

‘The Vital Center’

A Federal State Compact to Renew the Great Lakes Region



Techbelt Forum
October 1, 2007

Youngstown State University

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Vice-President, Michigan State Board of Education

Great Lakes Economic Initiative: Project Overview

Great Lakes Region is in transition from industrial to knowledge economy leadership

Great Lakes region has a central role in US-Canadian economic competitiveness

Great Lakes regional leadership can advance a winning economic strategy



The Great Lakes region created and dominated the agro-industrial era, also launched the knowledge economy...large, dynamic, highly interdependent economy

Great Enterprise:

- Armour
- Ford
- Rockefeller
- Sears
- Heinz
- Carnegie
- Dow
- Kellogg

Great Innovation:

- Assembly Line
- The skyscraper
- Land grant university
- The airplane
- The Internet



Source: B. Affolter-Caine, 2006

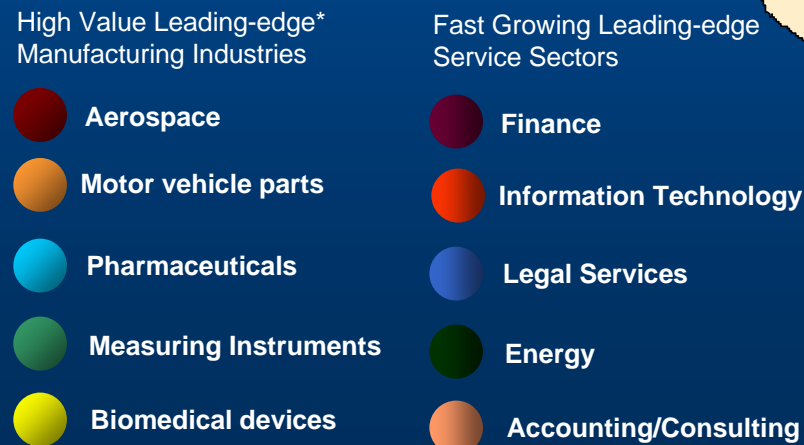
To “Tech Belt”

To “North” or “Freshwater Coast”

Great Lakes region has tremendous assets and infrastructure to leverage that are central to economic success in today's global, knowledge economy

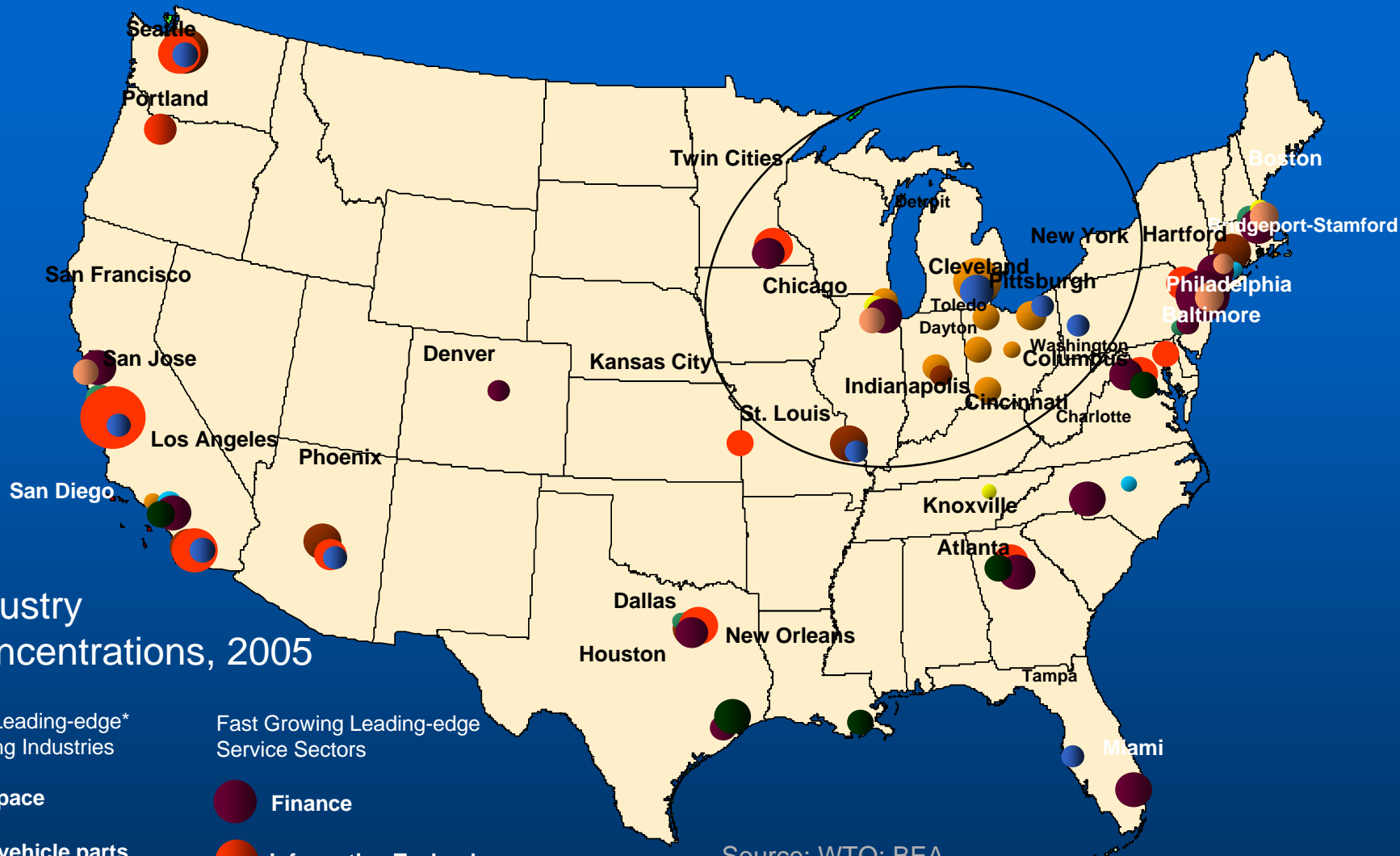
Great Lakes Is Home to Leading Global Business Sectors

Industry Concentrations, 2005



Source: WTO; BEA

* Industry share of world exports > 1.5 times U.S. share of world exports
Metro areas displayed specialize in and contain at least 1% of U.S. Industry compensation



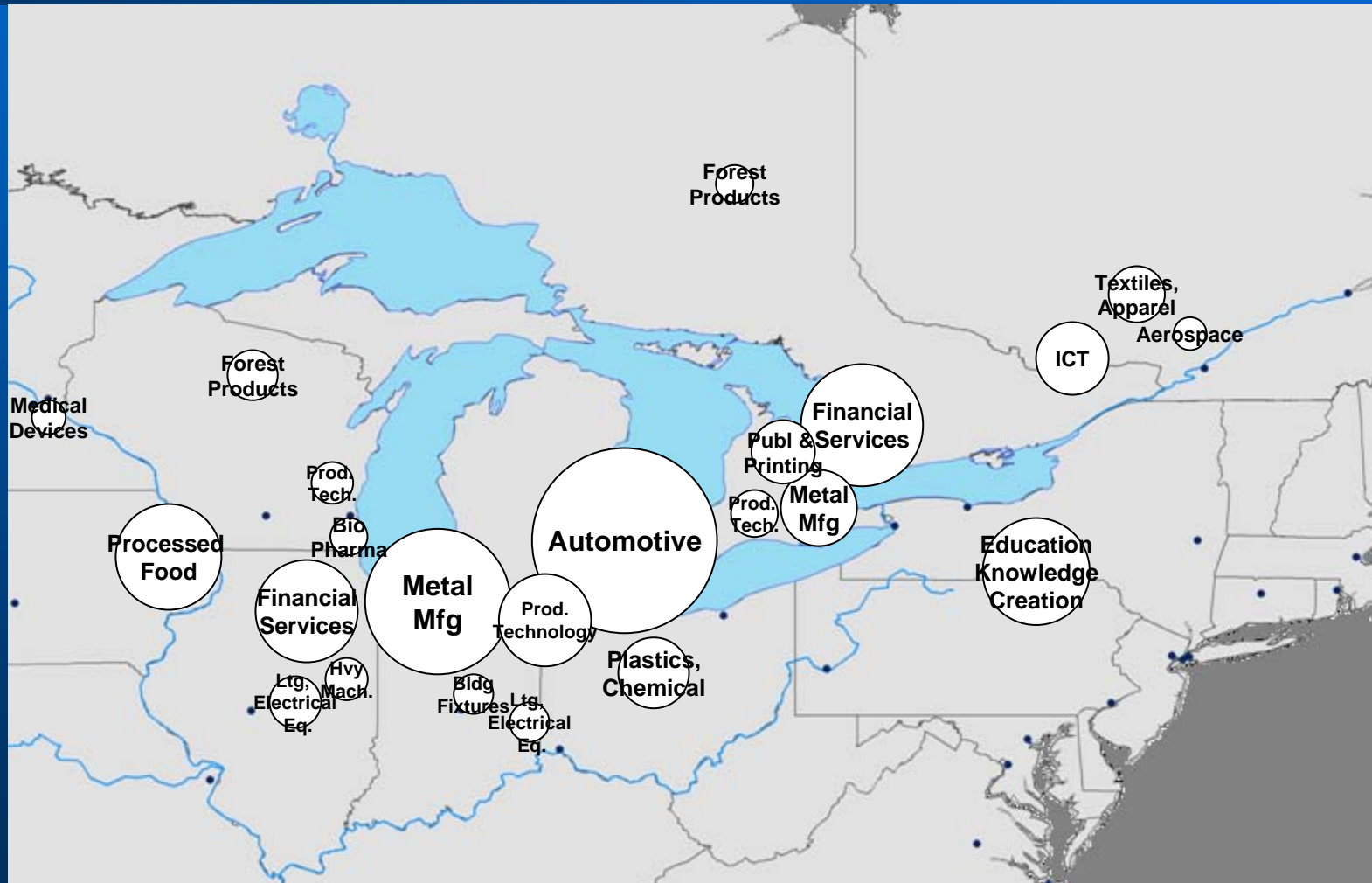


Including traditional and emerging sectors that are regionally agglomerated

Energy,
Transport, IT,
Chemicals,
bio-science,
automotive
sectors

Note: State/Province
employment >20,000
and LQ>2

Source: Institute for
Competitiveness &
prosperity based on
Institute for Strategy
and Competitiveness,
Cluster Mapping
Project





Critical mass provides potential leadership in emerging sectors, such as next generation energy

Energy
Statistics,
2004

Source: EIA State
Energy Data,
2004 Report

*Comparison
regions are those
that are drawn and
defined by the U.S.
Census; Great
Lakes states are
therefore also
included in these
regions.

