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Title

Technology as an Economic Engine for Southern California

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Technology as an Economic Engine for Southern California

Presented to:

The Future of Southern California's Economy

**The Ralph and Goldy Lewis Center for Regional
Policy Studies at UCLA**

Ross C. DeVol

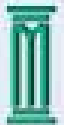
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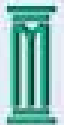
November 19, 2003



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Overview

- **High-Tech are Fastest-Growing Industries**
- **Who are Leading High-Tech Clusters?**
- **Southern California's Technology Position**
- **Technology and Science Index**
 - **Research and Development Inputs**
 - **Risk Capital and Entrepreneurial Infrastructure**
 - **Human Capital Investment**
 - **Technology and Science Workforce**
 - **Technology Concentration and Dynamism**
- **Statistical Relationships on Outcomes Measures**
- **Important Issues for Los Angeles and Southern CA**



High-Tech Leads All Industries

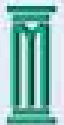
GIO, Compound Annual Growth Rate, 1976-2002

	Percent
1. Computer & Data Processing Services	11.7
2. Electronic Components and Accessories	10.9
3. Communications Equipment	10.5
4. Motion Pictures	7.4
5. Computer & Office Equipment	7.2
6. Drugs	5.4
7. Telephone Communications Services	4.7
8. Medical Equipment, Instruments, and Supplies	4.7
9. Research & Testing Services	4.3
10. Engineering & Architectural Services	3.1
11. Measuring & Controlling Devices	2.4
12. Total for United States	2.4
13. Aerospace	0.0
14. Search & Navigation Equipment	-0.8



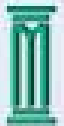
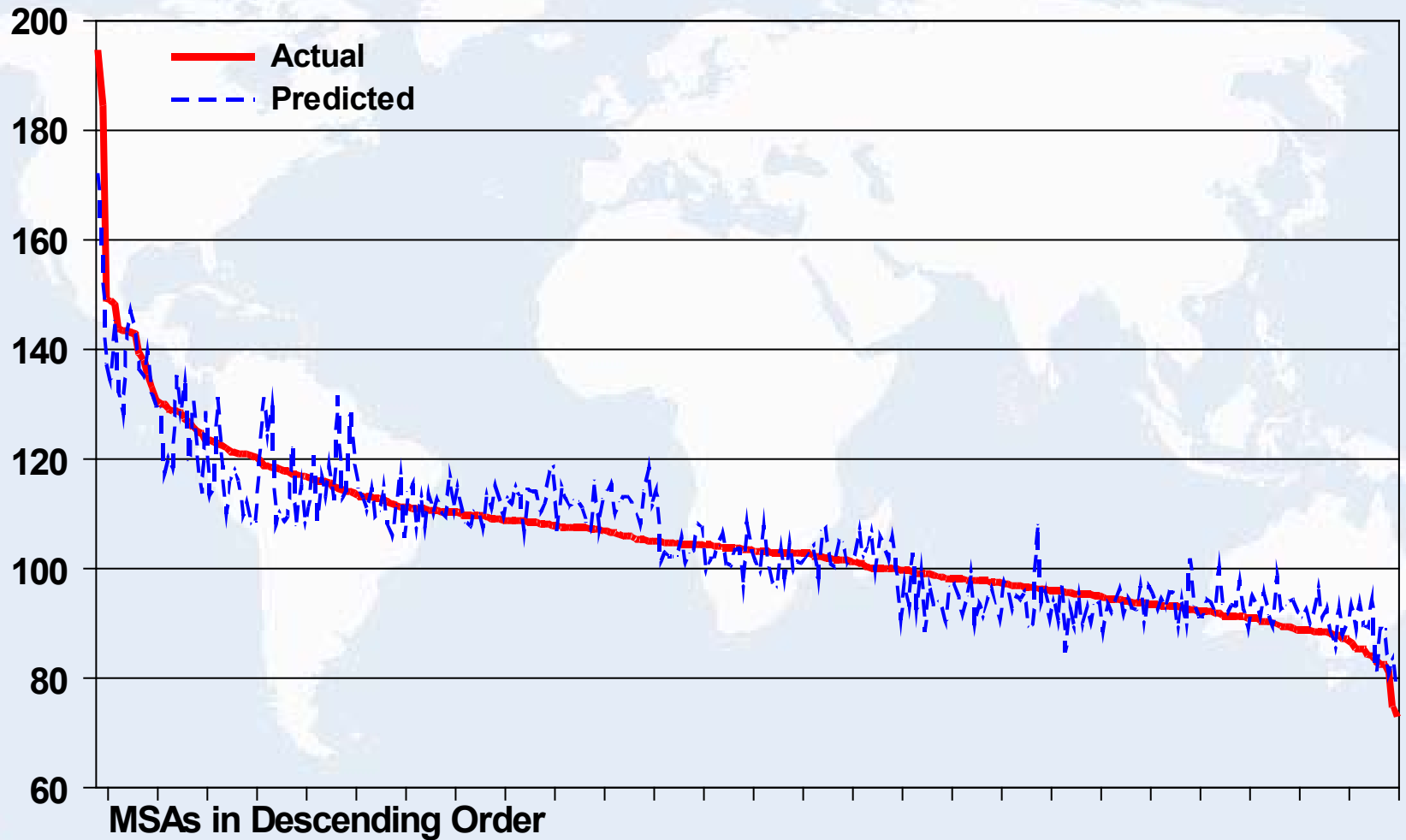
Agglomeration and Dispersion Forces in Competition

- **Agglomeration or Centripetal Forces**
 - Labor-Force Pooling
 - Supplier Networks
 - Technology Spillovers
- **Dispersion or Centrifugal Forces**
 - Immobile Factors
 - Supply-Side Factors
 - Demand-Side Factors



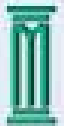
Metro Growth Explained by High-Tech

Actual vs. Predicted (Cross-sectional)



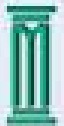
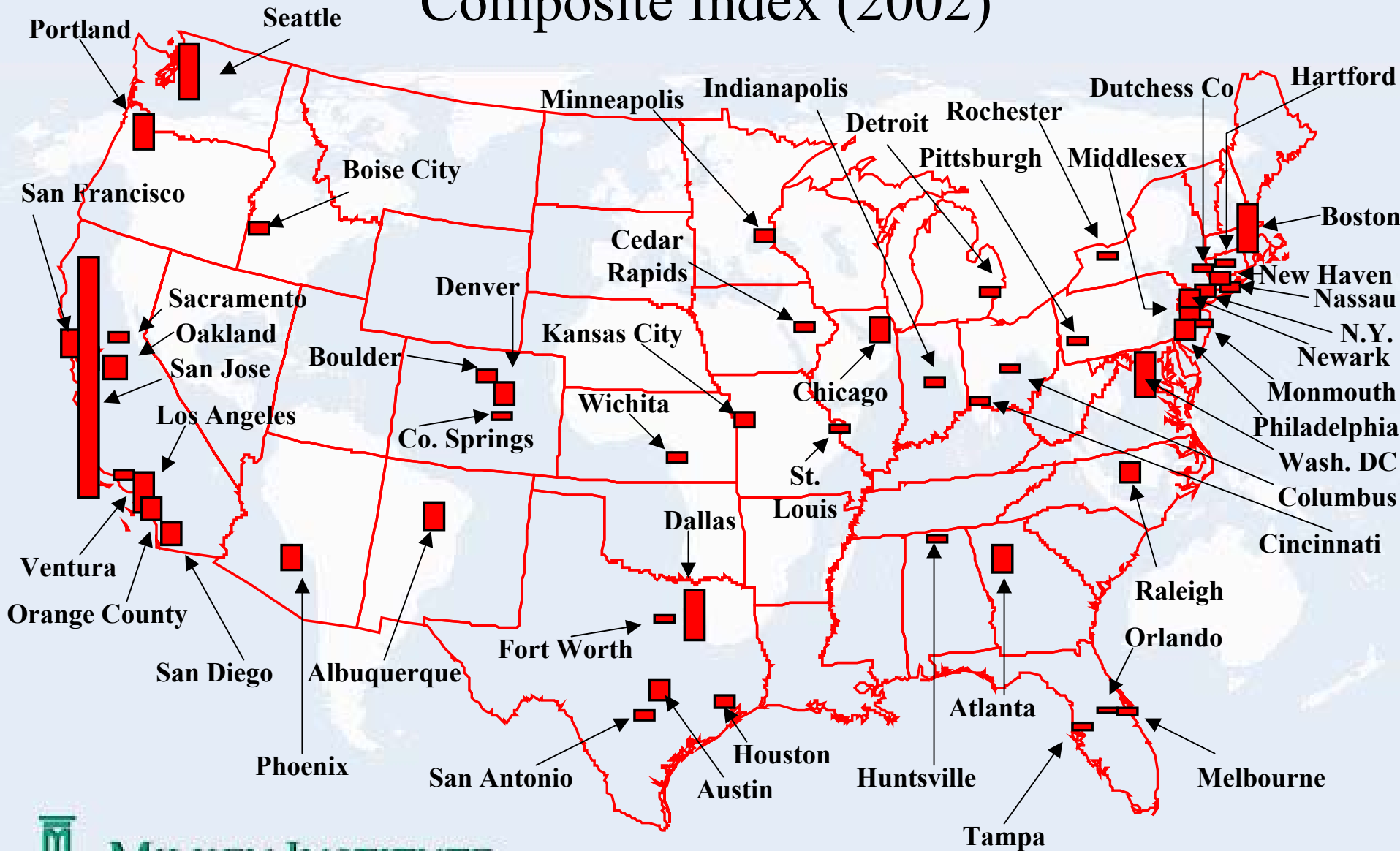
What Attracts and Sustains High-Tech Industries

