Transformation of the Pittsburgh Economy

Communities in Transition Expert Policy Forum

Ontario Ministry of Economic Development and Trade

November 28, 2007

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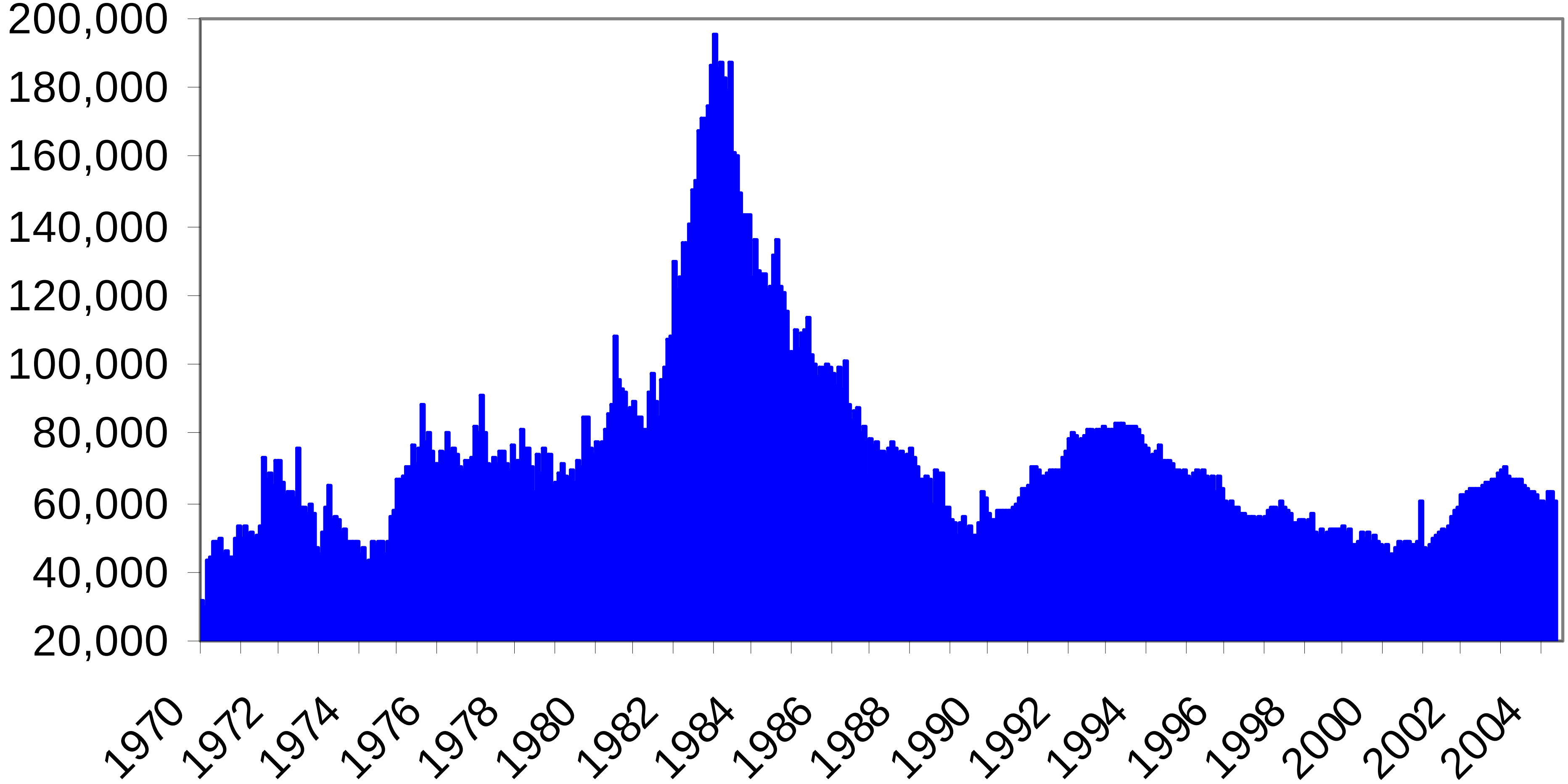
This Presentation

- Legacy of Industrial Transformation
- Adjustment and Change Since the 1980’s
- Economic Development Policies