**State figures
include states in
their entireties

Region*, with states**	Primary Source	Net Generation, 2004		Consumption, 2004	
		(MWh)	Rank	(MWh)	Rank
U.S.		3,970,518,778		3,536,802,678	
Great Lakes		1,367,154,311	34%	1,153,471,436	33%
Illinois	Coal	191,957,778	5	139,253,956	7
Indiana	Coal	127,770,396	9	103,094,263	12
Iowa	Coal	43,248,189	34	40,902,773	31
Kentucky	Coal	94,529,947	18	86,521,156	15
Michigan	Coal	118,487,269	12	106,606,040	10
Minnesota	Coal	52,364,127	25	63,340,315	24
Missouri	Coal	87,632,910	20	74,054,296	20
New York	Nuclear	137,964,794	7	145,081,709	5
Ohio	Coal	148,345,905	6	154,221,114	4
Pennsylvania	Coal	214,658,501	3	143,501,493	6
West Virginia	Coal	89,749,562	19	28,918,612	35
Wisconsin	Coal	60,444,933	23	67,975,709	21
Northeast		549,879,552	14%	503,186,475	14%
South		1,703,443,847	43%	1,517,959,100	43%
West		770,706,184	19%	683,475,923	19%
Midwest		946,489,195	24%	832,181,180	24%



Bio-life sciences and health care - the region is home to top medical research and hospitals, many ranking in the top ten in their areas

Healthcare Rankings, 2006

Specialty	Hospitals in the top ten	Five hospitals in the Great Lakes Region were awarded Honor Role status, of which only 14 hospitals across the country attained by being ranked highly in at least six specialties.
Cancer	2	Hospitals
Digestion	4	Mayo Clinic, Rochester, MN
ENT	6	Cleveland Clinic, Cleveland, OH
Endocrinology	3	Barnes-Jewish Hospital/Washington University, St. Louis
Gynecology	2	University of Michigan Hospitals and Health System, Ann Arbor, MI
Heart	3	University of Pittsburgh Medical Center
Kidney Disease	3	Source: 2006 Hospital Rankings by <i>U.S. News and World Report</i>
Neurology	3	
Ophthalmology	1	
Orthopedics	4	
Pediatrics	3	
Rehabilitation	3	
Respiratory	3	
Rheumatology	2	
Urology	2	

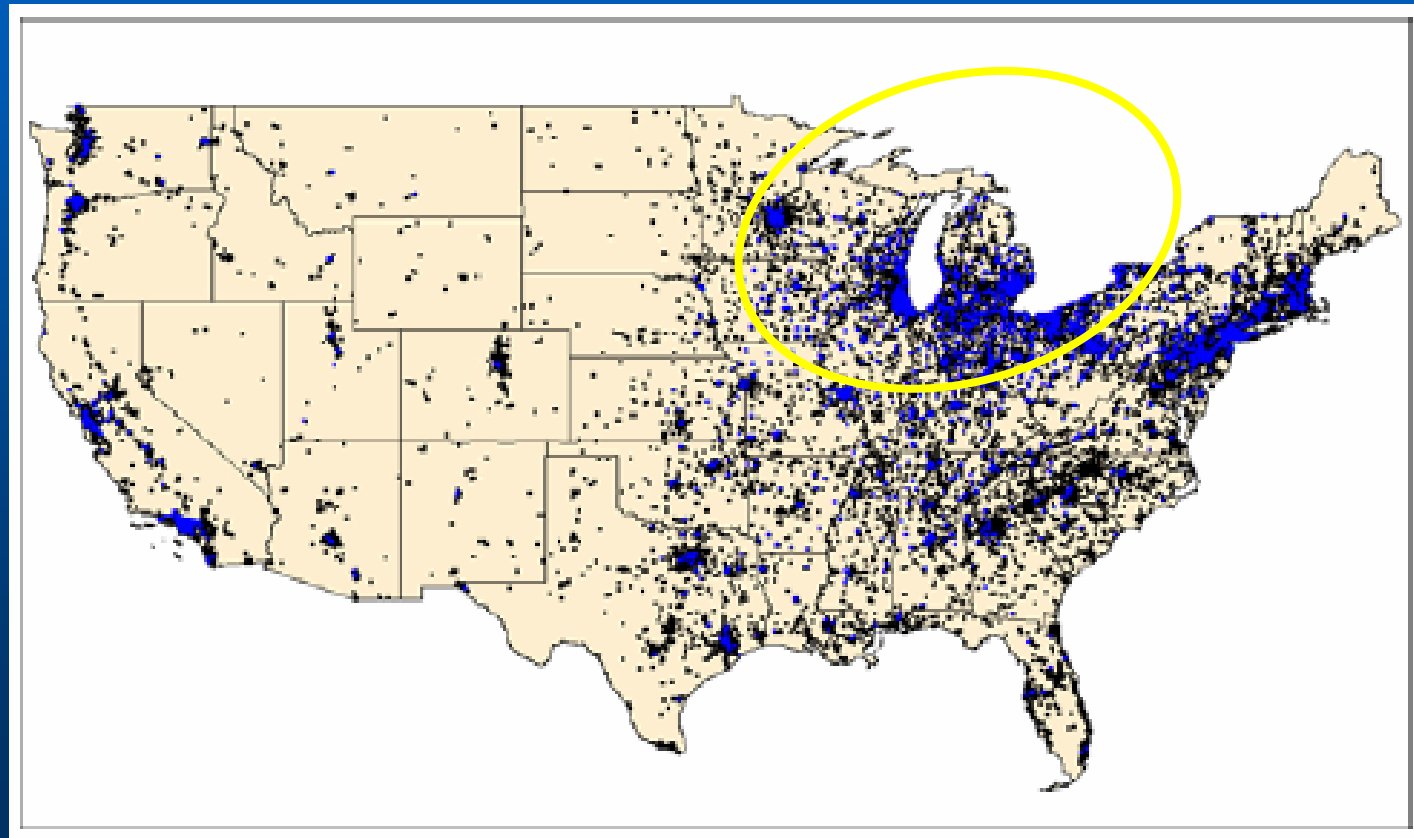
Source: 2006 Hospital Rankings by U.S. News and World Report



Advanced manufacturing...next generation leadership in electronics, robotics, nanotechnology, materials

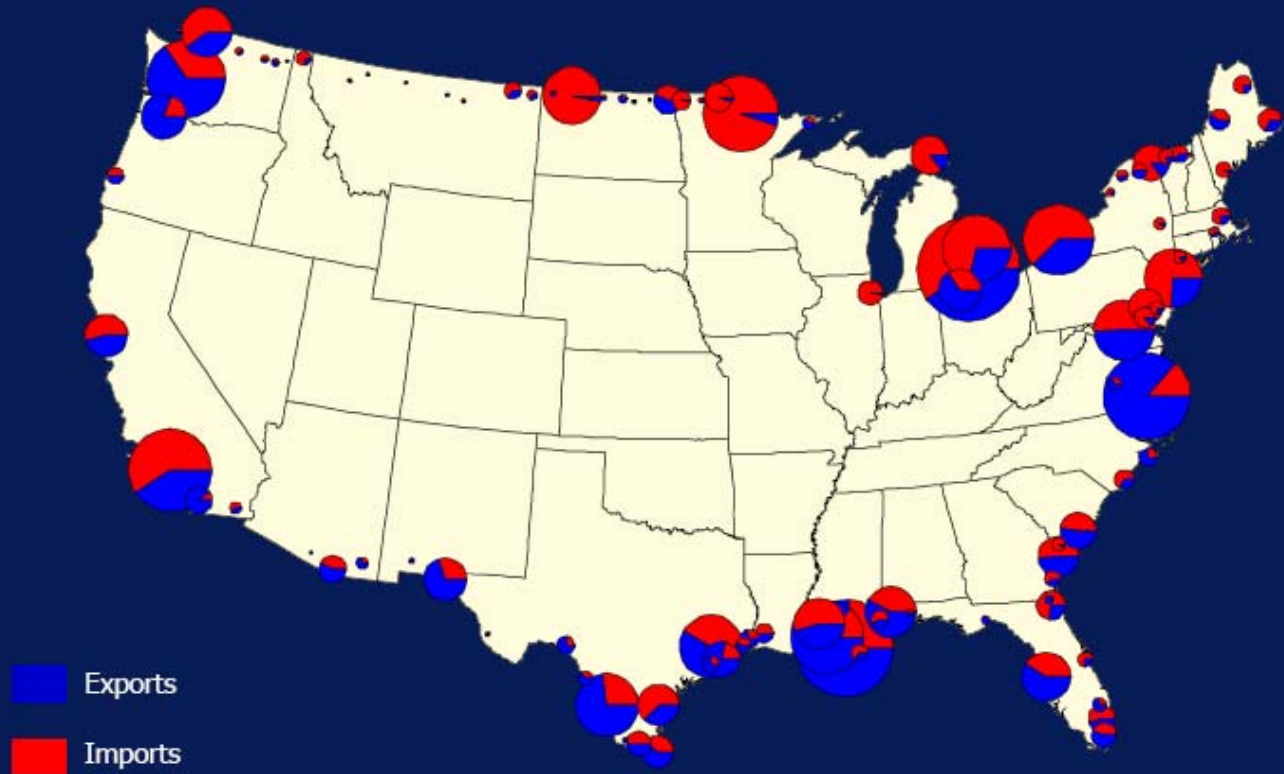
Union (blue) and
Non-Union
Plants in
Component
Manufacturing

