Why are big cities pulling ahead?

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OECD Expert Workshop: Drivers of growth in all types of regions
Paris, March 2026

Aim & scope

- **Cities** are the powerhouses of the economy
  - We know this since Marshall (1890)
- Let's think about **why they are pulling (further) ahead**, recently?
  - What has changed?
  - What did we (or I) learn?
- Big-picture thoughts from **subjective reading of literature**
  - **Increasing returns to density** favor big cities
  - **Structural transformation** favors big cities
  - Increase in market concentration (**superstar firms**) favors big cities
  - **Urban QoL premium** increasingly favors big cities

Why do people live in cities?

- Perhaps the oldest question in urban economics...
  - What is good about **density = concentration of people and firms in space**?
- Evergreen answer: Cities are **good places to produce**
  - Agglomeration economies lead to higher productivity and wages, innovation and entrepreneurship...
- More recent answer: Cities are **good places to live**
  - Big-city consumption amenities and variety!
- Of course, there are also urban costs
  - housing costs, congestion, inequality

Q: Which benefits and costs dominate?

Benefits and costs of density

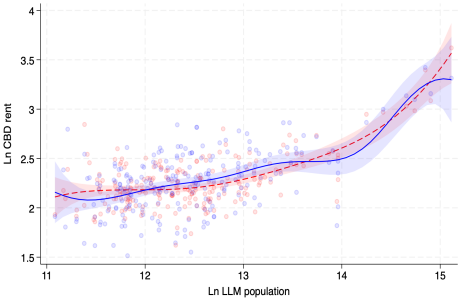
ID	Outcome	Elasticity	Quantity, p.c., year	Unit value	**PV of 1% dens. incr. ($)**
1	Wage	0.04	Income ($) 35,000	–	**280**
2	Patent intensity	0.21	Patents (#) 2.06E–04	Patent value ($/#) 793k	**7**
3	Rent	0.15	Income ($) 35,000	Expenditure share 0.33	**347**
4	VMT reduction	0.06	VMT (mile) 10,658	Private cost $/mile 0.83	**107**
5	Variety value	0.12	Income ($) 35,000	Expenditure share 0.14	**115**
6	Local public spending	0.17	Total spending ($) 1,463	–	**50**
7	Wage gap reduction	-0.035	Income ($) 35,000	Inequality premium 0.048	**-12**
8	Crime rate reduction	0.085	Crimes (#) 0.29	Full cost ($/#) 3,224	**16**
9	Green density	0.28	Green area (p.c., m^2) 540	Park value ($/$m^2$) 0.3	**100**
10	Pollution reduction	-0.13	Rent ($) 11,550	Rent–poll. elasticity 0.3	**-90**
11	Energy use reduction	0.07	Energy (1 M BTU) 121.85	Cost ($/1 M BTU) 18.7	**32**
		0.07	CO_2 emissions (t) 25	Social cost ($/t) 43	**15**
12	Average speed	-0.12	Driving time (h) 274	VOT ($/h) 10.75	**-71**
13	Car use reduction	0.05	VMT 10,658	Social cost ($/mile) 0.016	**2**
14	Health	-0.09	Mortality risk (#) 5.08E–04	Value of life ($/#) 7M	**-64**
15	Self-reported well-being	-0.004	Income ($) 35,000	Inc.–happ. elasticity 2	**-52**

Notes: Elasticities are taken from a quantitative literature review synthesising 347 estimates across 180 studies. Monetary values report long-run per-capita present values of a 1% increase in population density for a representative high-income metropolitan area. Source: Ahlfeldt & Pietrostefani (2019).

Urban productivity premium may be even larger

- **Higher wages** reflect greater productivity
  - **Sharing:** shared inputs, infrastructure, specialized suppliers
  - **Matching:** thicker labor markets, better job-worker matches
  - **Learning:** knowledge spillovers, peer effects, dense networks
- Probably understating the effect
  - City-size elasticity of commercial rent: 15%
  - Implied TFP effect: 2% ⇒ City-size **elasticity larger than when inferred from wages and rents**
- QoL matters too (more later)...