Unemployment in the Pittsburgh Region: 1970-2004



Center for Social and Urban Research
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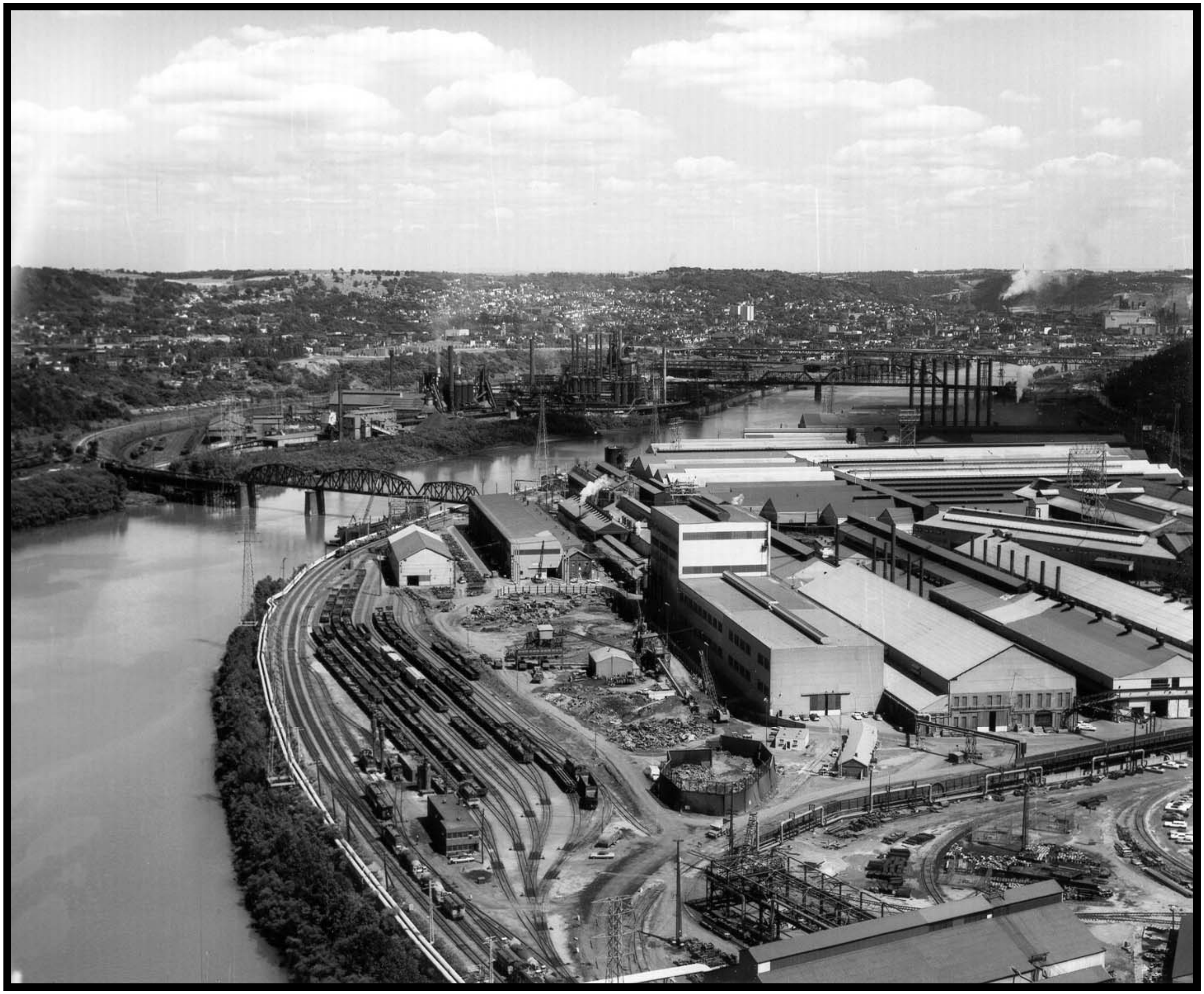
Historical Steel Industry in Pittsburgh

- Natural resource based competitive advantage
- Extremely specialized industry structure
- Few other ‘export’ industries in region for over a century
- Historically minimal impact of international trade
- *and*, minimal competition from other US regions
- Comparable to: Ruhr Valley (Germany), Lille (France), Luxemburg….. now Harbin?

Homestead Steel Works



Why Did Steel Go Away?