Source: WAI analysis of
proprietary AFL-CIO data
on locations of unionized
plants, 2005





Source: Testa, 2007





Great Lakes is one of the country's emerging 'mega-regions', US-side alone has 40 million people living in networked metros

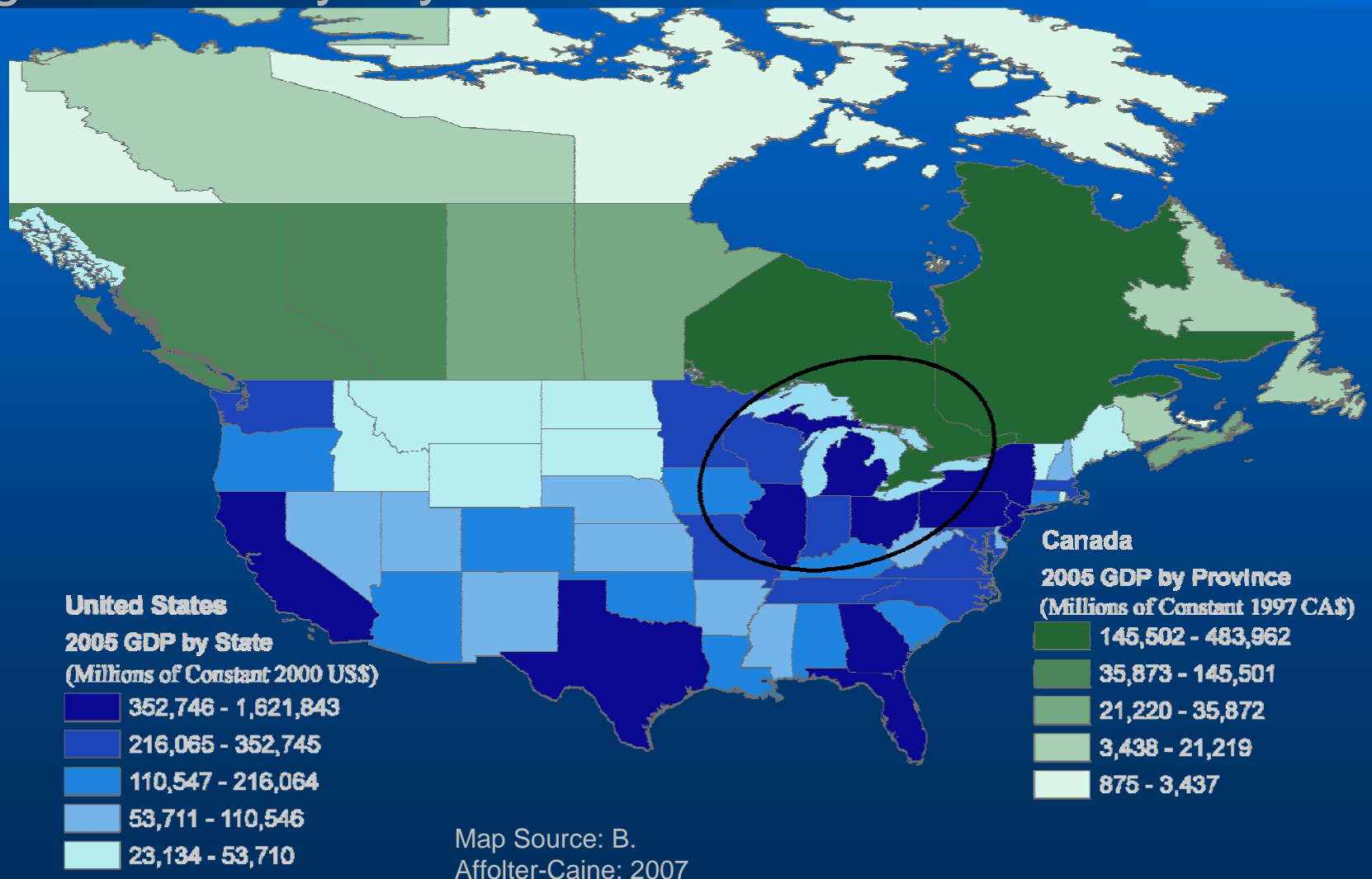
Major
Interstates
Linking Mega-
Regions in the
U.S.

Source: Robert E. Lang and Dawn Dhavale, "Beyond Megalopolis: Exploring America's New 'Megapolitan' Geography," 2005





Huge marketplace and engine - with highly integrated economy of Ontario, and Great Lakes region is third largest “country” by GDP in world...

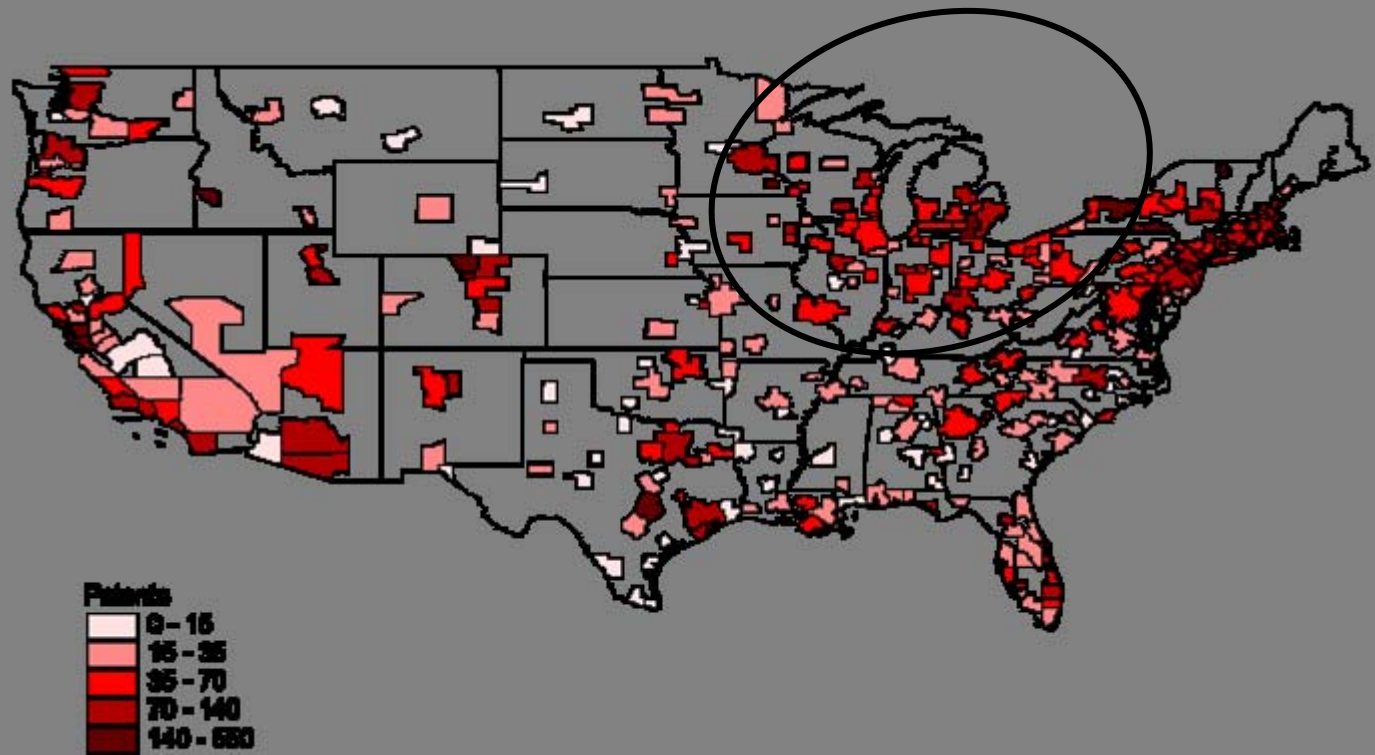




The Great Lakes region is a world center for developing new technologies and ideas – generating one-third of the nation's new intellectual property

Patents per
100,000 Jobs,
1999

Source: A. Reamer, L.
Iceman and J. Youtie,
*Technology Transfer
and Commercialization:
Their Role in Economic
Development*, 2003

