

Urbanisation, agglomeration and development: 'The dynamic city'

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CEMFI

BREAD-IGC Virtual PhD course on urban economics, 2024/09/25

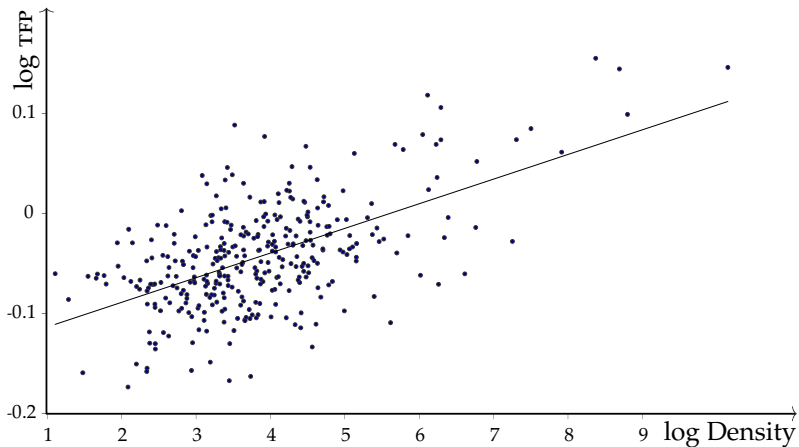
The benefits and costs of big cities

- The scale, density, and diversity of big cities have many benefits:
 - boost productivity and innovation,
 - provide valuable experience and opportunities to use it,
 - improve access to goods and services,
 - encourages energy-efficient construction and transport,
 - facilitates sharing scarce amenities.
- Urban density also has costs:
 - makes living, producing, and moving in cities more costly.
- Cities are the result of the trade-off between these benefits and costs.

A brief thought on urban costs

- Today I will focus almost entirely on urban benefits, Ed has talked about urban costs on more to come in subsequent lectures.
- Just one quick thought on urban costs:
 - Despite very slow and congested transportation and highly-constrained housing, high urban costs do not show in household budgets in developing economies.
 - Adjustments seem to take place through quantities and not higher expenditures: live in tiny shacks and work where you can go by foot.
 - Implication: cities as a collection of disjoint neighbourhoods. (Also relevant for the 15-minute city).
 - Spatial integration essential for cities to work as cities.
 - This requires well-functioning transport and housing markets.

Urban density increases the productivity of firms

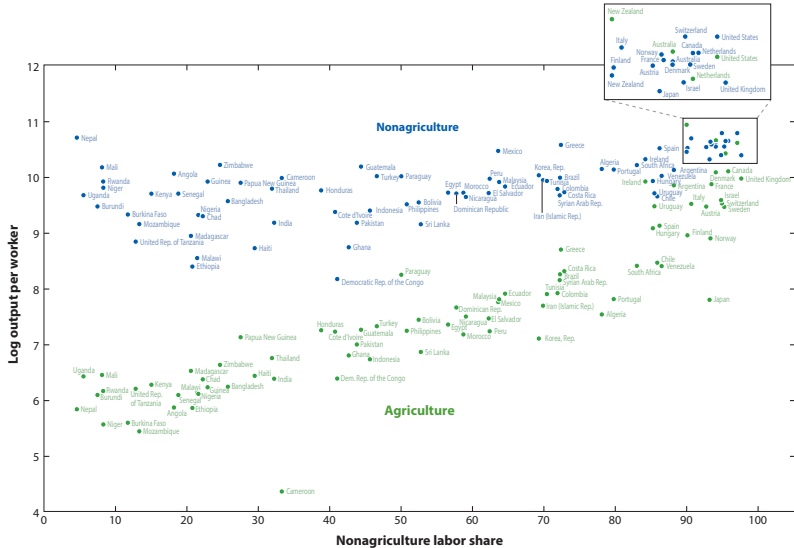


Source: Combes, Duranton, Gobillon, Puga, and Roux (2012)

