METROPOLITAN GROWTH AND CONCENTRATION

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Presented by Regional Economic Models, Inc.

Four Leading Concepts of Metropolitan Growth

- Industry Clusters
- Amenities
- Equilibrium
- Hierarchy of Cities

Industry Cluster

☐ Portman, Krugman

  ◘ Porter's concept of a cluster of firms, workers, institutions in cities that are the basis of regional competitiveness.

  ◘   Krugman's New Economic Geography developed a model of urban agglomeration based on monopolistic competition, Dixit-Stiglitz preference for variety, and transportation costs.

Amenities

□ Edward Ullman, Jennifer Roback, Richard Florida

■ Location-specific amenities attract population. California, Arizona, Florida migration. Technology changes (transportation, automobile, air conditioning, telecommunications) move to new equilibrium where amenities become an important locational decision. Also, as incomes increase, if "amenities" are a normal good, then people will migrate to high-amenity locations.

■ Richard Florida: in particular, attraction of the "creative class" spurs economic growth

Equilibrium

- Urban
  - William Alonzo, Cities productivity increases with city size, but land scarcity ultimately drives up costs, so that there is an equilibrium city size that maximizes productivity.

- Regional Scale
  - Individuals and firms will move to the location that maximizes profits/utility. This will continue until reaches a Nash equilibrium

Urban Hierarchy

- "One of the most striking features of the space-economy is that cities form a hierarchical system exhibiting some regularity in terms of their size and the array of goods they supply." -Tabuchi and Thisse (2011)

- Hamlet—Village—Town—City—State capital

- (business, cultural and/or political)—Regional capital—National City

Industry Cluster

- ☐ Grouping of interlinked firms, workers, institutions that drive innovation and international competitiveness in a sector
  - ☐ Bay Area: Google, Facebook, etc.; Stanford, Berkeley; Sand Hill Road Venture Capital; concentration of software engineers
  - ☐ Washington: National Government Cluster; Whitehouse, Congress, Federal Agencies; National Associations; Lobbying Firms; Consultants
  - ☐ Hartford, CT: Insurance Cluster; The Hartford, Aetna, Travelers; actuaries

Amenities

□ Cities that are "on the map" due to their fine weather and attractions

■ Miami and Florida in General: Beaches, Sub-Tropical Climate with "Cool" Summer Breeze along the Coast; Flat, Easily Developed Land

■ Phoenix, Arizona: Sunny, Warm, and Dry; Warm Days, Cool Nights; Abundant Land Easily Developed

Urban Hierarchy

□ Cities that have massive scale, typically dominant for a nation or region in finance, commerce, business and culture, yet also more diversified than a cluster city. Magnet for attracting talent on a national or regional basis.

- ◘ New York as primary city: Financial, Cultural Capital of the U.S.
- ◘ Los Angeles as second city: Financial, Cultural Capital of the West
- ◘ Chicago as capital of the Midwest
- ◘ Atlanta as capital of the Southeast

Equilibrium

- North-South "Convergence" as firms seek out lower labor costs (rise of the Sunbelt, decline of the Snowbelt)

- Massive migration to California and Florida slows as these states become more crowded and costly

- Metropolitan areas decline as their cluster or status as a regional capital weakens: Detroit as automotive technology and manufacturing matures and becomes globally widespread, Pittsburgh (steel) (cluster); St. Louis and Cincinnati dominated by Chicago; Baltimore overshadowed by Washington and Philadelphia.

- Metropolitan areas grow through the development of a cluster or increasing dominance as a regional capital (cluster: DC with the exponential growth of Federal spending); Hierarchy: Los Angeles surpassing San Francisco as the 'capital' of the West), Atlanta as the capital of the Southeast

# Transportation Costs, Technology and Innovation

- Amenity-driven migration to California, Florida with decreased transportation costs, telecommunications, automobile
- Dispersal of manufacturing with lower transportation costs (interstate highway), mature manufacturing technologies.
- "Convergence" to equilibrium wages and productivity has reversed with
  1. Innovative industries where clusters provide productivity advantage
  2. Lower geographical friction (transportation costs, and range of internet technologies reducing distance costs for communications and access): lower-ranked cities less needed for spatial access, higher-ranked cities have advantage of scale economies
  3. Move to service-based economy: land a relatively small production input (mostly residential); transportation of physical inputs less significant. Labor, particularly specialized labor of primary importance; this is concentrated in clusters and in high-ranked cities.