- **Existing High-Tech Presence Helps**
- **Traditional Cost-of-Doing Business**
 - Tax Structure, Compensation Costs, Space Costs, Capital Costs, and Business Climate
- **Specific to High-Tech**
 - Proximity to Excellent Research Institutions
 - Access to Venture Capital
 - Educated Workforce
 - Network of Suppliers
 - Technology Spillovers
 - Climate and “Quality of Life”



Milken Institute Tech Poles

Composite Index (2002)

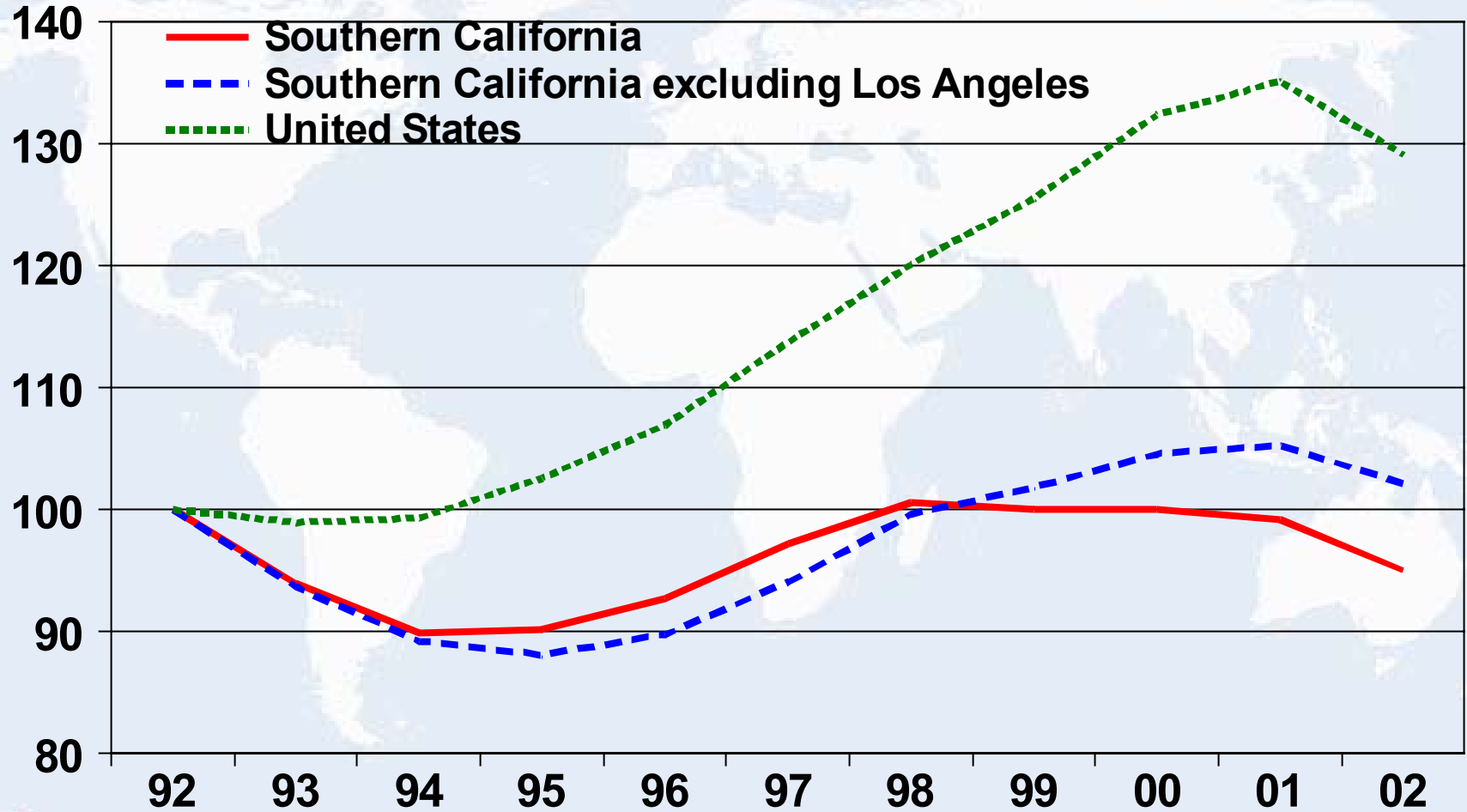


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U.S. Growth Higher Than SoCal

