**2022/2023 CASA MSc Dissertation Partner Project**

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**Supervisor name:** Neave O’Clery

**Partner organisation:** Department for Business, Energy and Industrial Strategy and Department for Levelling Up, Housing and Communities

**Partner website:** <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy>

**Partner supervisor name:** Raphael Gregorian ([Raphael.gregorian2@beis.gov.uk](mailto:Raphael.gregorian2@beis.gov.uk))

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**Project title:** Industrial Structure and economic performance in Second tier cities

**Outline:** The underperformance of the UK’s second tier cities is well known. For decades, policy has attempted to spur growth in core cities across a variety of funds and interventions. This project could explore the role of economic complexity analysis in diagnosing the key drivers of productivity differences across city regions, and highlighting the role of economic complexity as a tool for shaping core cities’ local industrial strategies, monitoring performance and predicting future growth.

As reviewed by [1], economic complexity analysis aims to infer the underlying skill and capability base of cities and regions, and has been shown to correlate with GDP growth for countries and US cities [2,3]. Here we will use a combination of trade data and industry data to compute economic complexity indices for UK (OECD) metropolitan areas and explore if they are a predictor for GDP or productivity growth.

**Data**:

* UK BRES data for employment by industry and city
* PATSTAT for patents by technology class and city
* Atlas of economic complexity for trade complexity indices

**Possible methodologies**:

There are a variety of methodologies to compute economic complexity indices, including using trade data [2], employment data [4], skill and occupation data [3], education data [5], and patent data [6]. We will compute a subset of these – as many as data allows - and compare them for UK cities.

**Relevant literature**:

1. Balland, P. A., Broekel, T., Diodato, D., Giuliani, E., Hausmann, R., O'Clery, N., & Rigby, D. (2022). The new paradigm of economic complexity. *Research Policy*, *51*(8), 104568.
2. Hidalgo, C. A., & Hausmann, R. (2009). The building blocks of economic complexity. *Proceedings of the National Academy of Sciences*, *106*(26), 10570-10575.
3. Turco, A. L., & Maggioni, D. (2022). The knowledge and skill content of production complexity. *Research Policy*, *51*(8), 104059.
4. Fritz, B. S., & Manduca, R. A. (2021). The economic complexity of US metropolitan areas. *Regional Studies*, *55*(7), 1299-1310.
5. Balland, P. A., Jara-Figueroa, C., Petralia, S. G., Steijn, M. P., Rigby, D. L., & Hidalgo, C. A. (2020). Complex economic activities concentrate in large cities. *Nature Human Behaviour*, *4*(3), 248-254.
6. Balland, P. A., & Rigby, D. (2017). The geography of complex knowledge. *Economic Geography*, *93*(1), 1-23.

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I prefer to meet\*:

* Always online

X

* Mostly online **X**
* Hybrid/flexible
* Mostly in person
* Always in person

\* This is not binding, but intended to help best match student and supervisor based on meeting preferences