Urban density increases the earnings of workers

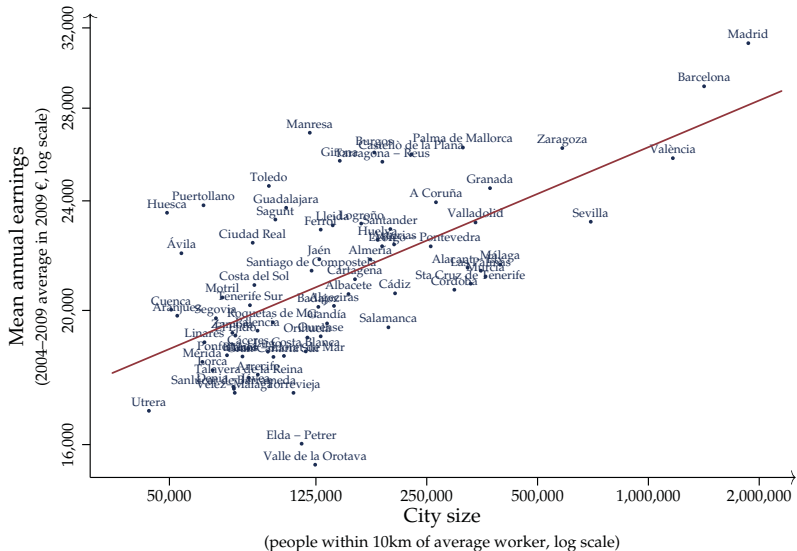
- The urban wage premium adds
 - a “rural-urban wedge” (higher earnings in non-agriculture than in agriculture)
 - and a “city-size wage premium” (within non-agriculture, higher earnings in bigger/denser cities, more so for the high skilled).
- In developing economies:
 - the rural-urban wedge is comparatively huge,
 - while the city-size wage premium is not, and shows smaller differences by skill.

Rural-urban wedges across the world



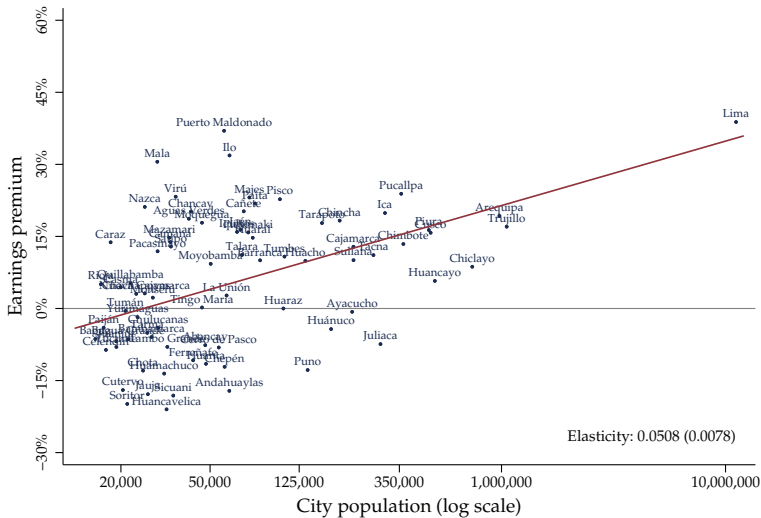
Source: Bryan, Glaeser, and Tsivanidis (2020)

Average earnings are higher in bigger cities...



Source: De la Roca and Puga (2017)

City-size wage premium in Peru



Source: De la Roca, Parkhomenko, and Velásquez Cabrera (2024)

