**What is economic complexity and how it looks today in UK urban areas**

Economic complexity – that infers the industrial structure of a place and is highly linked with productivity levels – shows that cities and large towns are the engines of economic growth because they are more substantially complex. complex because cities, through densification, allow firms and workers to agglomerate, benefit from spillover effects and be more productive. Cities capabilities are especially suitable for knowledge intensive sectors like Finance, Advertising and programming; which are today’s most complex activities in the country.

However, not all cities are equally complex. The most productive and complex cities are usually located in the South; while almost all low complexity cities (frequently North, Midlands) have productivity below average. This suggests that struggling places will need to diversify their economic bases, instead of replicating existing strengths, in order to increase productivity levels.

Moreover, some cities (Manchester, Leeds, etc) present low productivity levels when compared with their complexity. This means they are substantially **below they productivity potential and levelling up the country must require closing this gap.**

**How urban complexity changed in the last four decades**

Historical changes in British urban complexity suggests that the most complex places are more likely to remain productive in the future because they keep innovating and reinvent themselves. The most productive cities moved from banking and manufacturing to programing.

Cities with the same type specialisation in 1981 presented substantially different paths, depending on their sectorial concentration. Cities with low industrial concentration were able to allow their knowledge-based occupations to flourish and innovate. At the same time, highly concentrated cities continued replicating their existing strengths, leading to a relative decline as the British economy kept innovating.

Cities that gained economic complexity when compared with 1981 are typically the ones with a high productivity gap, highlighting that they are still in a process economic transition.

**What does this mean for levelling up?**

First, the government needs to recognise the importance of cities in the levelling up challenge because cities typically have characteristics that are suitable for high complexity sectors.

Second, economic complex theory shows us that not all cities are in the same position when it comes to improve productivity levels. Central government should not expect these places as a whole to improve their productivity levels rapidly: our research shows that cities that had complexity gains in the last four decades are still lagging in terms of productivity showing how gradual the process can be. That said, cities can reinvent themselves and turn things around. In order to achieve it, it will fundamental to diversify the existing economy instead of expanding the existing competitive sectors, which keeps cities in a cycle of replication. Strategies based on attracting large manufacturing plants or freeports will do little to change the strengths of an economy in the decades to come.

For cities with incipient complex economic sectors, which improved since 1981, Unlocking its productivity potential is key to level up the country as whole. Central and local governments must support cities expand on their emerging strengths. This will require further devolution, end local government austerity and use devolved powers to invest in skills, transport and improve business conditions.