Spatial Development (Desmet and Rossi-Hansberg, 2014)

Innovation is one of the main drivers of economic growth. Geography or location of this innovative firms should play a key role in promoting innovation. For instance, there are cities in the US where innovative firm tend to concentrate, like Silicon Valley, an other places wherefew innovative firm stablish.

One Sentence Summary

The authors developed a model with "local" innovation that create endogenous growth and accurately predicts the structural transformation that happened in the US in the mid-1990s.

Main Findings

A key contribution of the paper is its methodology. Previous attempts to connect geographic characteristics with economic growth have failed to be rich (have sufficient components to make the model more believable) and tractable (ability to find data and compute equilibrium) enough to give accurate predictions on the real world.

In their model, there is a line with land, firm and agents. Firms are in a location in the line and specialize in either manufacturing goods or provide services. They now chose to invest in innovation for a chance to improve their local technology in their specific sector at their location. If they are successful this technology improvement diffuses to nearby locations.

The combination of local innovation within sectors and technological diffusion incentivize workers to migrate from the manufactoring sector to the service sector. Consistent with historical data, the model predicts that the service sector increasingly becomes more productive as more workers re-allocate themselves at the start of the 1990s. The concentration of workers in the service sector reached a critical point that boosted innovation around 1995, which is consistent with the productivity acceleration that the service sector experienced in the US.

Concluding Remarks

This paper highlights the importance of spatial innovation to understand economic growth. In addition, it highlight how push forces (think of transportation costs) can have in impact in economic growth.

Writer: Javier Gonzalez 10/7/2022

References

- Desmet, K., Rossi-Hansberg, E., 2014. Spatial Development. American Economic Review 104, 1211–43. https://doi.org/10.1257/AER.104.4.1211.