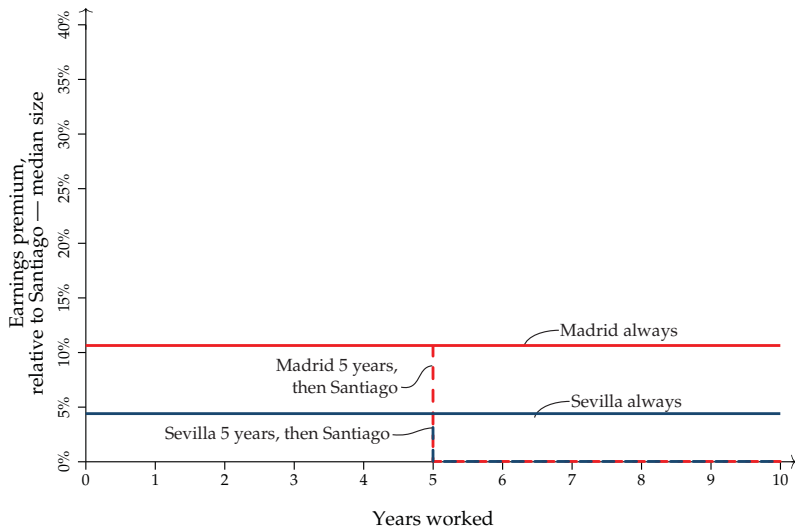
Sources of urban wage premia

- The urban wage premium may potentially reflect:
 - The sorting of more skilled workers into larger cities.
 - An intrinsic first-nature advantage of some locations.
 - Compensating differentials (to locate in big cities, firms need to offset higher costs/negative externalities for their workers).
 - Static agglomeration economies (dense urban environments raise a worker's productivity while working there).
 - Learning effects (dense urban environments foster human capital accumulation).
- To separate these explanations, we need long panel data for individual workers and rich data about locations.

The city-size earnings premium

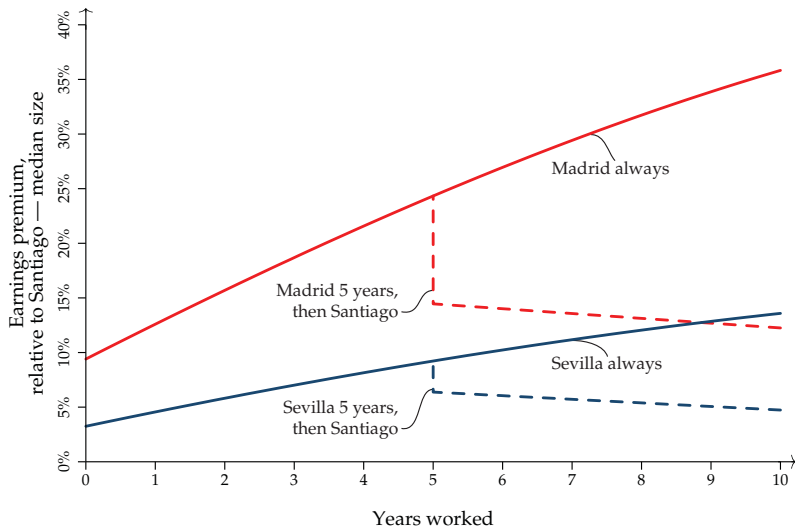
- Earnings are higher in cities than in rural areas, even after accounting for sorting through worker fixed-effects (Glaeser and Maré, 2001).
- Earnings are even higher in bigger/denser cities (Combes, Duranton, and Gobillon, 2008; Combes, Duranton, Gobillon, and Roux, 2010).
 - Again, not just because more productive workers sort into bigger cities.
 - Not just because intrinsic productive advantages attract more workers and make cities larger.
- Comparing recent and older migrants into cities suggests premium increases over time (Glaeser and Maré, 2001).
- Learning by working in bigger cities: the value of experience differs depending on where this is acquired,
- and, when relocating, workers take with them the the more valuable experience acquired in bigger cities (De la Roca and Puga, 2017).

The traditional view of the city-size earnings premium



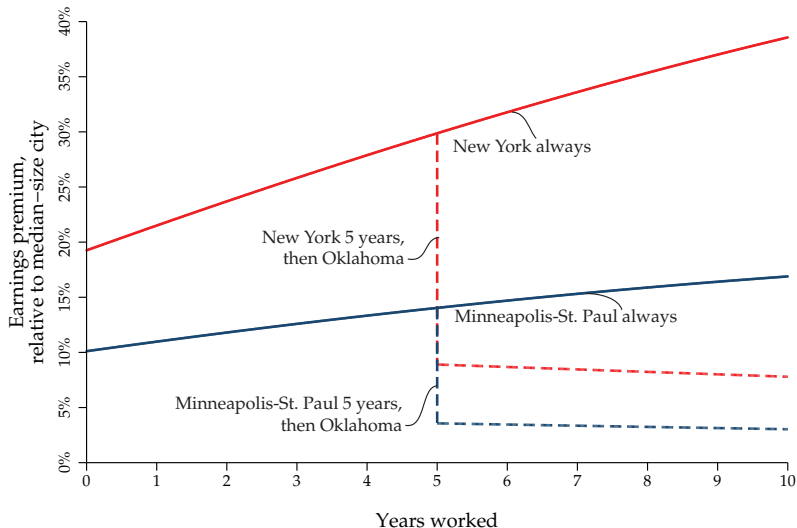
Source: De la Roca and Puga (2017)