Some More Thoughts

- Metropolitan Hierarchy is very stable (NY surpassed Philadelphia in 1810 and remained as leading city); Chicago overtook Cincinnati and St. Louis in the late 1800's and has stayed as the leading city in the Midwest)

- Cluster city – internationally #1 or #2—is also stable, but can be disrupted. Detroit autos, Houston oil service, Bay Area technology. But Boston rt. 128 mini-computer cluster lost out to Silicon Valley PC; Holyoke "Paper City" lost to Wisconsin; New Bedford energy capital lost to Cleveland, Ohio, now Houston.

- Clusters that fit into the urban hierarchy are stable: finance in New York, education in Boston, government in DC, headquarters in Dallas and Atlanta, hospitals in Houston, transportation in Chicago.
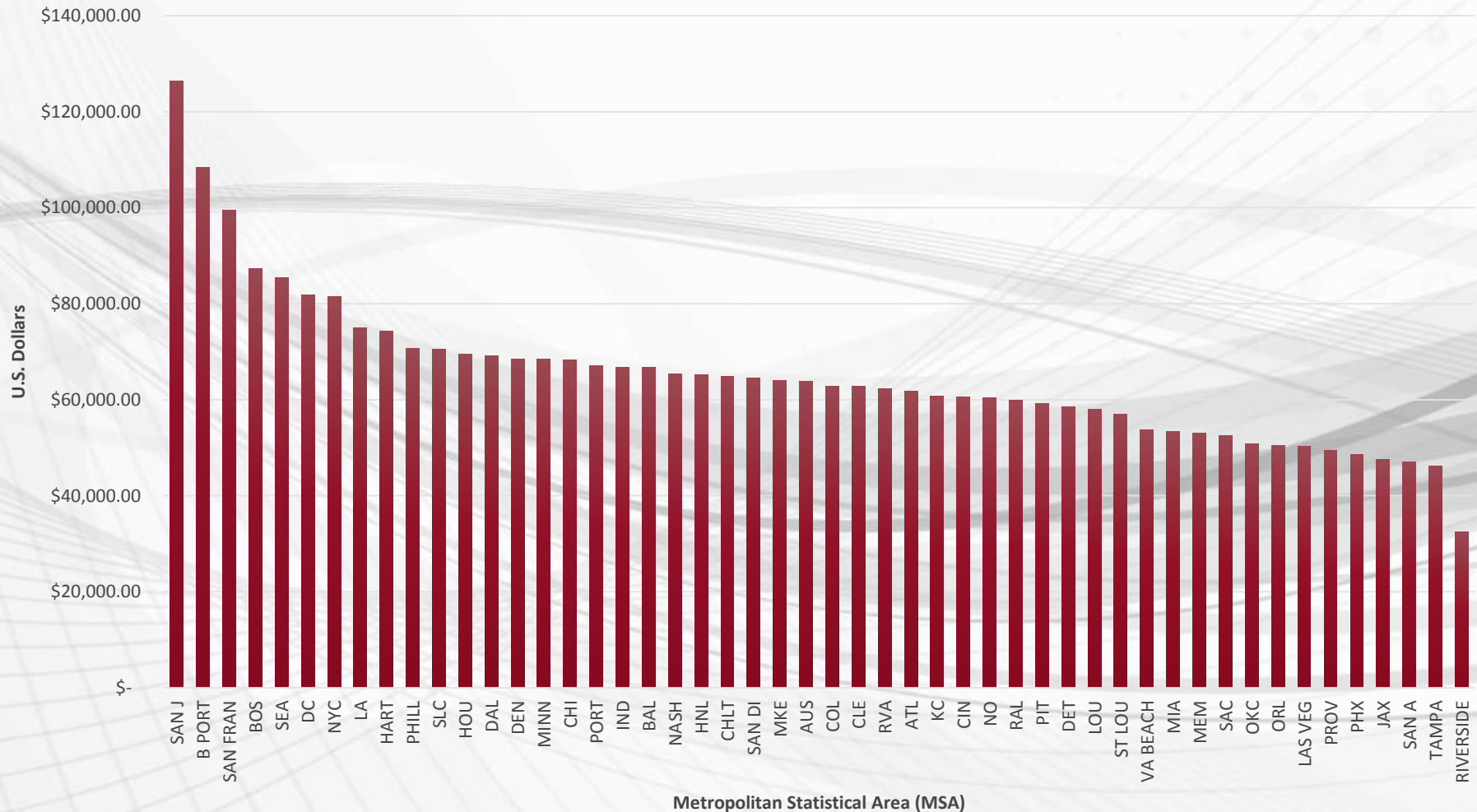
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Top 50 MSA's by GDP
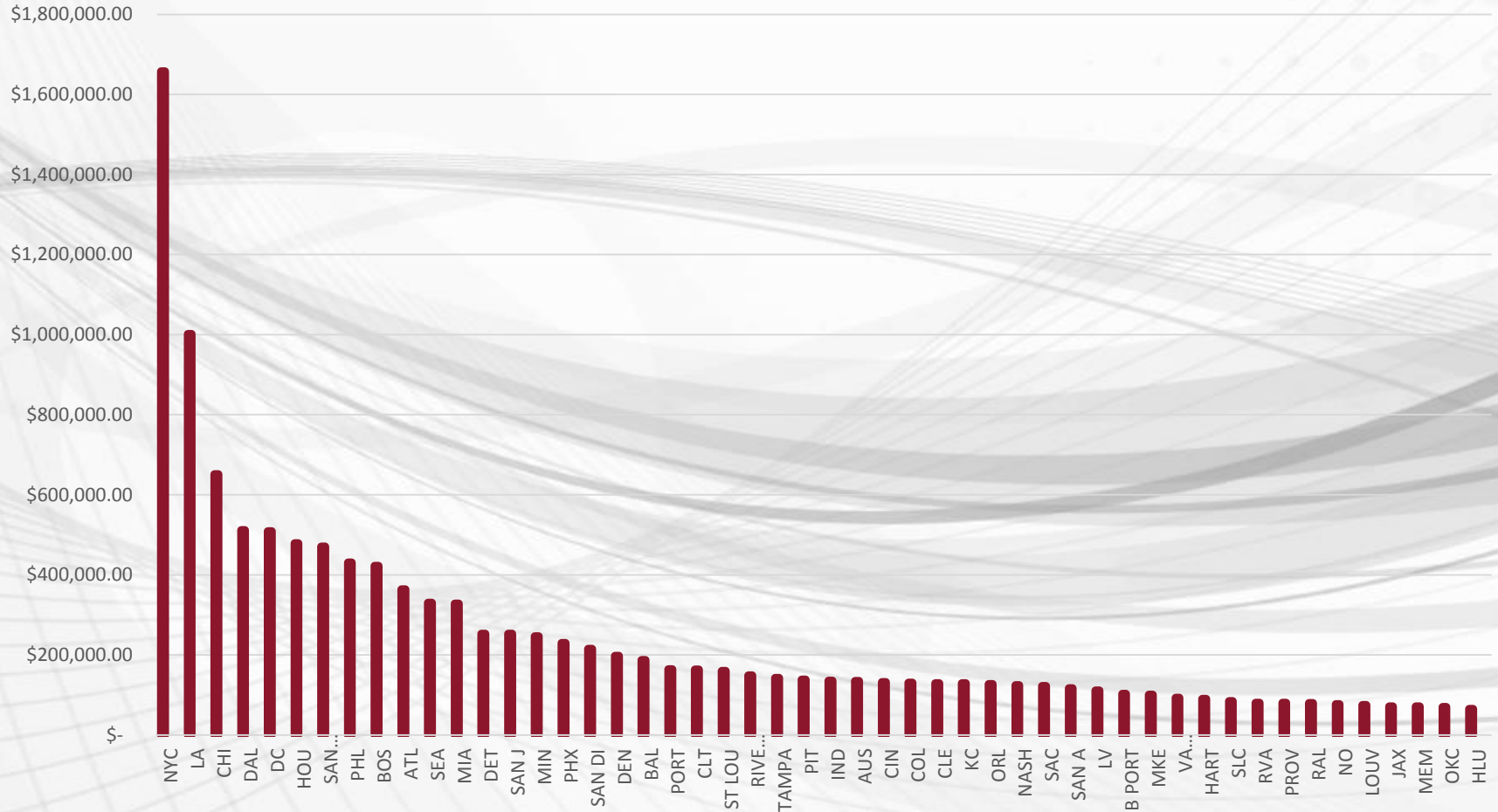
Data From: U.S. Bureau of Economic Analysis

