Rethinking Location

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*The views expressed are mine alone and do not necessarily reflect those of the Federal Reserve Bank of Kansas City or the Federal Reserve System
2017: Amazon HQ2

The (2017) Criteria:
1. metropolitan area with pop > 1 million
2. stable and business-friendly environment
3. location that can attract and retain talent

The Prize:
• 50,000 jobs with avg salary > $100,000
• $5 billion capital investment

The Winners
• New York City Metropolitan Area (pop 20.0 million, pop rank 1)
• Washington D.C. Metropolitan Area (pop 6.2 million, pop rank 6)
• Nashville Metropolitan Area (pop 1.9 million, pop rank 37)
Overview

• The fundamental determinants of metropolitan size

• The benefits and costs of size and how they may changed with hybrid officing (some days on site, some days remote)

• 2000–17: medium-sized metros grew fastest (pop 500 ths to 3 mil)

• 2021 (post Covid): rethinking whether to locate employer offices in city or suburbs
Conclusions

• **Fundamentals determining size matter!**
  ▶ productivity; amenities; taxes
  ▶ improving fundamentals likely to benefit existing businesses and residents
  ▶ will also drive growth

• **Size itself matters!**
  ▶ Severe disadvantages to small size; limited scope to escape
    ▶ but perhaps less than before
  ▶ Significant costs to size above some threshold
    ▶ but probably less than before

• **Medium size balances benefits and costs**
  ▶ but equilibrium size may have shifted upward

• **Hybrid setup probably favors locating offices near the center of metropolitan areas**
Fundamental determinants of metropolitan size

- **Business productivity**
  - natural harbor, central location
  - natural resources (water, electricity, raw materials, weather, hazards)
  - transportation infrastructure, continuing education
  - streamlined licensing and permitting
  - **test**: Are businesses willing to pay higher wages?

- **Amenities**
  - natural resources (weather, beaches, mountains, hazards)
  - parks, museums, sports teams, the arts
  - transportation infrastructure, continuing education
  - great public schools!
  - **test**: Are residents willing to pay higher home prices?

- **Moderate taxes**
Benefits of Size: Can boost productivity and amenities!

- **Sharing** *(no change)*
  - infrastructure *(airports, seaports, rail connections, utilities, ...)*
  - civic amenities *(museums, zoos, performance arenas, sports stadiums, ...)*
  - risk *(across businesses and industries)*

- **Matching** *(perhaps less benefit than before)*
  - workers to jobs *(skills to needs, dual career couples, flexible hours)*
  - residents to services *(restaurants, stores, continuing education, ...)*
  - businesses to services *(law, advertising, banking, venture capital, ...)*
  - patients to doctors *(specialization)*

- **Learning** *(unclear)*
  - generation of specialized knowledge *(R&D, science, medicine)*
  - diffusion of knowledge: *(medicine, entrepreneurship, finance, ... “the mysteries of the trade become no mysteries; but are as it were in the air”)*
Costs of Size:

- STRATOSPHERIC HOUSING PRICES AND RENTS
- MADDENING TRAFFIC CONGESTION
- CONGESTION OF EVERYTHING ELSE
  - hours-long TSA waits
  - packed public transit
  - crowded sidewalks
Medium-sized metros have been growing fastest (pop., 2000–17)
Small locations that grew fastest benefitted from “special circumstances”
Special circumstances benefitting small locations
(not amenable to policy!)

- nice weather
  - warmer winters
  - cooler, less humid summers
  - less rainy days
- mountains
- ocean coast
- shale basin
- near medium or large metro area
- university
Largest metropolitan areas grew slowly

Population growth, 2000–17 (average annual percent)

Notes: Metropolitan areas are labeled with the name of their largest city. The $R^2$ value is for metropolitan areas with a population of at least 500,000. The solid blue line represents a prediction of locations' growth rates based on their population and estimated using all 2,258 locations. The orange dashed line corresponds to a growth rate of 0. The Denver and Boulder metropolitan areas are combined.

Sources: U.S. Census Bureau and author's calculations.
Hybrid Officing: Some Days On Site, Some Days Remote

- Feasible for about one third of jobs
- **Workers remain tethered to employer offices**

Chart 1: After the Pandemic, Office Workers Are Likely to Work Remotely One to Four Days per Week

Source: PwC (2021).
Loosening the Tether

- fewer weekly commutes
- lower daily volume increases speed (most where congestion was worst)
- increases willingness to live *moderately* far from employer (probably most important for family households)

![Bar chart showing average annual hours delay per auto commuter for different cities.](chart.png)

Note: The Los Angeles metro includes Riverside-San Bernadino; the San Francisco metro includes San Jose. Sources: Schrank, Eisele, and Lomax (2019) and author’s calculations.
Hybrid officing changes some of the benefits and costs of size

Benefits of Size:

- unchanged sharing benefits (infrastructure, civic amenities, risk)
- mostly unchanged labor-market matching
- diminished matching benefit for some services (retail? education? medicine? law? advertising?)
- mostly unchanged learning benefits? (generating specialized knowledge, diffusion of knowledge)

Costs of Size

- diminished time and monetary costs of commuting (less frequent, less congested)
- increased disutility of high housing prices: (increased demand for home-office space)
Implied changes for equilibrium size

- Largest metros may grow even larger: can expand outward into lightly settled distant suburbs
  - Central cities may need to rely more on amenities that attract and retain young-adult households
  - Apartment rents in central cities may be lower than before
    - attracts households from smaller metro areas
    - encourages household formation

- Small locations with high amenities or that are near a large metro area may grow larger

- Ambiguous effect on medium-sized metro areas.
  - diminished commuting advantage relative to large locations
  - increased importance of lower housing prices than in biggest metros
    - but prices may differ by less
  - likely increase in importance of amenities
Hybrid officing favors locating in the center of metro areas

- Erodes the advantages of suburban locations
  - closer commutes less important
  - more parking less important
  - lower rents less important
    - if space requirement is lower (?)
    - if aggregate rent is lower (?)

- Amplifies the advantages of central locations
  - accessibility from residences throughout metropolitan area
    - increased spousal labor force participation
  - increases importance of in-person contact when on site
  - increases attractiveness of nearby urban amenities
Takeaways

• Rethinking which metro area to locate in
  ▶ Depends on fundamentals: productivity, amenities, taxes
  ▶ Benefits of size: can increase productivity and amenities
  ▶ Costs of size: high rents, traffic, other sorts of congestion
  ▶ Hybrid officing ameliorates the costs of size and so favors larger metro areas
  ▶ Small locations with high amenities may also benefit

• Rethinking where to locate within metro areas
  ▶ shift to more distant suburbs by family households
  ▶ lower rents in center attract young-adult households
  ▶ possible shift in offices from suburban to central locations

• Transition may take decades
  ▶ considerable experimenting to determine what works
  ▶ overlaps with downsizing by baby boomers (increased demand for multifamily)
  ▶ overlaps with spread of autonomous vehicles (less-costly commutes, less parking)