Learning by working in big Spanish cities



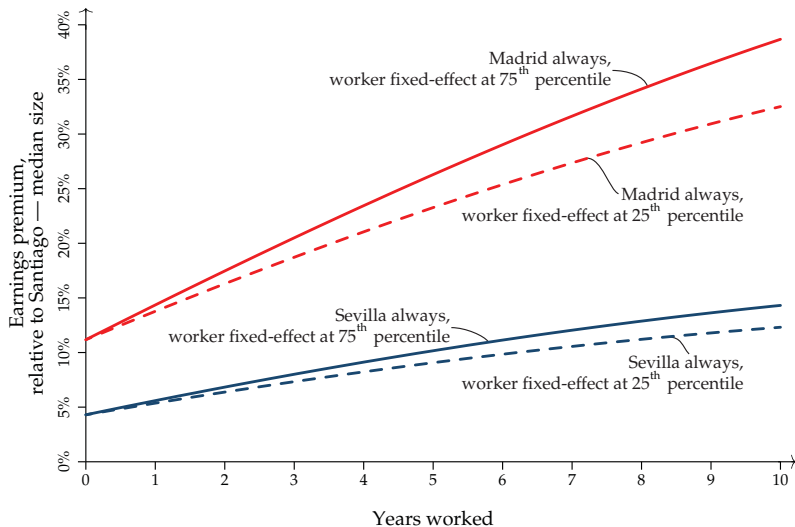
Source: De la Roca and Puga (2017)

Learning by working in big US cities



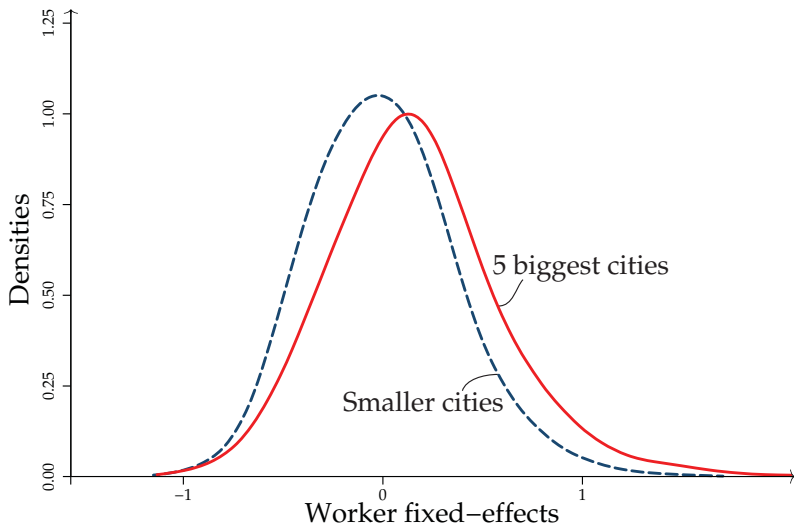
Source: Duranton and Puga (2023)

City-size earnings premium heterogeneity



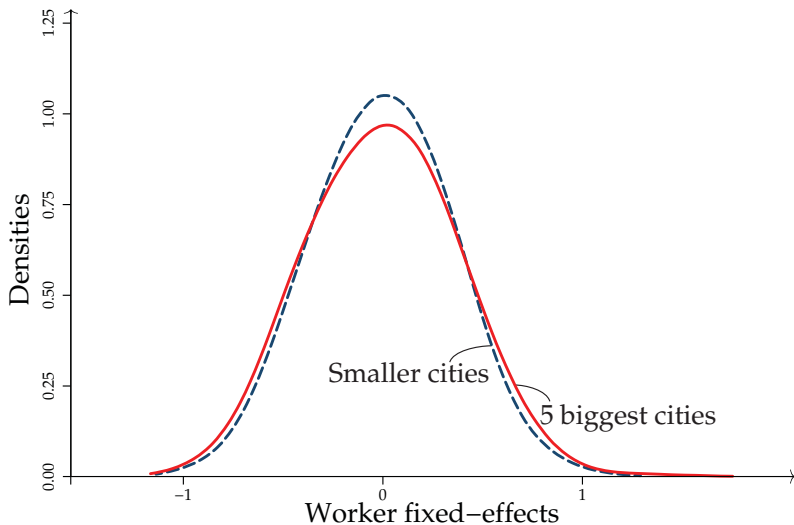
Source: De la Roca and Puga (2017)