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GDP Per Capita By MSA

Data From: U.S. Bureau of Economic Analysis and Statista
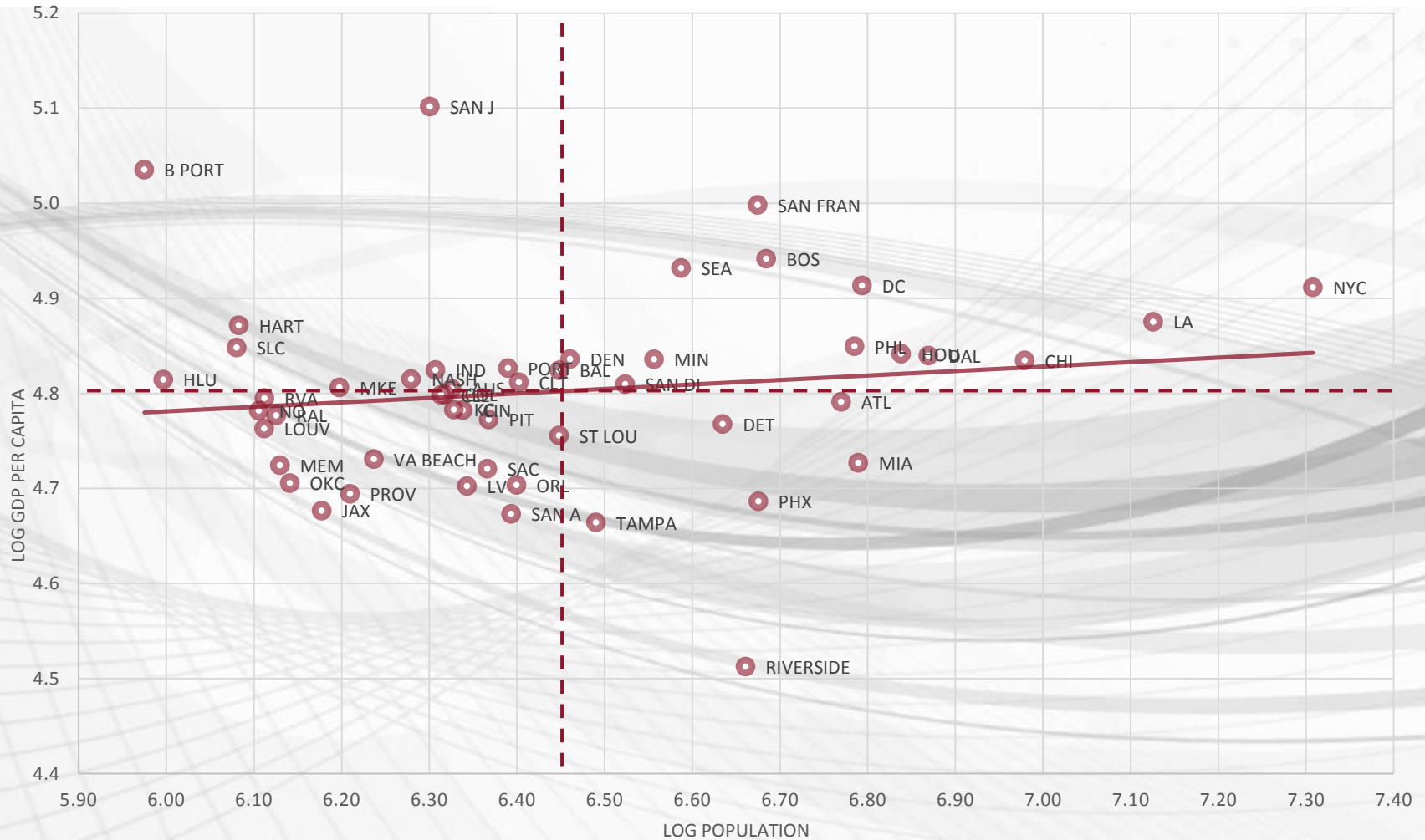
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Graph Quadrants

High GDP/Cap
Lower Pop.