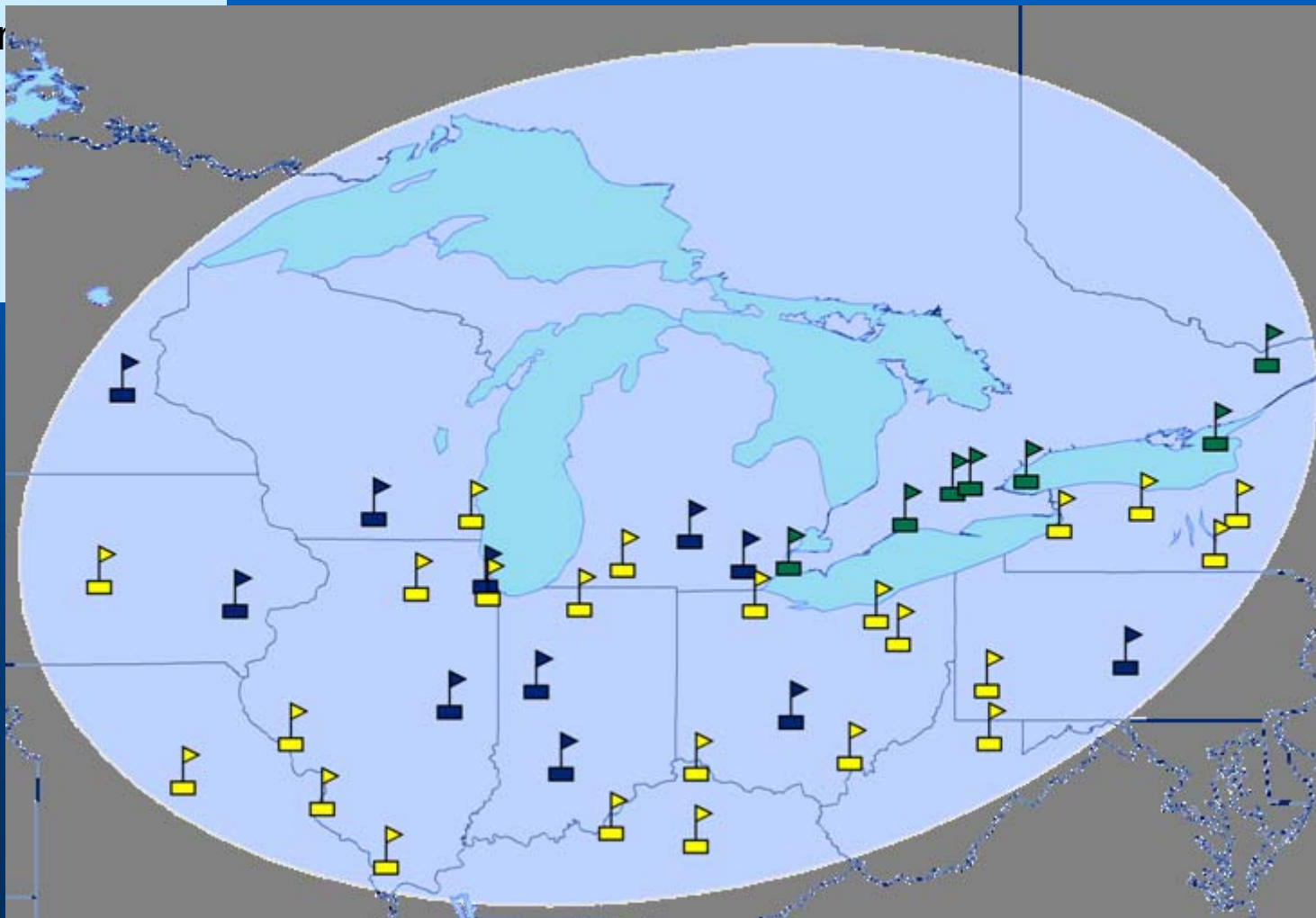




Home to the most significant education infrastructure and network of learning institutions on earth...

GLER Research Ur

- Canadian
- Research
- CIC



Map Source: B.
Affolter-Caine: 2007



Including 20 of 100 top-ranked universities in the world,
more than any other region...

Great Lakes' Top
100 Ranked
Universities in
the World

Institution	Location	Rank
University of Chicago	Chicago, Illinois	9
Cornell University	Ithaca, New York	12
University of Wisconsin - Madison	Madison, Wisconsin	16
University of Michigan	Ann Arbor, Michigan	21
University of Toronto	Toronto, Ontario	24
University of Illinois - Urbana Champaign	Urbana-Champaign, Illinois	25
Washington University	St. Louis, Missouri	28
Northwestern University	Evanston, Illinois	31
University of Minnesota	Minneapolis-St. Paul, Minnesota	32
Pennsylvania State University	University Park, Pennsylvania	39
University of Pittsburgh	Pittsburgh, Pennsylvania	43
Carnegie Mellon University	Pittsburgh, Pennsylvania	54
McGill University	Montreal, Quebec	62
Ohio State University	Columbus, Ohio	63
University of Rochester	Rochester, New York	65
Case Western Reserve University	Cleveland, Ohio	69
Purdue University	West Lafayette, Indiana	75
Michigan State University	Lansing, Michigan	77
Indiana University	Bloomington, Indiana	87
McMaster University	Hamilton, Ontario	90

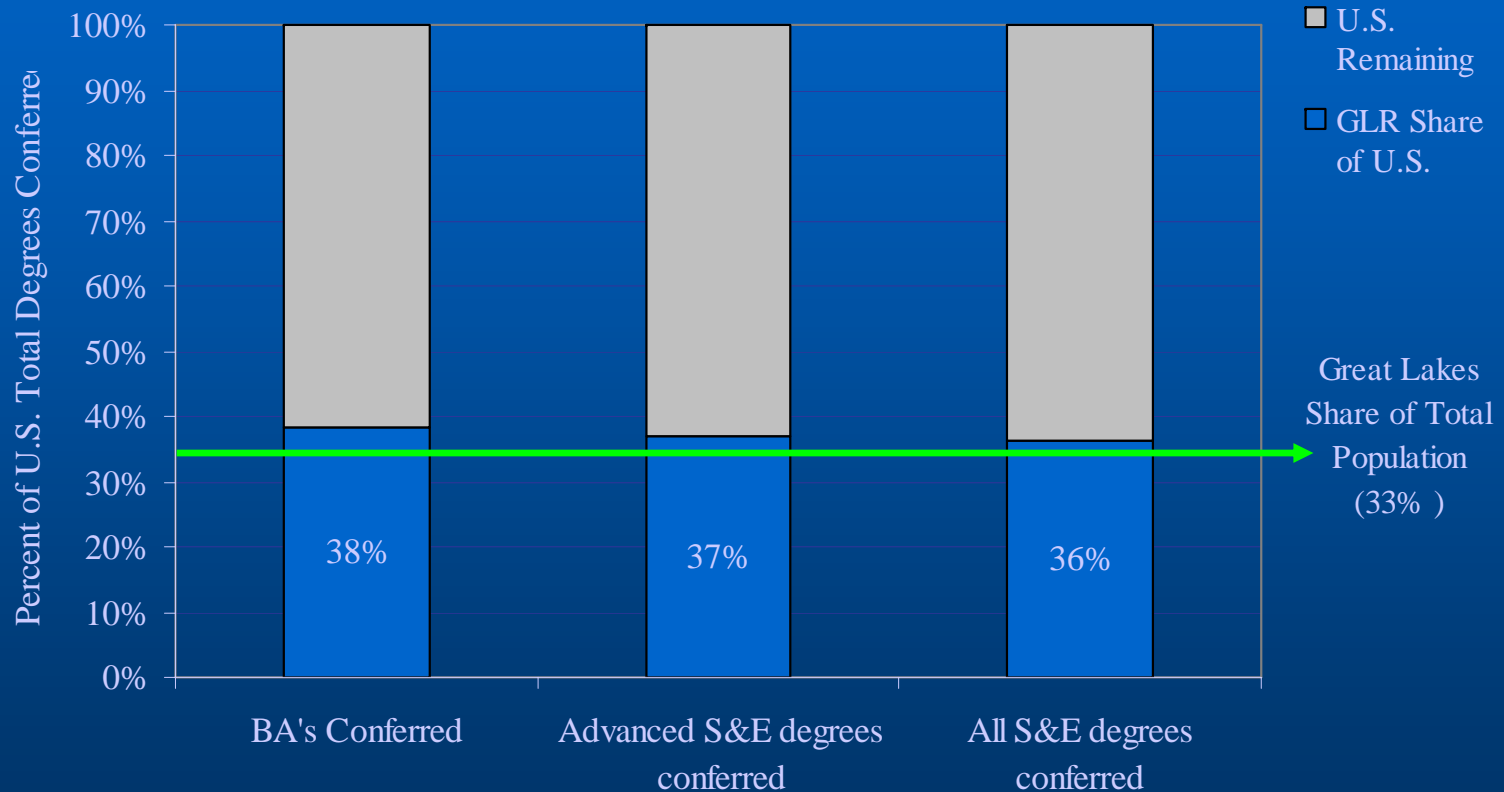
Source: Institute
of Higher
Education,
Shanghai Jiao
Tong University,
2005



That makes it the nation's talent generator, particularly in the sciences, engineering, management

Great Lakes Regional Share of Degrees Conferred of Total U.S.

Source: U.S.
Census
Bureau, 2000
and 2005
American
Community
Surveys



Notes: Survey of Doctorate Recipients sample design does not include geography. Data on S&E doctorate holders are classified by employment location, and workforce data are based on respondents' residence. Thus, the reliability of data for areas with smaller populations is lower than for more populous states. Workforce represents employed component of civilian labor force and is reported as annual data, not seasonally adjusted. All degrees include bachelor's, master's, and doctoral degrees; advanced degrees include only master's and doctoral degrees. S&E degrees include physical, computer, agricultural, biological, earth, atmospheric, ocean, and social sciences; psychology; mathematics; and engineering.