Not accounting for learning effects, sorting seems strong



Source: De la Roca and Puga (2017)

Accounting for learning, similar worker fixed effects

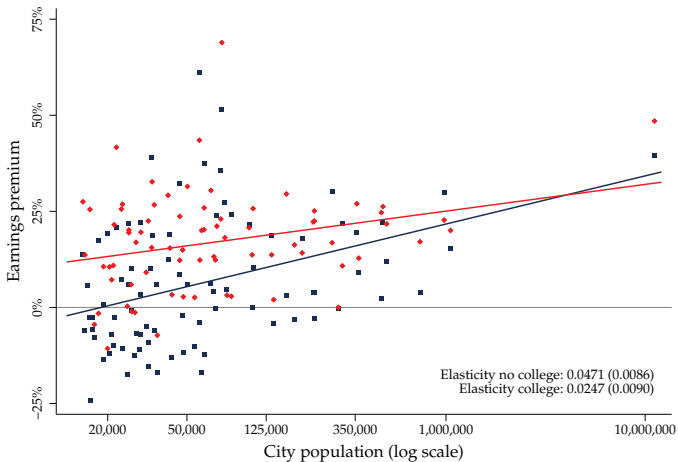


Source: De la Roca and Puga (2017)

Learning by working in big cities

- Tracking not only workers' current job location, but also their entire workplace location histories, shows that
 - an earnings premium is attained upon arrival in a big city,
 - workers accumulate more valuable experience in a big city,
 - and take most of the accumulated premium when they relocate.
- Learning effects account for about half of the city-size earnings premium.
- Furthermore, differences in worker skills across cities
 - appear not to be the result of sorting (workers in big and small cities appear initially very similar),
 - but the result of workers accumulating more valuable experience in bigger cities,
 - and this benefiting more able workers more.
- Results are consistent with bigger cities fostering greater rates of human capital accumulation on the job, or “learning”, especially for highly skilled workers.

Lower city-size wage premium for skilled workers in Peru



Source: De la Roca, Parkhomenko, and Velásquez Cabrera (2024)

City-size earnings premium for skilled workers small in developing economies

- Why is the city-size earnings premium smaller for skilled workers in developing economies?
- Maybe weaker learning effects? Returns to experience, in general, are smaller in developing economies (Jedwab, Romer, Islam, and Samaniego, 2023).
- Compensating differentials may work against the city-size earnings premium for skilled workers. De la Roca, Parkhomenko, and Velásquez Cabrera (2024):
 - Skilled workers value amenities that are scarce in medium-size cities (e.g., high-quality schools, low-crime housing communities).
 - Firms must pay skilled workers compensating differential to locate in medium-sized cities.
 - This undermines the city-size earnings premium for skilled workers.

The many layers of agglomeration benefits

- We must think about agglomeration as a process with many layers:
 - Location effects prior to entering the labor market (Bosquet and Overman, 2019; Sprung-Keyser and Porter, 2024).
 - Static agglomeration economies.
 - Learning on the job in large cities (Glaeser and Maré, 2001; De la Roca and Puga, 2017).
 - Exporting this knowledge elsewhere and teaching it to others (Duranton and Puga, 2001; Serafinelli, 2019; Jarosch, Oberfield, and Rossi-Hansberg, 2021; Giroud, Lenzu, Maingi, and Mueller, 2024).
- Life-cycle moves for firms and skilled workers are important for learning and spatial spillovers.
- This mobility is missing in many developing countries (extreme primacy, lack of amenities for skilled workers in smaller cities).

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