High GDP/Cap
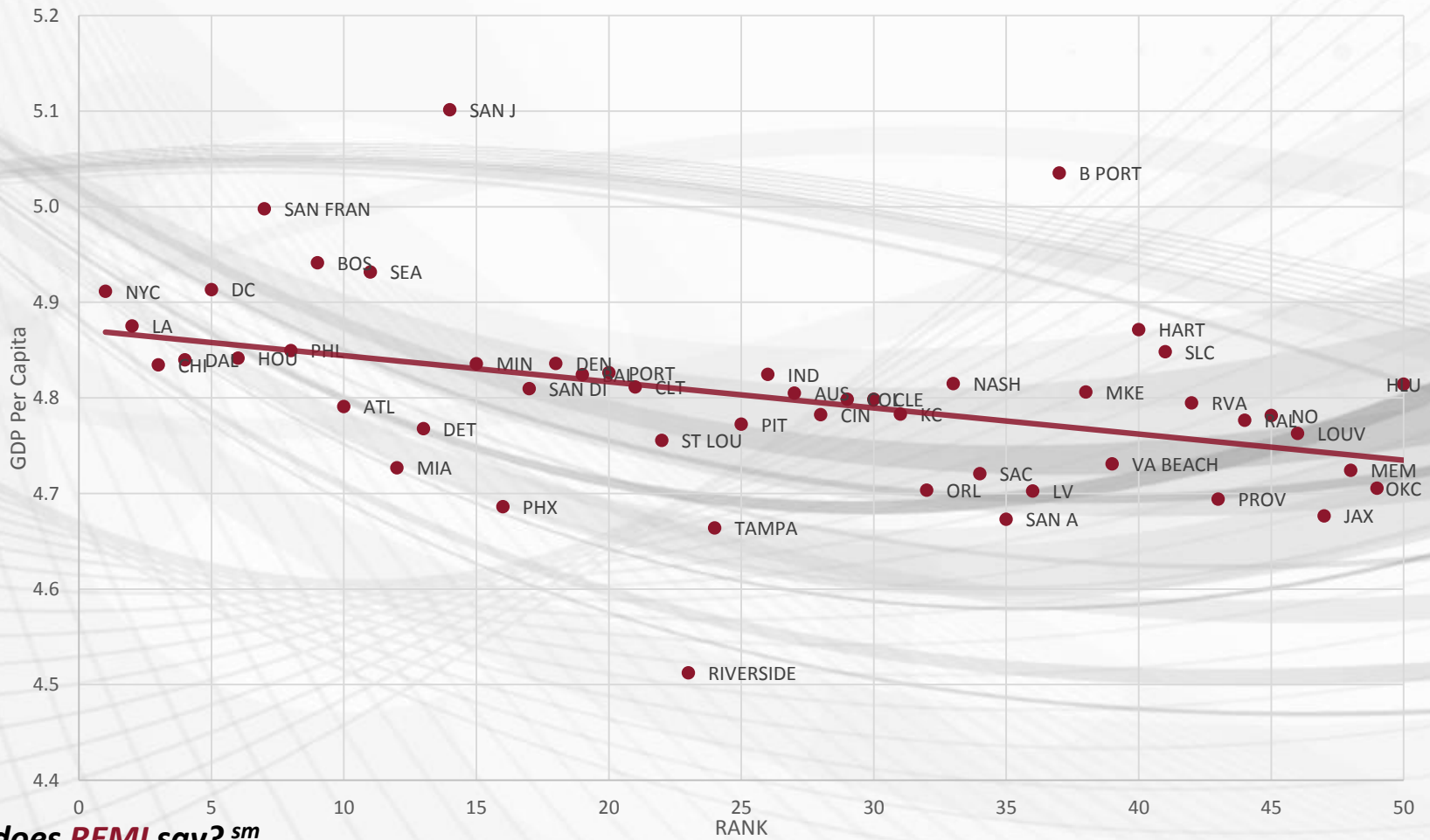High Pop.

Lower GDP/Cap
Lower Pop.

Lower GDP/Cap
High Pop

Log GDP Per Capita vs Log Pop.

Data From: U.S. Bureau of Economic Analysis and Statista

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GDP Per Capita vs Rank

Data From: U.S. Bureau of Economic Analysis

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