CBD rent vs city population



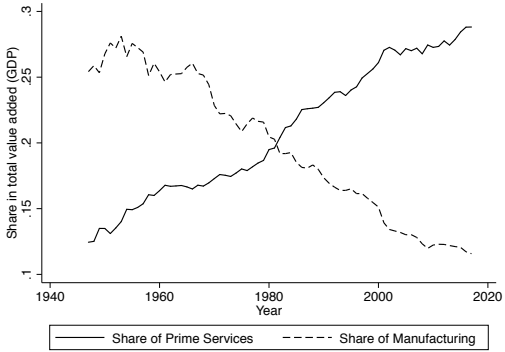
Source: Ahlfeldt, Heblich, Seidel, Yin (2026).

What is changing?

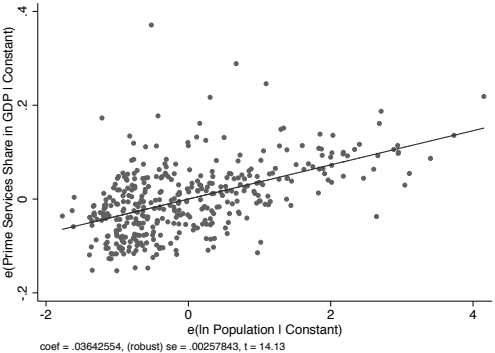
- Agglomeration economies explain spatial concentration
  - Production **and** consumption sides matter
- **But spatial divergence is increasing over time**
  - „Cities with the right industry mix and a solid human capital base attract ever more good firms and pay high wages. Cities at the other end of the spectrum are stuck with dead jobs and low wages." (Moretti, 2013)
  - Rich, urban „superstar" regions are growing faster (Iammarino et al., 2019)
  - Urban wage premium almost doubled between 1985 and 2015 (Dauth et al., 2022)
  - Commercial rent premium also increased (Ahlfeldt, Heblich, Seidel, Fan, 2026)

Q: What is driving the widening urban–rural gap?

Structural transformation in cities



(a) Share of prime services in US GDP



(b) Share of prime services and MSA size

Source: Ahlfeldt, Albers, Behrens (2022)

Structural transformation is urban-biased

- Structural transformation shifts activity toward **services** and **intangibles**
  - Manufacturing declines in relative terms
- The growing sectors are also the **most urban-complementary**
  - they **rely on dense labor markets, teams, and networks**
  - returns to density increase even without manufacturing decline
- Transformation is **not spatially neutral**:
  - large cities gain employment, productivity, and wages
  - smaller regions fall behind in relative terms
- Evidence
  - Chen, Novy, Perroni, Wong (2025) for France
  - Eckert, Ganapati and Walsh (2025) for US

The rise of the superstar firm

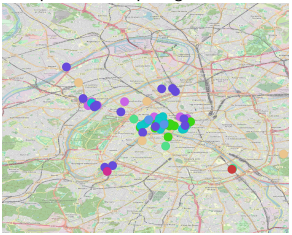
- There was not only a **shift** between sectors, also **within sectors**
  - Productivity growth has become increasingly **uneven across firms**
- A small set of highly productive **superstar firms** pull away from the rest
  - higher productivity growth at the frontier
  - rising market shares, markups, and profits
- **Technological change** and scale economies reinforce this pattern
  - **digital technologies favour scalability** and winner-take-most dynamics
- E.g. Autor et al. (2020); De Loecker et al. (2020)

Q: Do superstar firms contribute spatial concentration?

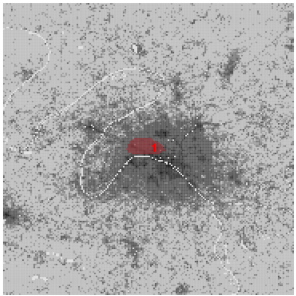
Where do superstar firms locate?

- **Superstar firms** concentrate in **superstar cities**
  - Large cities high-skilled labour force (Gourko, Mayer, Sinai, 2013).
- **Superstar firms** concentrate in **prime locations**
  - Clusters of extreme density and spillovers (Ahlfeldt, Albers, Behrens, 2026)
  - E.g. Midtown Manhattan: 1.7M on 11 km^2
- **Prime locations** only exist in **superstar cities**
  - Critical mass for professional and social networks
- **Rise of superstar firm benefits superstar cities**
  - Uneven productivity growth **across firms** leads to...
  - ...uneven economic growth **across regions**

Superstar firm openings since 2000



Prime location (Ahlfeldt, Albers, Behrens, 2026)



What drives the location of superstar firms?