- Global excess capacity and intense competition by 1980’s
- Production technology changed – integrated vs. electric arc (mini-mill) production
- Electric arc plants more competitive elsewhere within the US.
- Pittsburgh lost locational advantage in primary metals manufacturing.

Scale of Economic Change in Pittsburgh

- 120,000 net manufacturing employment loss between 1981-84. (~50% of all manf. jobs)
- Loss concentrated in manufacturing industries.
- Particular sub-regions hit even harder.
- Change too fast for local industries to adjust
- Significant unemployment and out-migration of workforce

Why was adjustment difficult?

- Regional economy highly concentrated in steel and related industries
- Very little diversification by industry or occupation
- Very mature industry in region (100+ years)
- Little to replace steel when steel went away
- Large-scale economic change forced large scale workforce migration

Demographic Impact and Legacy

- Net out-migration of working age population: 50,000+ per year in mid-1980’s
- Out-Migration was very Age Selective (younger left, older stayed).
- Region soon became one of the ‘oldest’ regions in the country.
- Workforce migration left region skill-deficient for new/emerging industries.
- Region still has a unique older demographic affecting current population trends.

Less Obvious Impacts of Steel Industry

- Local industries had been mostly large firms
- Ownership was also highly concentrated
- Established supplier networks hard to break into
- Result: diminished entrepreneurial activity
- Still considered a local problem

For more: Ben Chinitz: "Contrasts in Agglomerations: New York and Pittsburgh" American. Economic Review, Papers and Proceedings 2 (May 1961):

Post Steel Changes: 1985-1990

- Local unemployment and rate of out-migration decreased significantly between 1985-1990
- Employment Growth in service sectors. Financial service/ education industries began to make up for manufacturing losses.
- *Female labor force participation increased*
- Rate of manufacturing job loss decreased