High Tech Employment Growth

Index 1992 = 100



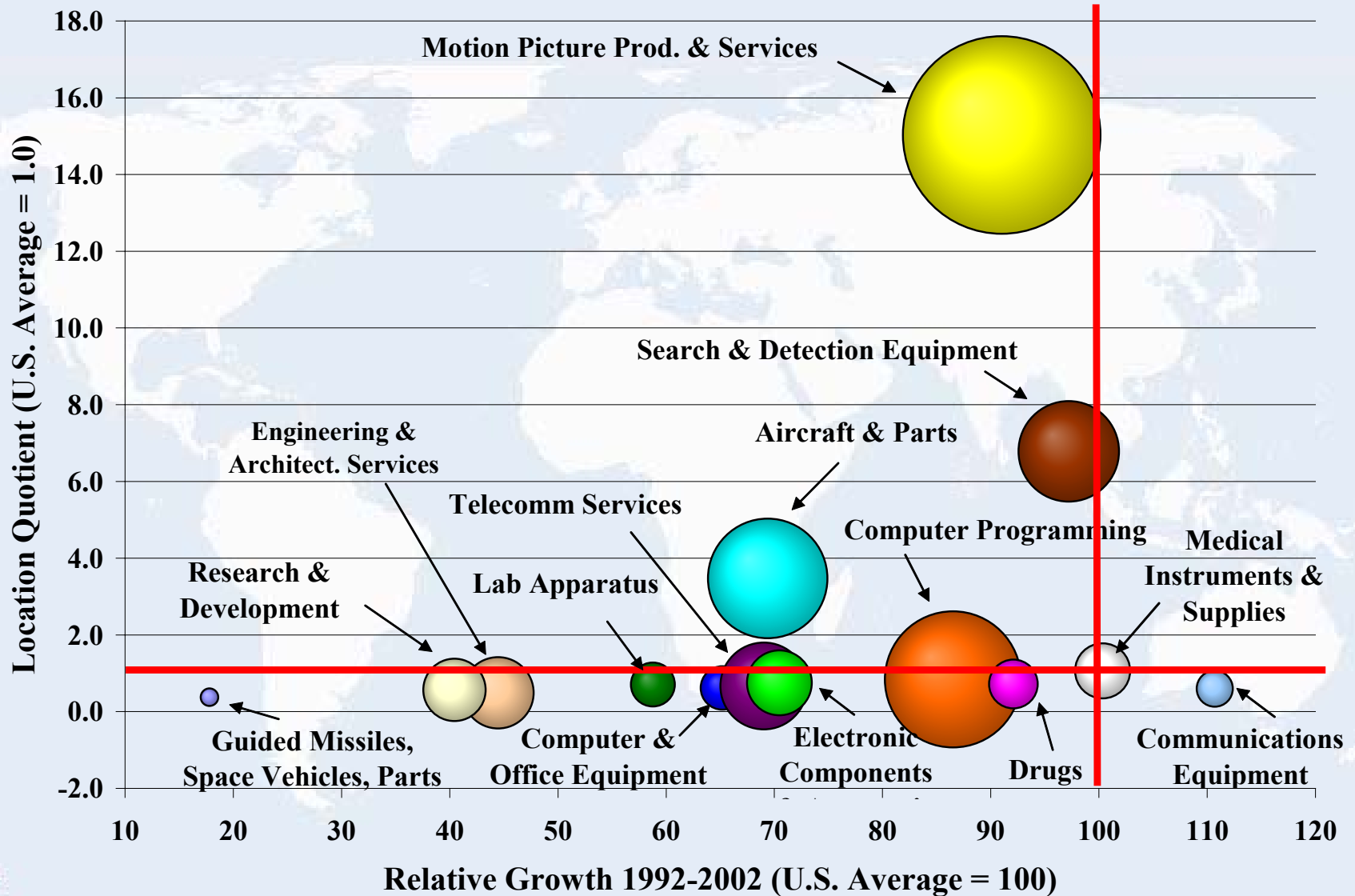
Milken Institute Tech Poles

Southern California Metros, 2003

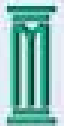
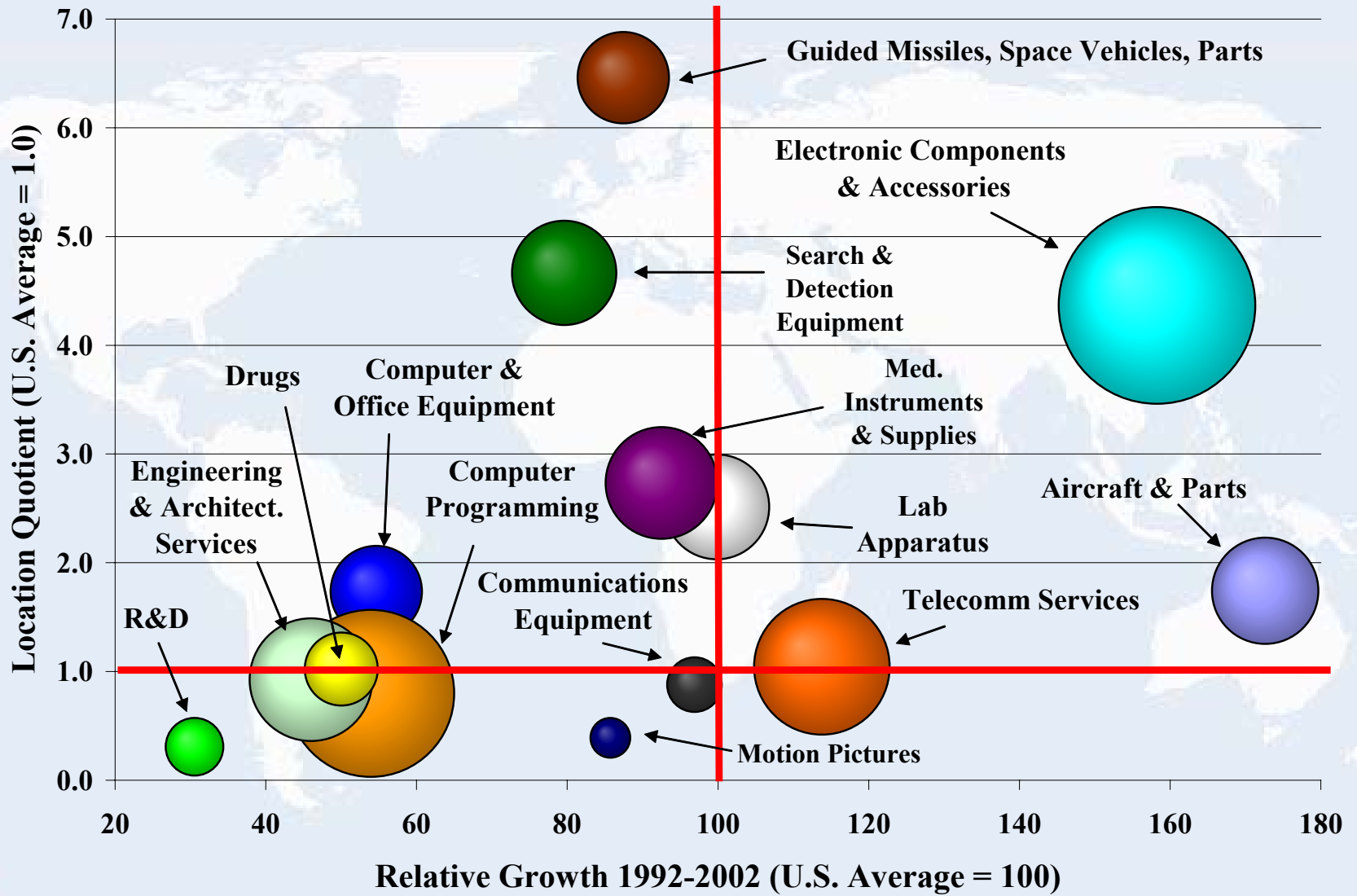
	Composite Index	Location Quotient	Percent of Total U.S. High-Tech Employment	High-Tech Employment (Thousands)
6 Los Angeles-Long Beach, CA	6.39	1.43	4.46	352.74
13 San Diego, CA	2.34	1.57	1.49	118.06
17 Orange County, CA	2.15	1.40	1.53	120.90
48 Ventura, CA	0.45	1.44	0.31	24.56
95 Riverside-San Bernardino, CA	0.12	0.39	0.32	25.16