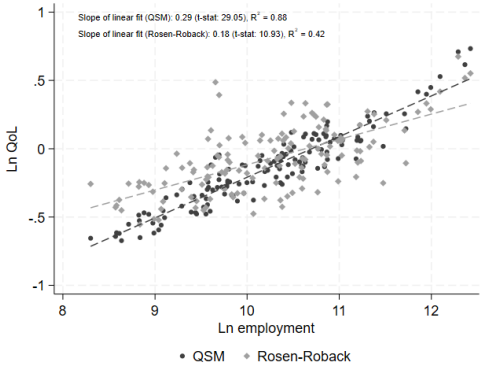
- **First-order explanation:** agglomeration economies
  - sheer magnitude of spillovers in prime locations
  - dense matching of firms, workers, and ideas
  - concentration of very high productivity and revenue per worker (e.g. Manhattan)
- **But firms also need workers**
  - especially high-skill, mobile workers
  - whose location choices increasingly matter
  - firms partly follow workers, not only the other way round
- **Amenities and quality of life increasingly shape worker location**
  - Skilled workers sort into high-amenity cities (Diamond, 2016)

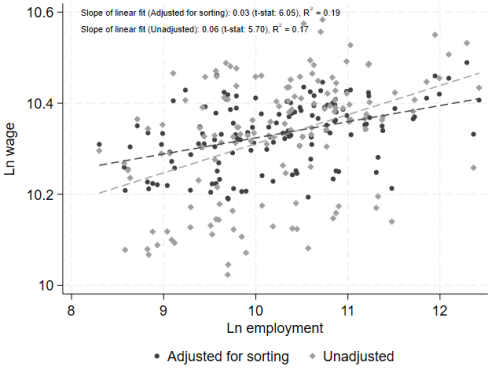
Q: Is there a role for quality of life in urban growth?

Are cities good places to work and live?

- **Urban QoL premium is intuitively plausible**
  - cities in better places grow larger; larger cities offer more **consumption variety**
  - Cities attractive to **young & high-skilled** workers (Couture & Handbury, 2020)
- **Neoclassical quality-of-life literature**
  - higher QoL shows up as **lower real wages** via rent capitalization (Roback, 1982)
  - empirical literature finds **little evidence** of a positive urban QoL premium
- **Quantitative model with spatial frictions**
  - Need to account for idiosyncratic tastes, local ties, tradable goods, local services
  - **Large cities must offer a QoL premium** to attract more workers
  - Downward bias in **larger urban QoL premium** in Rosen-Roback framework
  - Ahlfeldt, Bald, Roth, Seidel (2025)

The urban QoL premium in Germany





- Urban QoL premium > urban wage premium (Ahlfeldt, Bald, Roth, Seidel, 2025)
  - Elasticity of 0.18-0.29 vs. 0.03-0.06
  - Urban QoL premium increased by 20% from 2007 to 2019

What's behind the urban QoL premium?

- Large cities offer high wages and high QoL
  - **Urban pull from the production and consumption side**
  - Both are likely **increasing over time**
- Urban QoL and wage premia are both **descriptive concepts**, no causality
  - Fixed costs in local services imply that **consumption variety** increases with city size
  - **Natural amenities** (climate, mountains, rivers) attract workers (reverse causality)
- QoL may capture amenity value of **insurance against labour demand shocks**
  - Cities trade wage growth against wage risk depending on industry composition
  - Large cities of closer to the efficient frontier (lower risk at same growth)
  - **Diversification and risk pooling** (Zhang, 2026)

Conclusion

- **Composition effects**
  - large cities specialize in **fast-growing, density-complementary sectors**
  - they host **superstar firms** with rising market shares
  - reallocation toward these activities raises average productivity and wages
- **Increasing returns to city size**
  - agglomeration forces appear to have **strengthened**, not changed in nature
  - returns operate on the **production side** (productivity, matching, learning)
  - and likely also on the **consumption side** (amenities, variety, insurance)
- **Open questions for policy-relevant research**
  - do we need place-based QoL policies (complementing production-oriented policies)?
  - can we export the urban success to city hinterlands (combining WFH and transport)?
  - what is the ideal city industry structure considering growth and resilience?