (University of Cambridge, Ph.D. thesis)
- Fromhold-Eisebith, M., Eisebith, G., 2005, "How to institutionalize innovative clusters? Comparing explicit top-down and implicit bottom-up approaches" *Research Policy*, **34**:1250-1268.
- Huber F, forthcoming, "Do clusters really matter for innovation practices in Information Technology? Questioning the significance of technological knowledge spillovers" *Journal of Economic Geography* doi: **10.1093/jeg/lbq058**
- Martin P, Mayer T, Mayneris F, 2011a, "Public support to clusters. A firm level study of French "Local Productive Systems"" *Regional Science and Urban Economics* **41** 108-123
- Martin P, Mayer T, Mayneris F, 2011b, "Spatial concentration and plant-level productivity in France" *Journal of Urban Economics* **69** 182-195
- Martin R, Sunley P, 2003, "Deconstructing clusters: chaotic concept or policy panacea?" *Journal of Economic Geography* **3** 5-35
- McDonald F, Huang Q, Tzagdis D, Tusemann H J, 2007, "Is there evidence to support Porter-type cluster policies?" *Regional Studies* **41** 39-49

- Sternberg, R., Kiese, M., Stockinger, D., 2010, "Cluster policies in the US and Germany: varieties of capitalism perspective on two high-tech states" *Environment and Planning C*, **28**: 1063-1082.
- Tödtling F, Tripl M, 2005, "One size fits all? Towards a differentiated regional innovation policy approach" *Research Policy* **34** 1203-1219
- Yu J, Jackson R, 2011, "Regional innovation clusters: a critical review" *Growth and Change* **42** 111-124