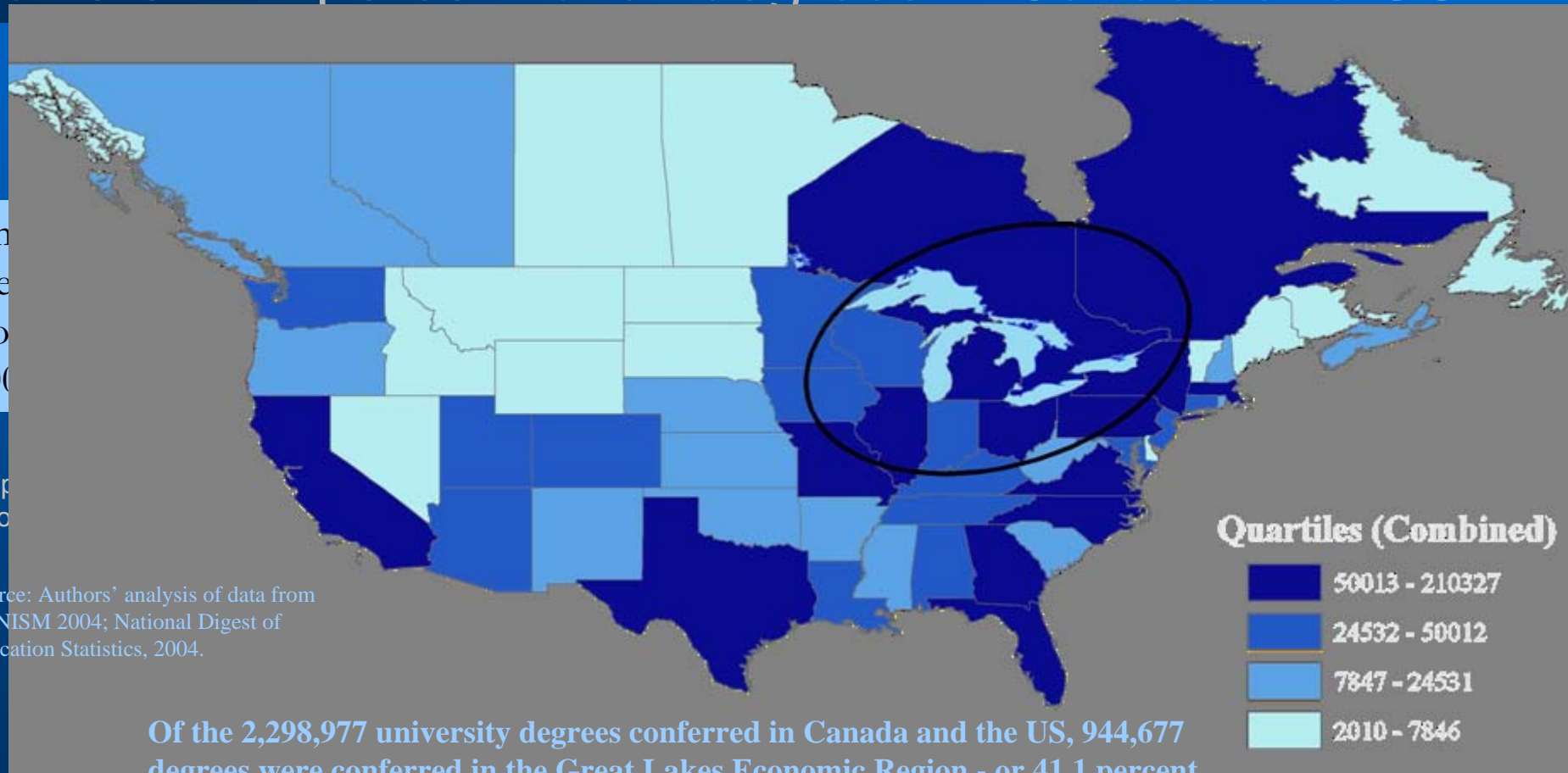


Including talent both nation's need to compete with rising powers-- 41 percent of all degrees in Canada and US

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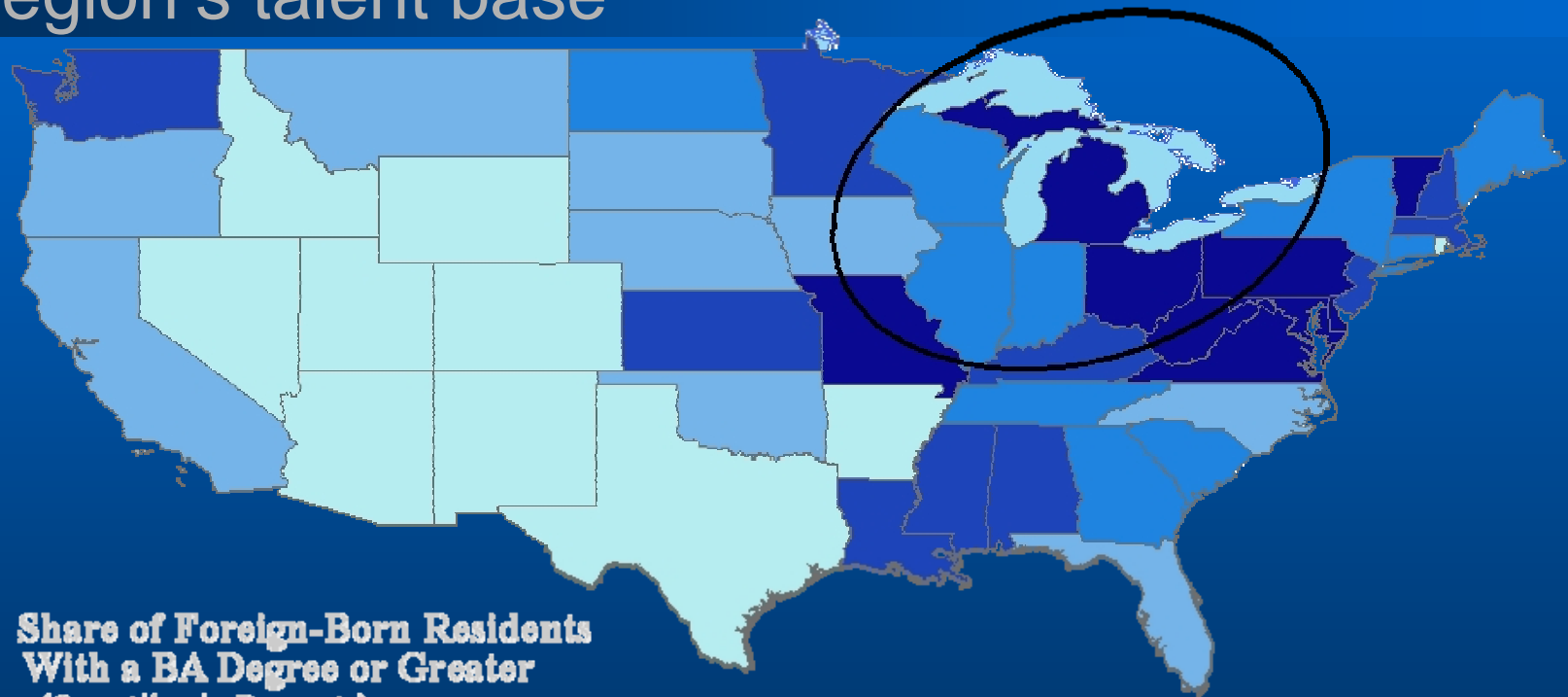
Source: Authors' analysis of data from
CANISM 2004; National Digest of
Education Statistics, 2004.



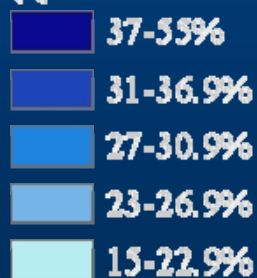
Of the 2,298,977 university degrees conferred in Canada and the US, 944,677 degrees were conferred in the Great Lakes Economic Region - or 41.1 percent of all degrees conferred in 2004. This is a greater proportion than compared to the GLER's share of total 2005 population - 35.9 percent.



Including the fact that the region's immigrants are, on average, highly educated and valuable contributors to the region's talent base



