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New Economic Geography: perspectives, multiple regions, and individual heterogeneity

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Introduction

New Economic Geography (NEG) is a field of study within Economics that seeks to explain the geographical distribution of economic activities, with a strong emphasis on the secular tendency towards the regional agglomeration of industry and the rise of spatial disparities in income distributions across different locations.

NEG relies heavily on the combination between increasing returns at the firm level, inter-regional mobility of production factors and consumers, and transportation costs as determinants of agglomeration. Recently however, the analysis has been enriched by the consideration of heterogeneity at the firm or at the consumer level, or by the complexification of geography through the consideration of multiple regions in diverse spatial topologies, among other factors.

In this dissertation we first explore the State of the Art in NEG and seek to provide new avenues of search and perspectives through which the field could improve and develop. We then extend two well known frameworks by considering an arbitrary number of equidistant regions in order to uncover possible new spatial configurations in more generalized settings. Finally, we introduce heterogeneity in consumer preferences for residential location in a simple two-region model, in order to explain why and how migration towards regions with higher real wages might be deterred by the existence of regional amenities that are perceived differently by each individual.

Migration patterns with 3 and more regions

Industry and consumers disperse evenly among regions when trade barriers are <u>very high</u>.	With lower trade barriers, industry may disperse evenly, or partially concentrate in one region.
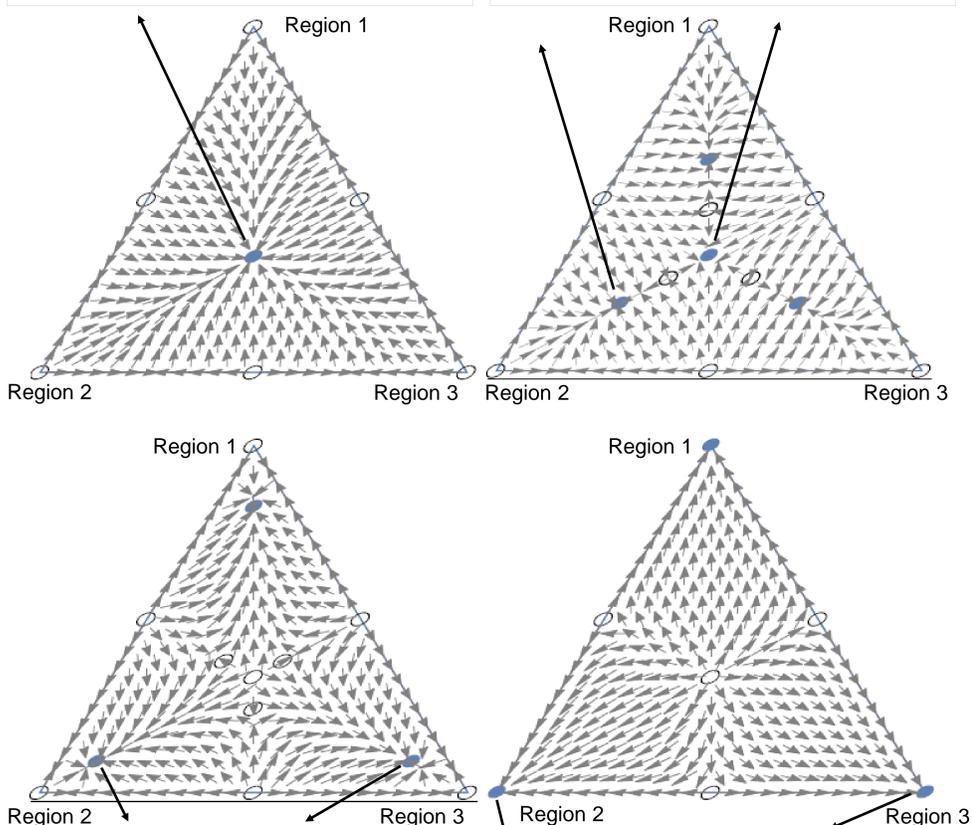
| Further lowering trade barriers means industry will partially agglomerate in one region	If trade barriers are <u>very low</u>, industry agglomerates in one of the three regions.

Acknowledgements

Heterogeneity: *home-sweet-home* effect

When each individual has his own preference towards residing in one region or another, the relation between geography and trade integration depends on the distribution of preferences. Here, h is the fraction of people that reside in country 1 and ϕ is the level of trade integration.
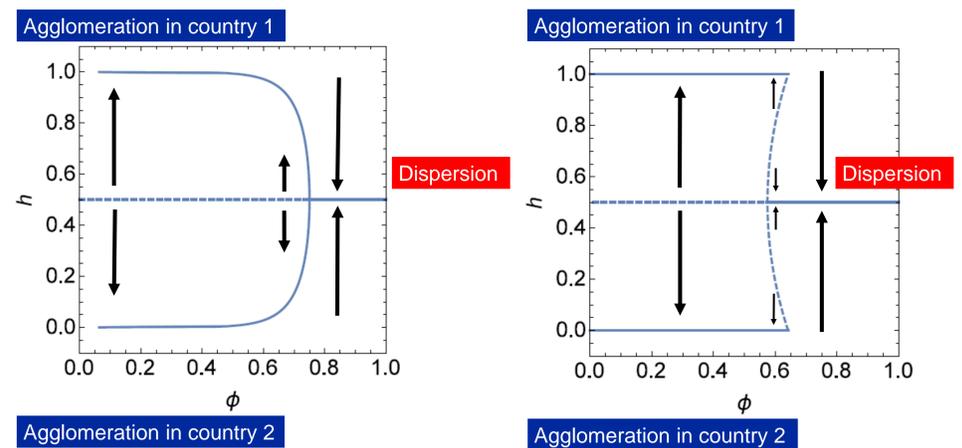
(i). Distaste for a country **increases exponentially** across consumers. Then a higher trade integration progressively shifts the distribution from agglomeration to dispersion.

(ii). Distaste for a country **increases linearly** across consumers. Then a higher trade integration suddenly shifts the distribution from agglomeration to dispersion.

Conclusions

In some frameworks, adding more regions alters the qualitative structure of the space economy, but this is not universally the case.

We conclude that there is a lack of a deeper understanding on why some models produce results that remain invariant under the number of regions considered, while other models show significant changes when more regions are considered. However, there is a trade-off between more complex geometries and the ability to extract intelligible results. In spite of this, we show that complex geographical structures may still arise under very simple geometries, just by including a higher number of regions.

We have integrated market-driven factors with heterogeneity in agents' preferences for residential location. This provides a reinterpretation of how consumers make their location choices as trade integration between two countries increases, and thus to shed more light on how different spatial distributions arise. Our novel way of introducing preferences has allowed us to model aggregate heterogeneity in very distinct ways. Depending on the model choice, the impact of heterogeneity on the economic landscape is very different.

MANUSCRIPTS

Gaspar, J.(2017). **Economic Geography: a prospective review**.

Gaspar, J., Castro, S.B.S.D., Correia-da-Silva, J. (2017). **The Footloose Entrepreneur Model with an arbitrary number of equidistant regions**.

Gaspar, J., Castro, S.B.S.D., Correia-da-Silva, J. (2017). **Agglomeration patterns and welfare in a multi-regional economy without income effects.**

Gaspar, J., Castro, S.B.S.D., Correia-da-Silva, J. (2017). **Economic Geography meets Hotelling: a *home-sweet-home* effect.**

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