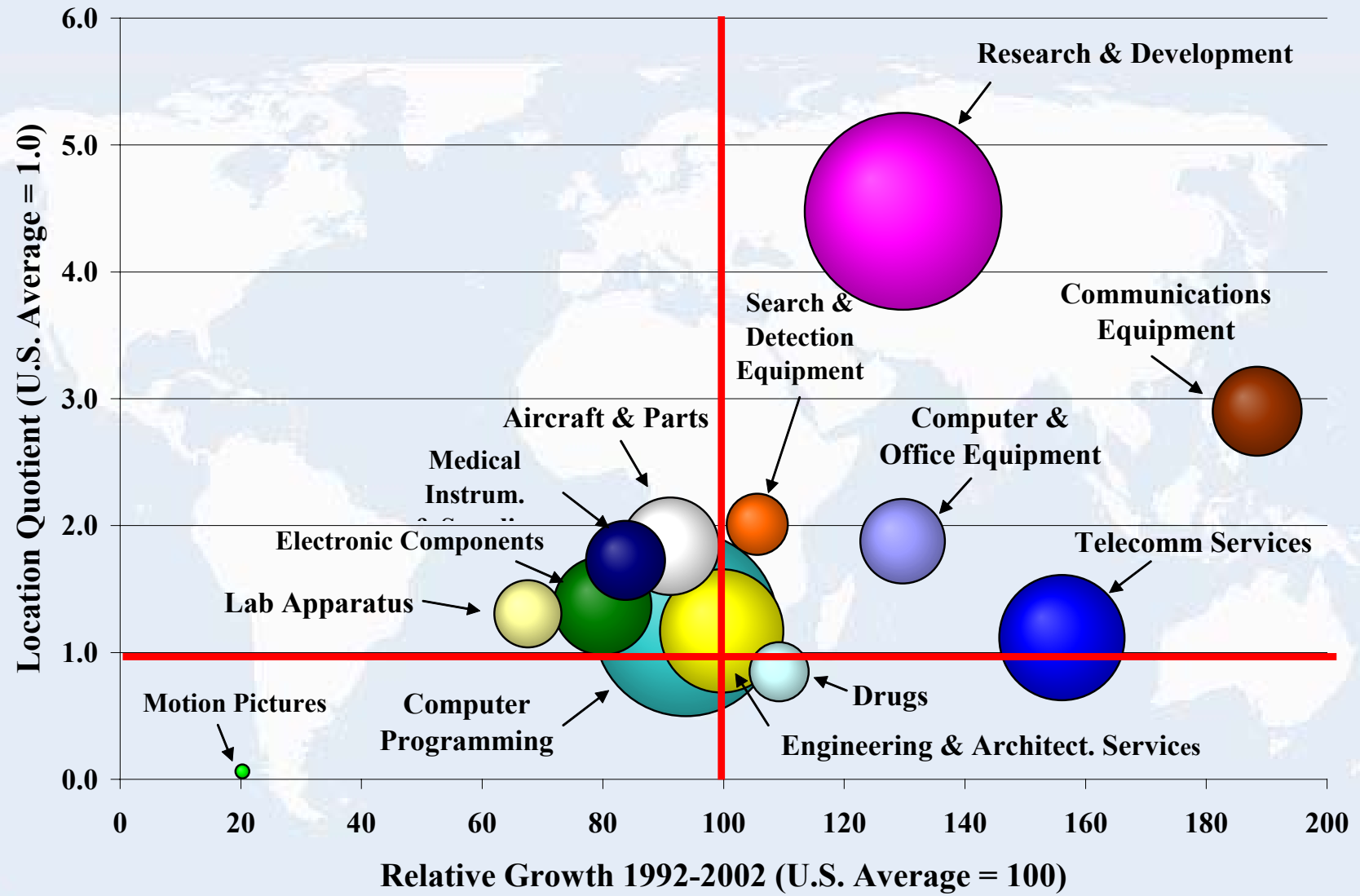
Los Angeles High Tech Sector Jobs



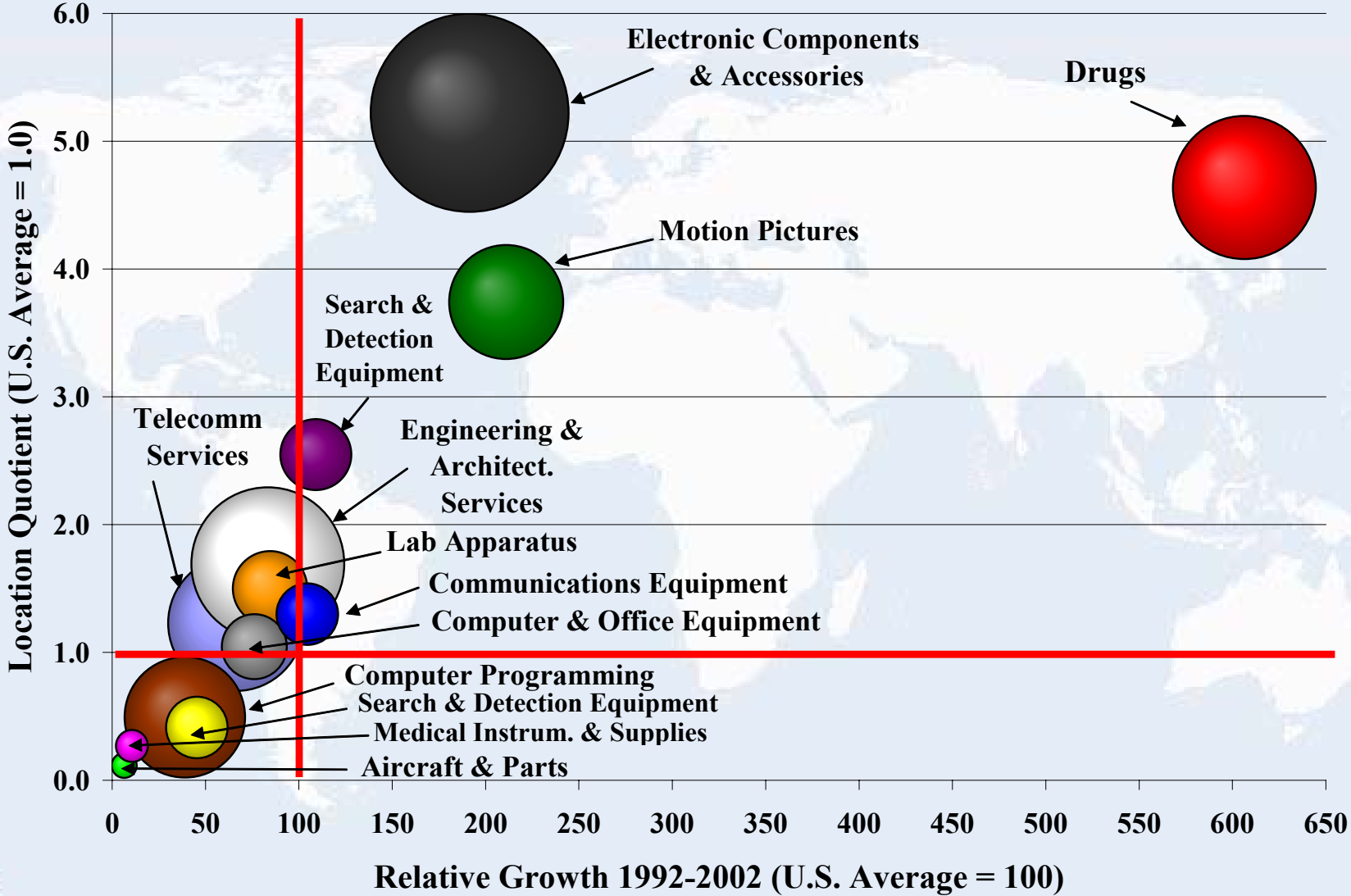
Orange County High Tech Sector Jobs



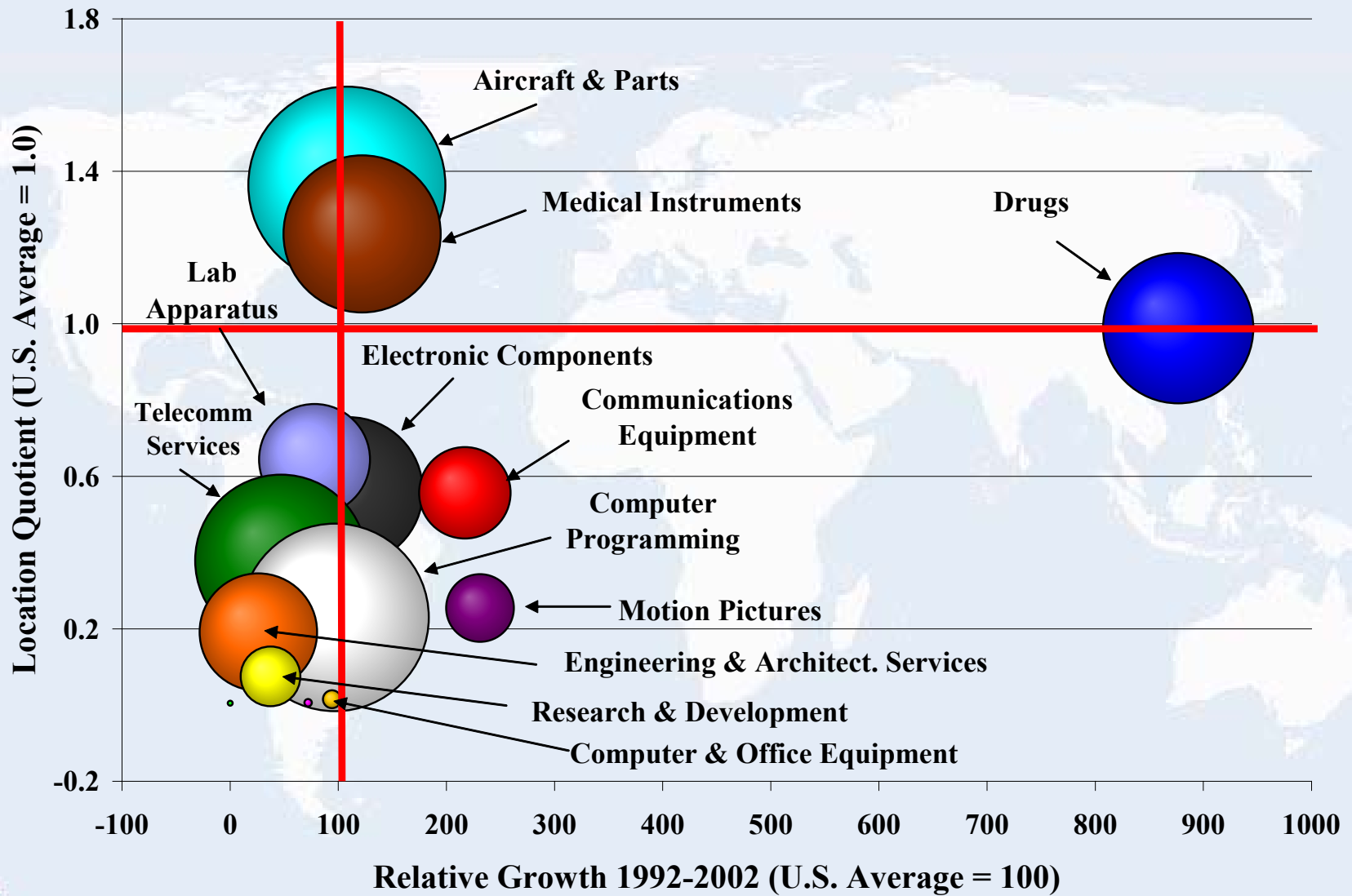
San Diego High Tech Sector Jobs