**Share of Foreign-Born Residents
With a BA Degree or Greater
(Quantiles in Percents)**

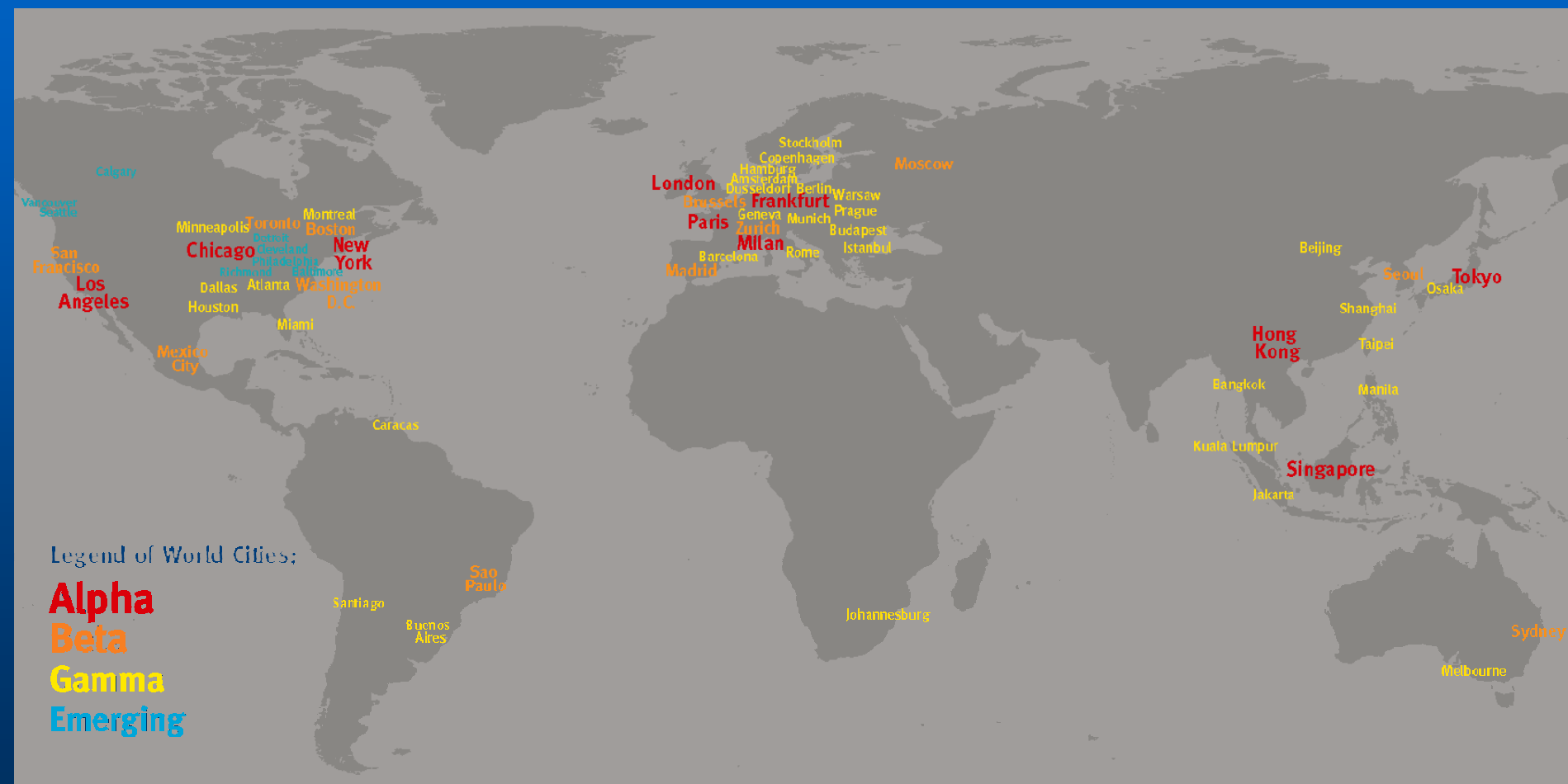


Source: U.S. Census Bureau, American Community Survey, 2005

Map Source: B.
Affolter-Caine: 2006



Great Lakes Region is home to global cities with international reach -- business, commerce, people



Source: Yaro, *America 2050*, Regional Plan Association

*That have valuable infrastructure and
new economy assets in place.*

- Waterfronts
- Transit/Transport
- Sewer, Water and Electricity
- Historic Buildings
- Urban Streets
- Civic and Cultural Institutions

The Great Lakes Region is also a uniquely attractive and viable platform for sustainable economic growth in North America

1/5 World's Freshwater

**Rich Natural Amenities:
Forests, Rivers and Lakes**

**Environmental and Historical
Recreation/Tourism**

**Opportunities for Water-
Based Development**

**Potential to lead in “Clean-Green Technologies”:
Energy, fuels, transport, building, and clean water**



Great Lakes Region certainly has significant and unique economic challenges – most are directly linked to its industrial and factory economy leadership

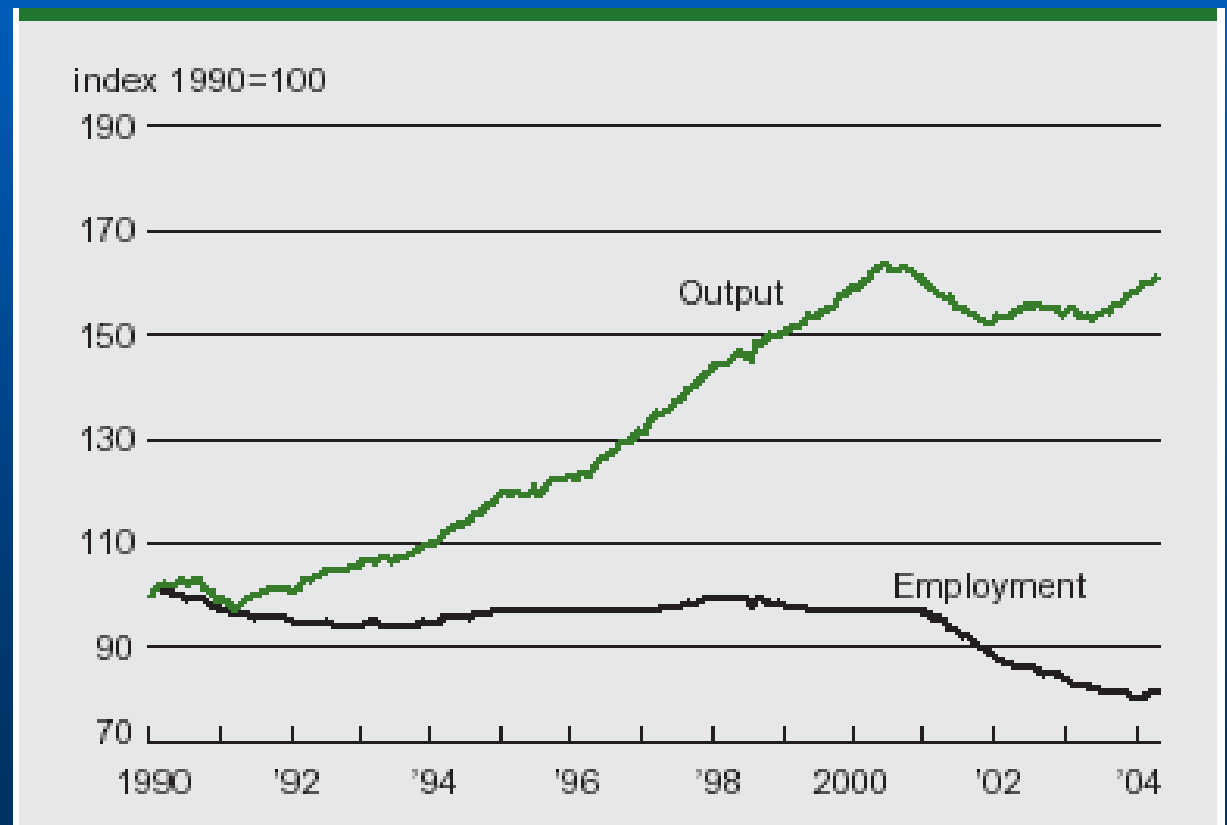
Among these are the largest concentrations of older industrial areas, many blocking valuable waterfront and urban land



Reliance on manufacturing sector – which for generations provided good jobs without higher education. The sector is still very productive, but produces directly fewer jobs

Manufacturing Output and Employment

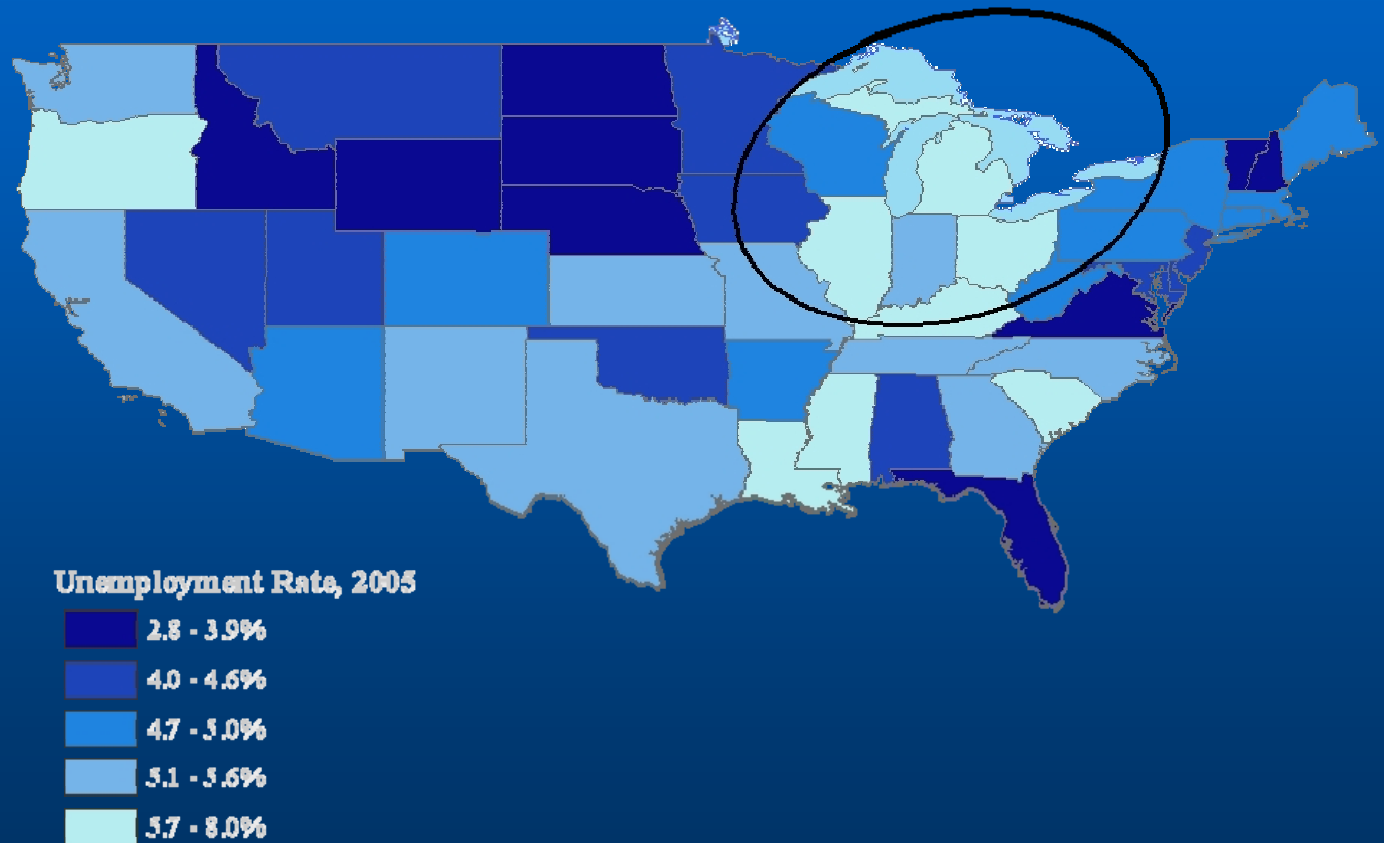
Data Source: U.S. Department of Labor, Bureau of Labor Statistics
Graph Source: William Testa, Chicago Federal Reserve Letter Challenges and Prospects Report, 2004