Ventura High Tech Sector Jobs

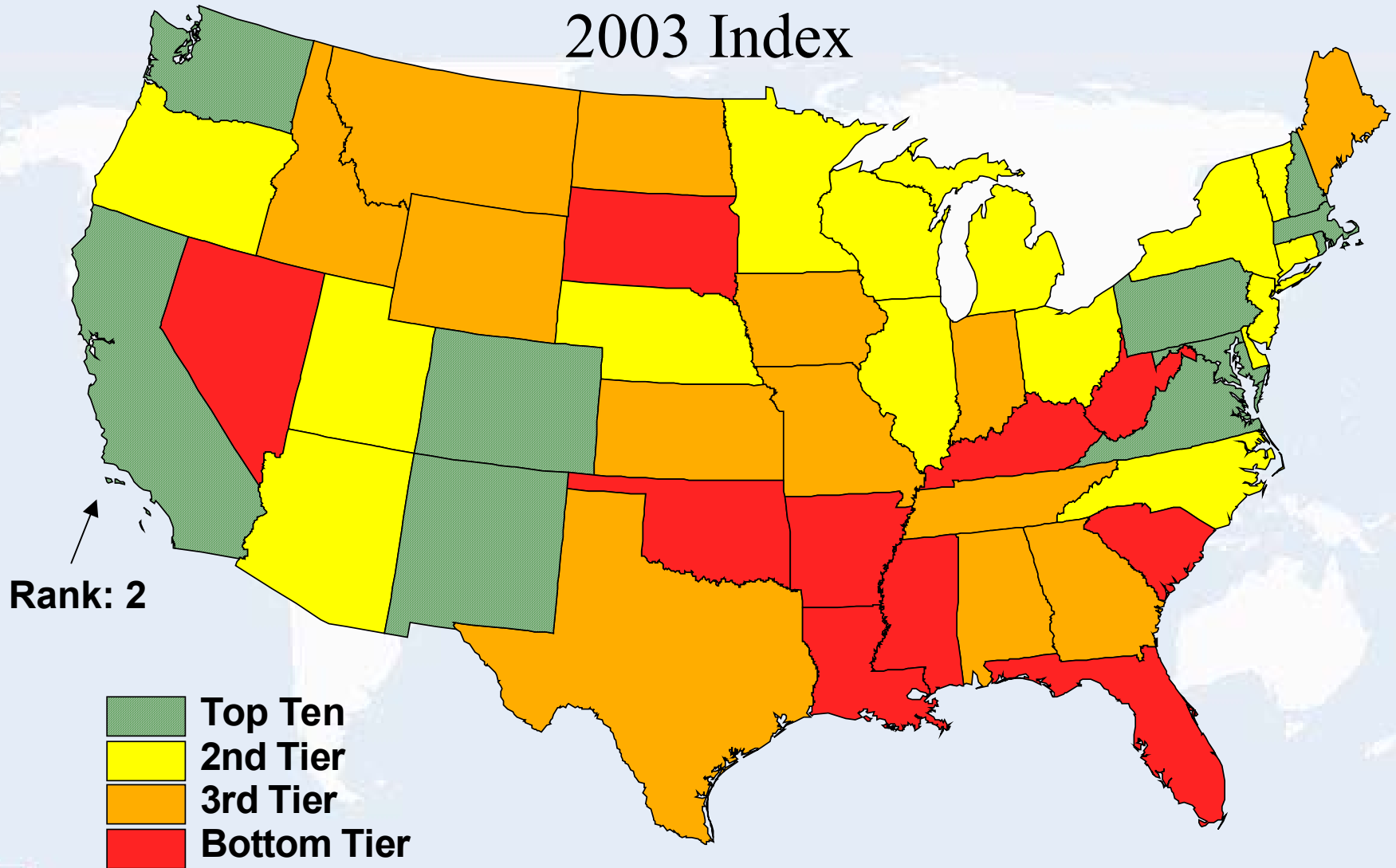


Riverside High Tech Sector Jobs



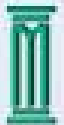
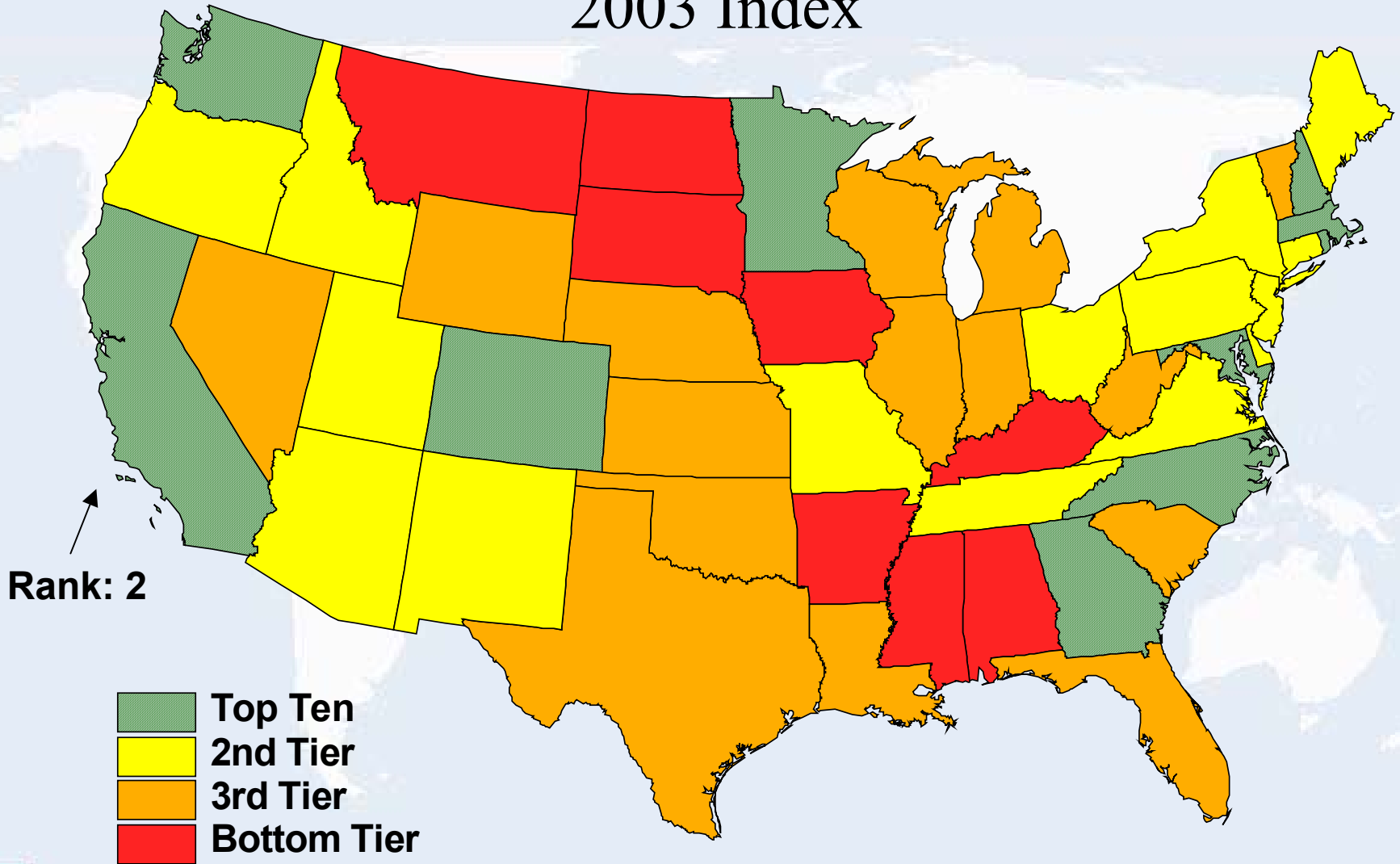
Research & Development Inputs

2003 Index



Risk Capital & Infrastructure

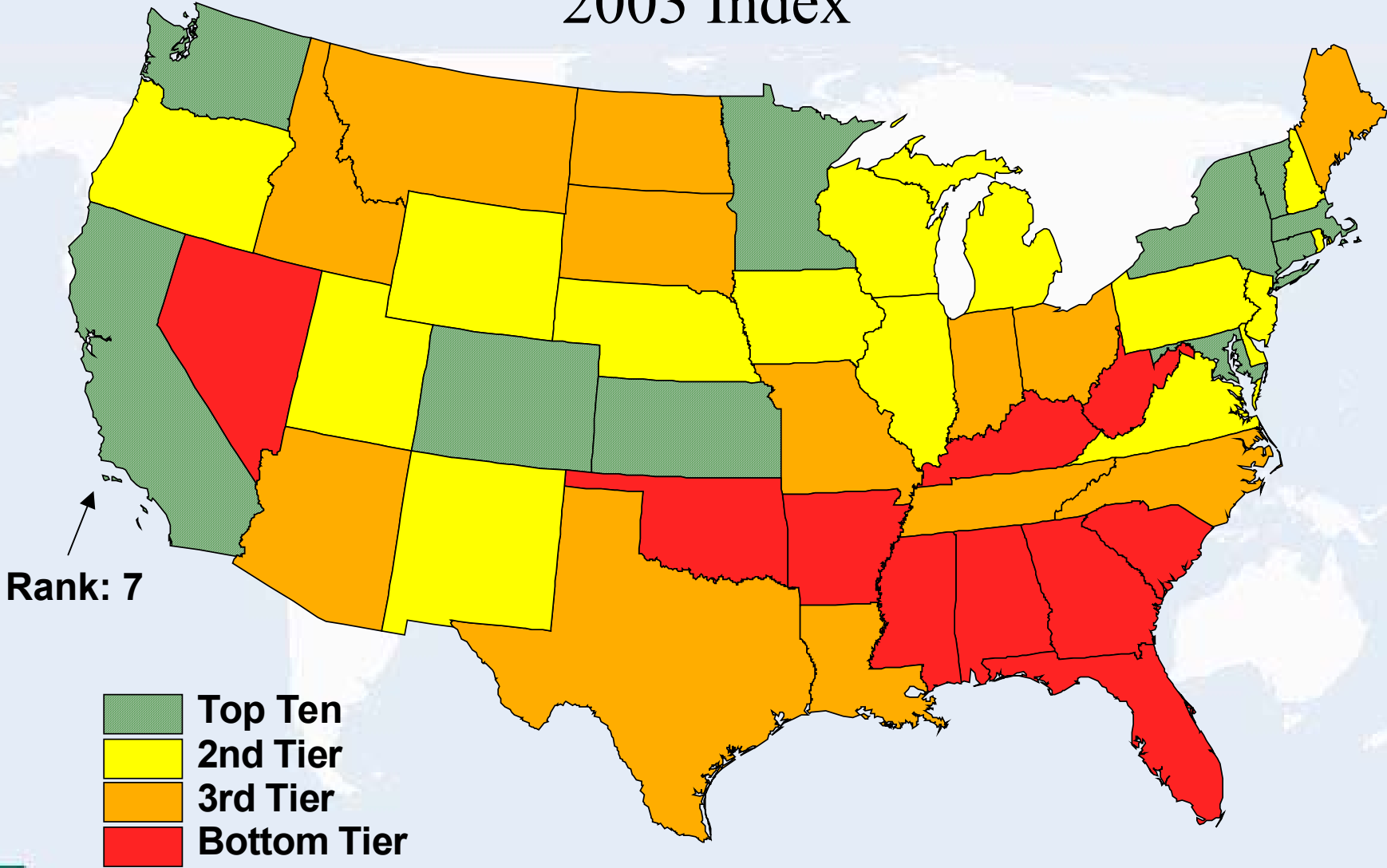
2003 Index



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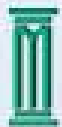
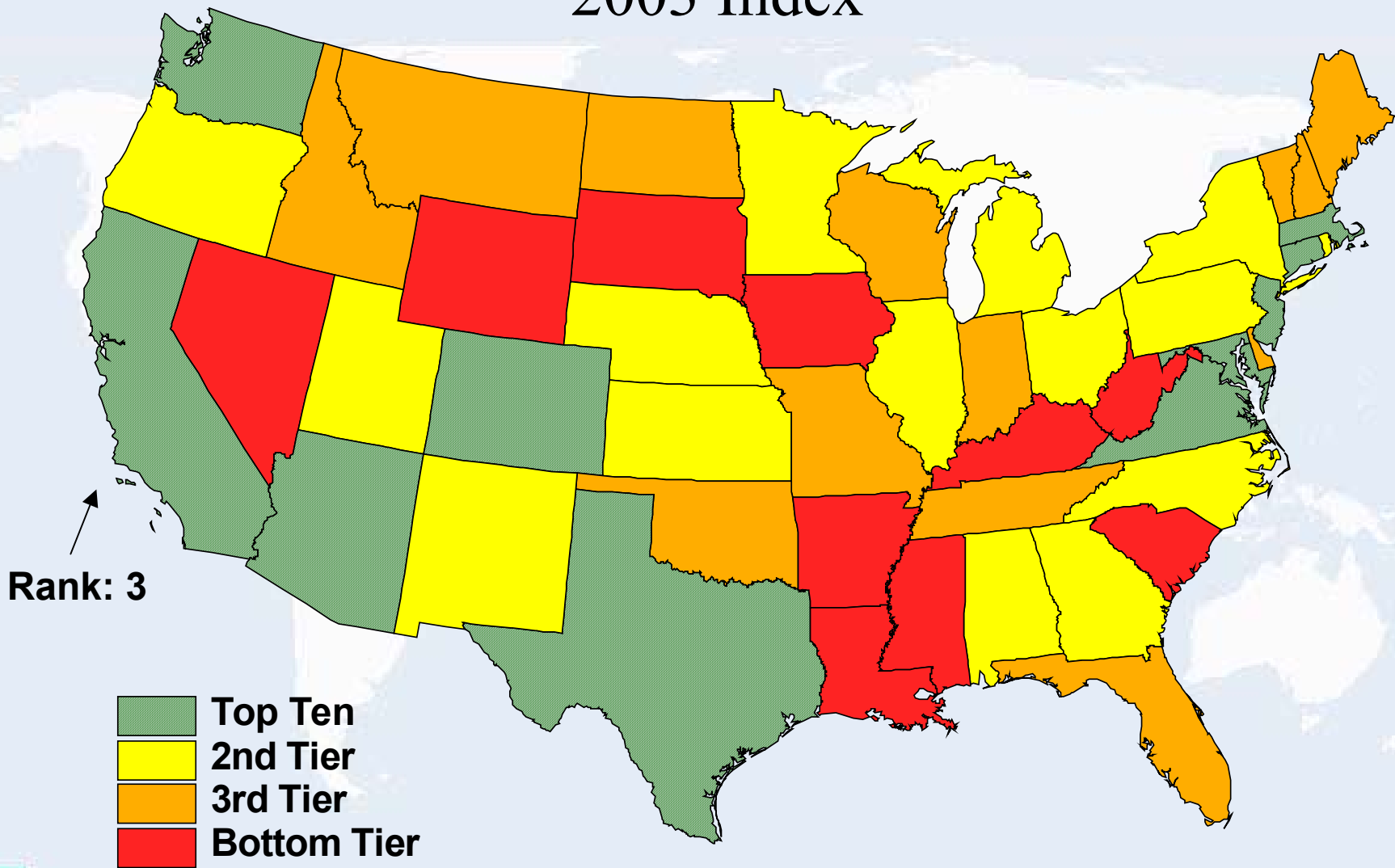
Human Capital Investment