Economic restructuring means unemployment is high in the region, and many need new jobs and skills

Unemployment
Rate, 2005



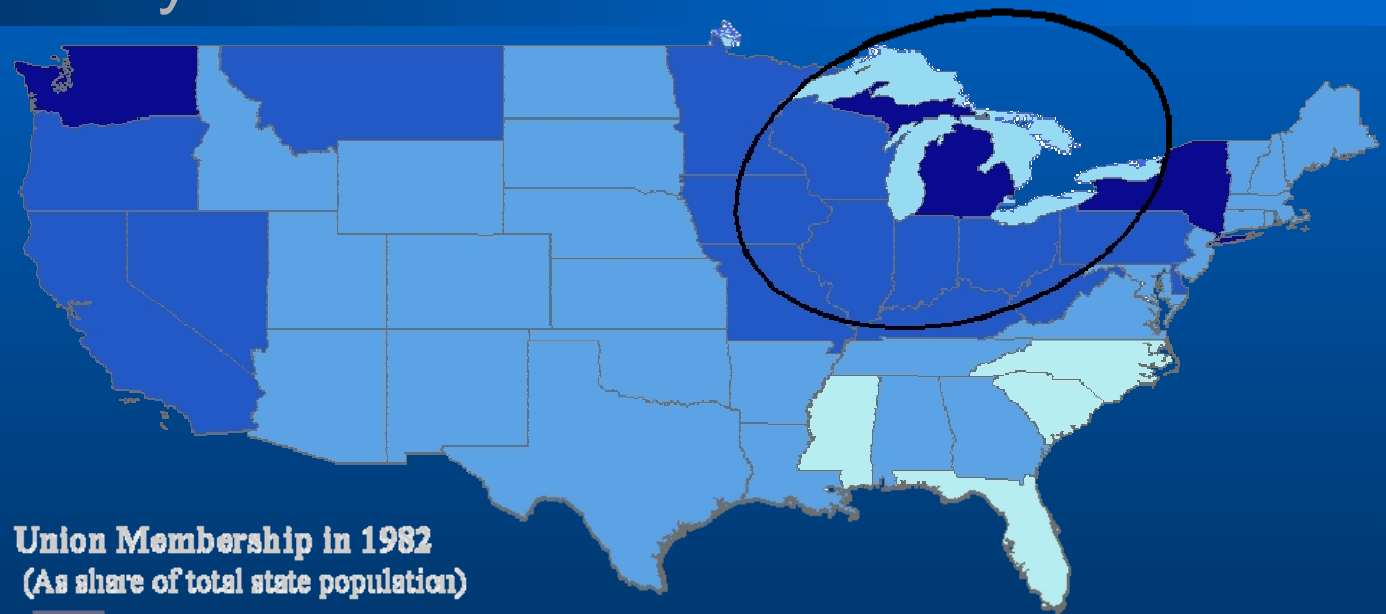
Source: U.S. Department of Commerce, Bureau of Labor Statistics

Map Source: B.
Affolter-Caine: 2006

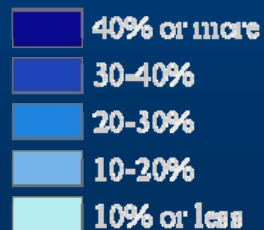


The region's large employers and labor forged unique American model of employer-based health care and pensions – today undermines competitiveness and hurts worker adaptability

Union
Membership in
1982



Union Membership in 1982
(As share of total state population)



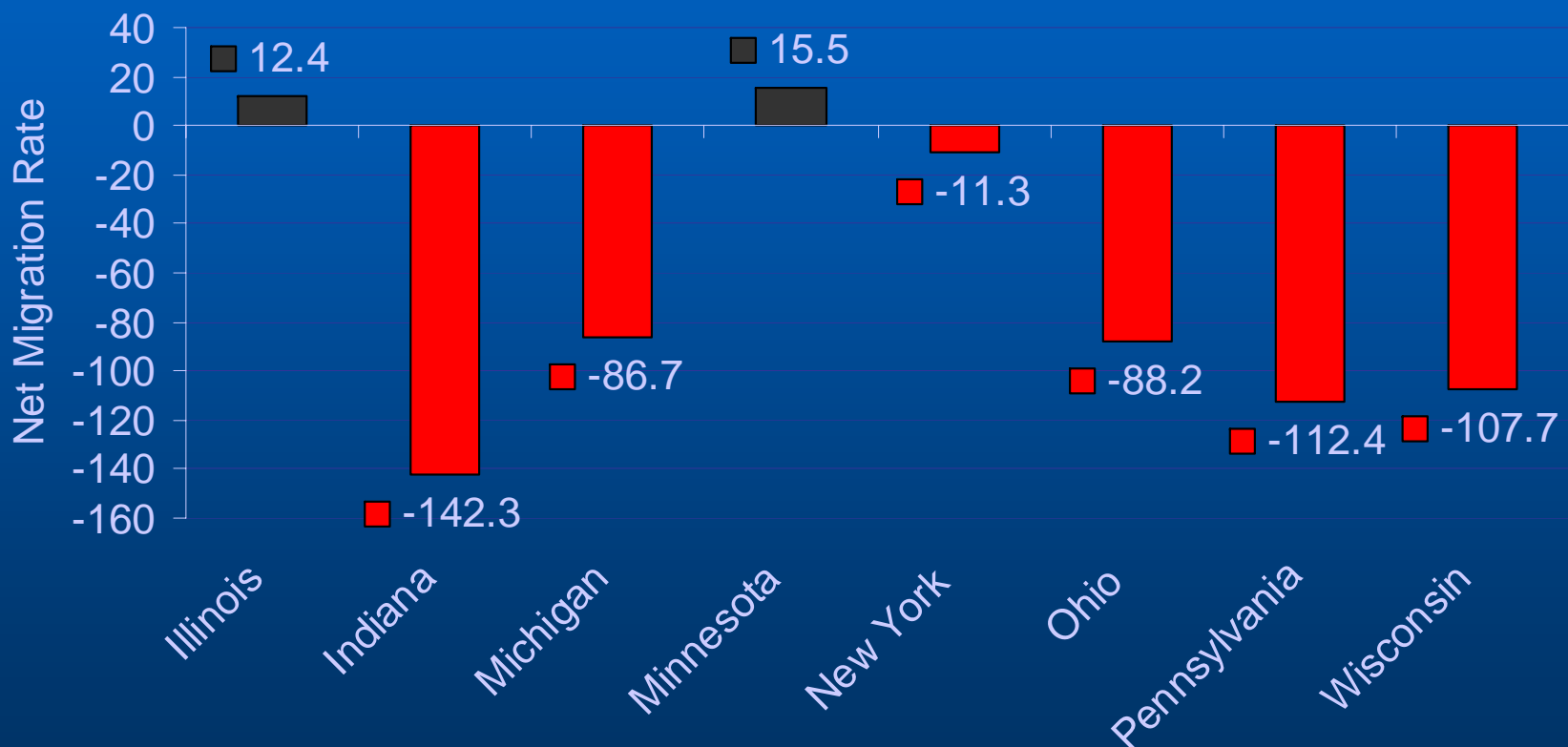
Source: Leo Troy and Neil Schefflin, *U.S. Union Sourcebook* (West Orange, NJ: Industrial Relations Data and Information Services, 1985)

Map Source: B.
Affolter-Caine: 2006



Among the states in the region, only two states escaping the “brain-drain” of college educated 25-39 year olds...

Net
Migration
Rate,
1995-2000



Source: U. S. Census Bureau, Census 2000, special tabulation.. The young are those who were aged 25 to 39 in 2000; the single are those who were never married, or were widowed or divorced in 2000; and the college educated are those who had at least a bachelor's degree in 2000.