2003 Index



Technology & Science Workforce

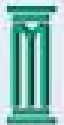
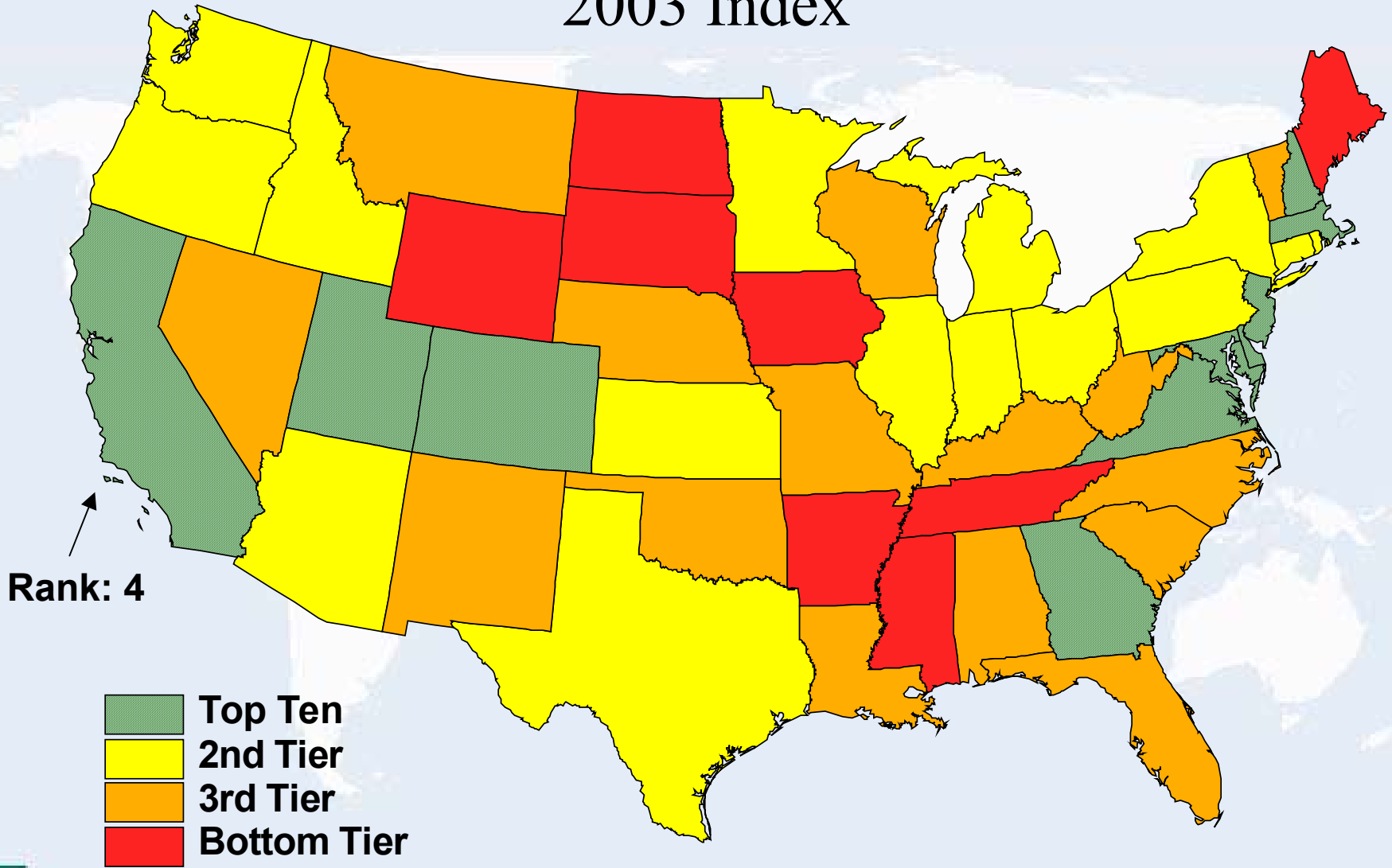
2003 Index



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Technology Concentration & Dynamism

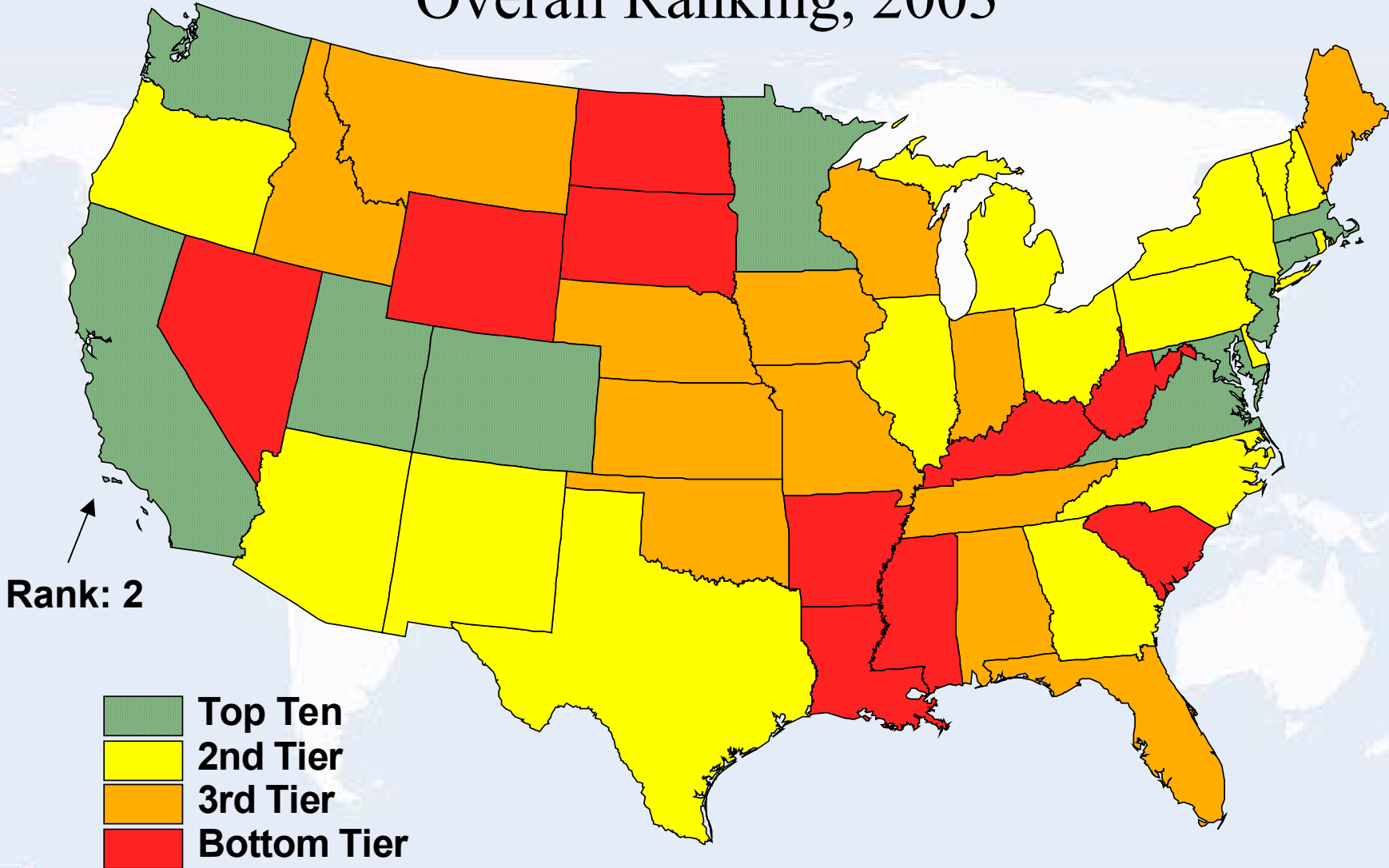
2003 Index



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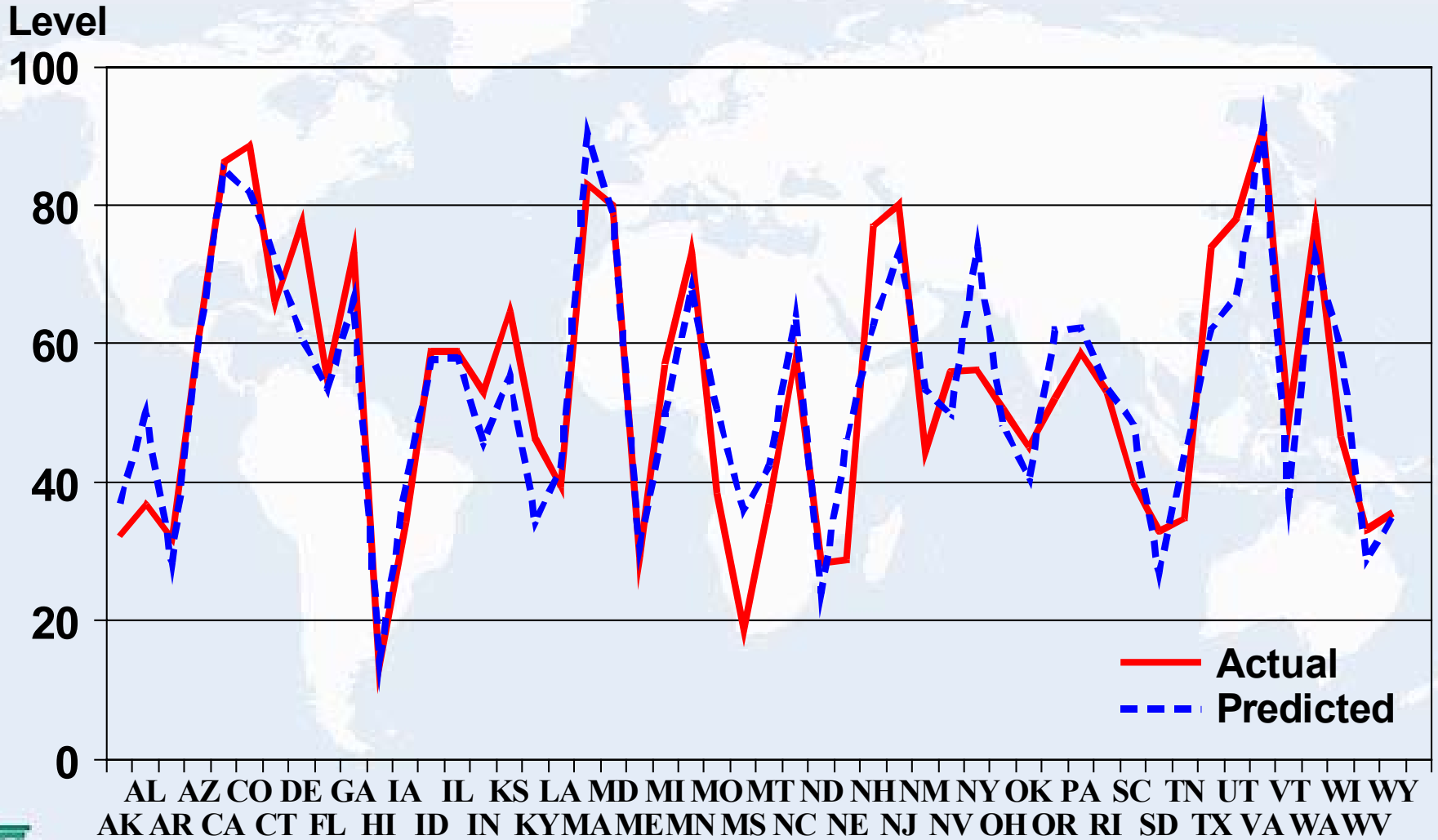
State Technology & Science Index

Overall Ranking, 2003



Tech Outcomes vs. Other Components

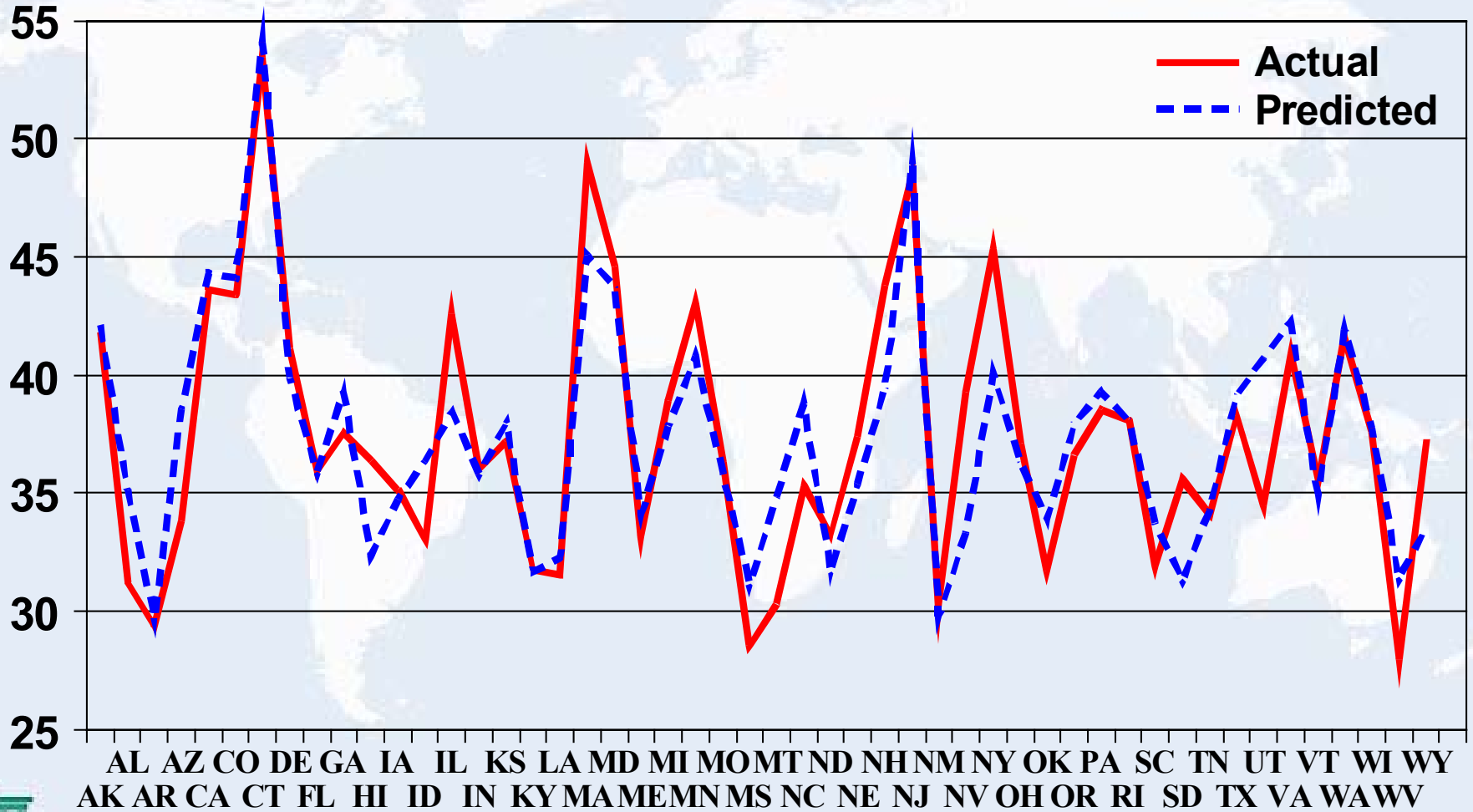
Score 0 - 100



Per Capita Inc. & Tech and Science Index

Income Relative to Working Age Population, 2001

\$US Thousands



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Issues for LA and Southern California

Tech-Based Economic Development

- **Develop Strategic Vision for Economic Development**
- **Proactive Targeting and Nurturing Emerging-21st-Century Industries**
- **Promote University Research Commercialization**
- **Support and Foster Entrepreneurial Infrastructure**
- **Increase Science and Technology Workforce**
- **Quality of Place and Social Capital**