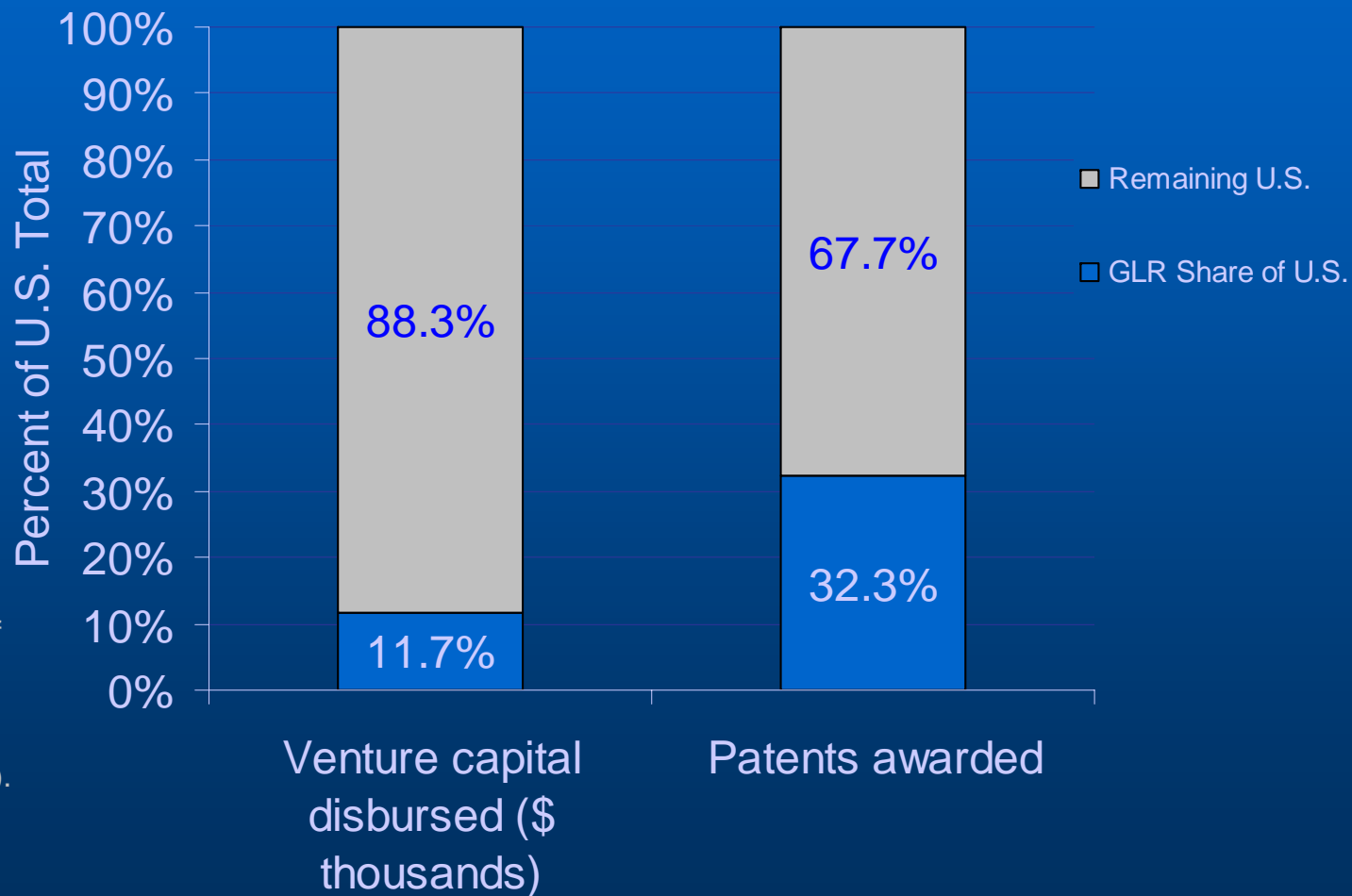


And the region lacks culture and capital to commercialize the ideas generated in the region

Great Lakes Share of Venture Capital and Awarded Patents Compared to U.S.

Source: U.S. Census Bureau, 2000 and 2005 American Community Survey

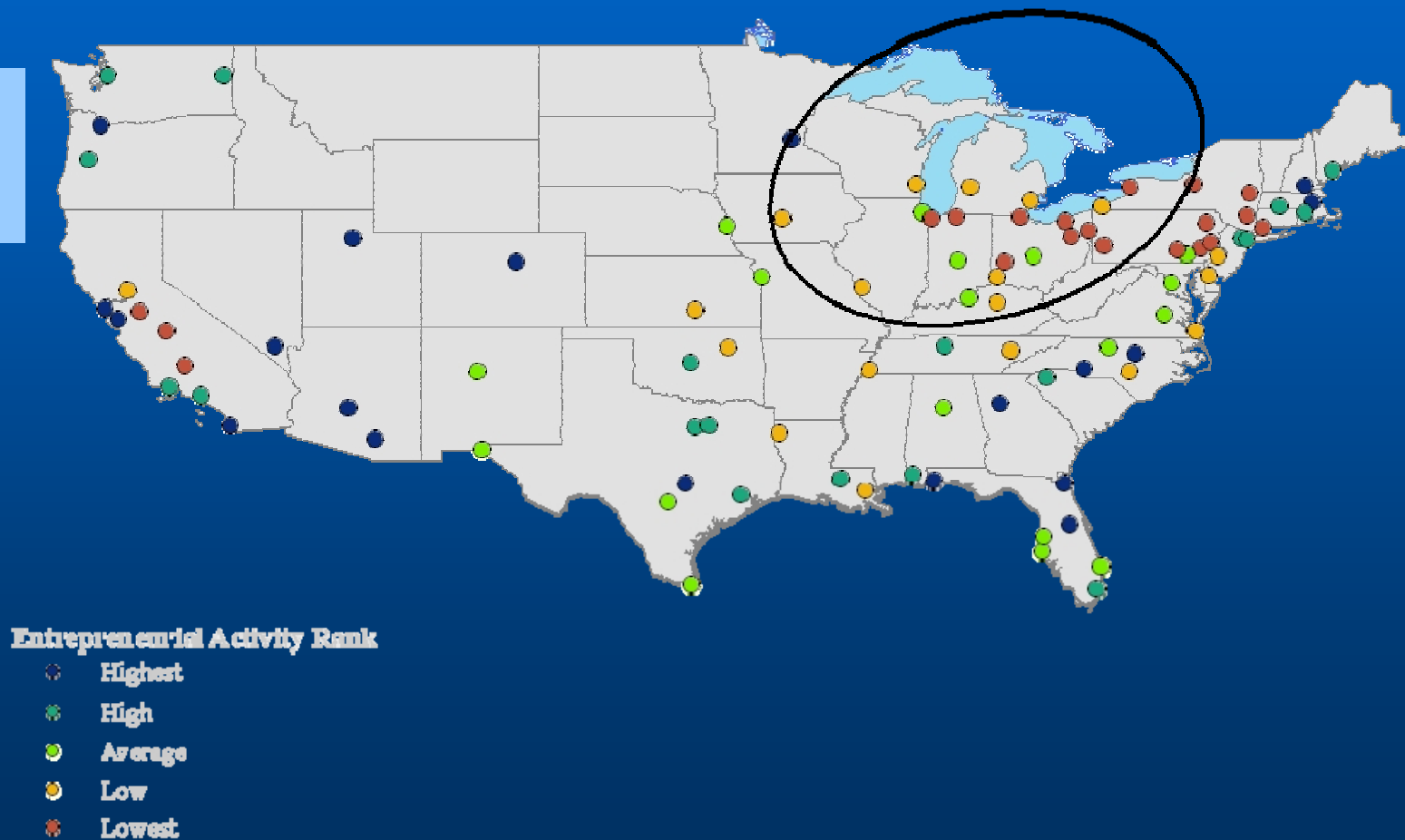
Notes: Patents issued include utility patents and other types of U.S. documents (i.e., design patents, plant patents, reissues, defensive publications, and statutory invention registrations). Origin of patent determined by residence of first-named inventor.





Which means new idea creation is not fueling entrepreneurial activity in the region

Entrepreneurial
Activity Rank,
1990-2001



Map Source: B.
Affolter-Caine: 2006

Source: Compiled from the 1990-2001 LEEM data file, U.S. Census Bureau by
Advanced Research Technologies, LLC with elimination of "Small Regions"



The region's metros suffer from high “legacy of place” costs, including older housing, aging sewers, dated transportation system, duplicative government units

Rank of Legacy
of Place Score,
2006



Source: Eberts & Erickcek, 2006

*Legacy of place takes into account the costs associated with a declining industrial base, an older infrastructure, high unemployment, a lower educational attainment among population, a disproportionate need of human services, and a tax base insufficient to support the demand for services.




Need Local – State - Regional – Federal Actions and Policies that Drive Economic Vitality




States - communities aren't islands



“Beggar thy neighbor” hurts all



Great Lakes have regional advantages – demand regional actions to leverage assets



Nation has huge economic and political stake in region's success

Blueprint for Renewing GLER

Fuel Innovation Engines

- Enhance & Focus Federal/State R&D tapping Great Lakes research horsepower
- Pool the \$ to Commercialize New Technologies in the Region
- Grow the STEM Talent Nation Needs to Compete

Fuel Bi-National Great Lakes Economy

- Grease the bi-national marketplace
- Bi-National Innovation and Quality of Place agendas

Build on Unique Great Lakes Place


- Water-based, natural feature, amenity-based development, GLRC follow through
- Clean-green technology, industry, materials, design, process leader
- Infrastructure, transport/transit, housing policies for industrial cities

Remake Employee-Benefits Compact

- Portable & Universal State/Regional Pensions and Health Care
- Training & Education to Encourage Labor Adaptability

Great Lakes Economic Initiative: Next Steps

- Network/leadership Building in Region
- Further Policy Development – Make real the recommendations (like Great Lakes Restoration)
 - U.S. – Canada Bi-national Economy and Policy Implications
 - Global Center for Freshwater Research, Education & Tech.
 - Great Lakes Regional Venture Capital Strategy
 - National Energy Technology Strategy
 - Federal-State-Individual GI Bill
- Policy Advancement – Opportunity '08



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ANNOUNCEMENT

Urban Center Becomes Metropolitan Program

In a major promotion, the Center on Urban and Metropolitan Policy this month became the Brookings Metropolitan Policy Program—and the first new Brookings department established since 1948. The new status reflects the rising importance of metropolitan issues to the domestic and global challenges Brookings seeks to address.

▶ [read an open letter from Brookings President Strobe Talbott](#)

METROVIEW

Deficits by Design Plague Metro
by Robert Puentes
The Washington Times
June 21, 2004

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