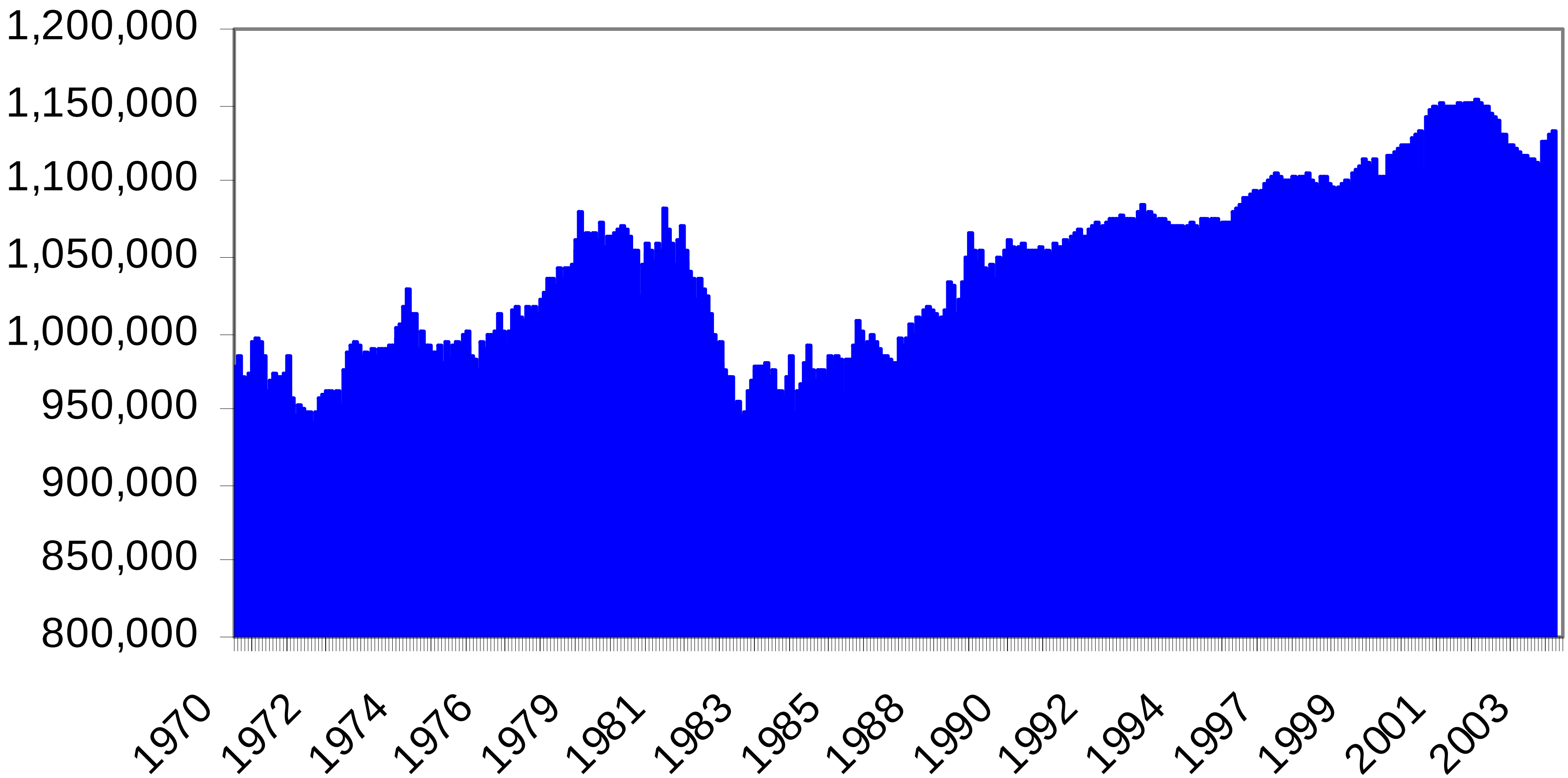
1990's

- Manufacturing employment stabilized
- "Heavy" industries continuing to decline, but some success at attracting new firms (Sony Plant in Westmoreland County for example)
- Continuing shift of employment into service sectors
- National economic expansion has positive impacts, but region lagged rest of country.
- No "Dot.com" boom.

2000 - 2006

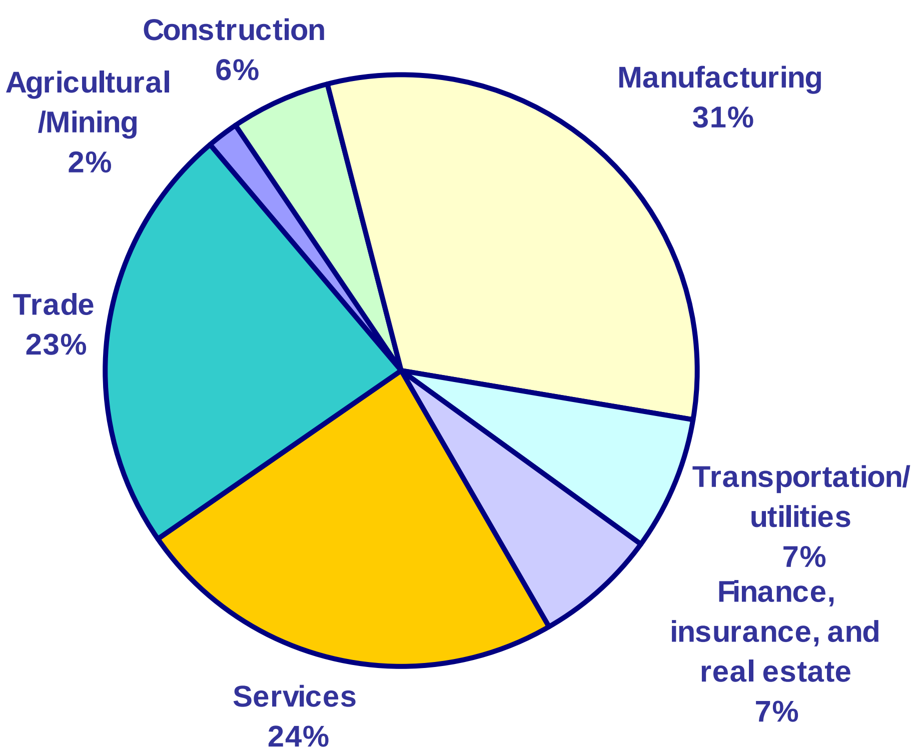
- No Dot.Com Boom → No Dot.Com bust
- Local unemployment rate below national unemployment rate between 2001-2004.
- Demographic changes in region (elderly population decline, slower out-migration of working age population)
- Employment/Labor Force now larger than before decline in the Steel Industry

Employment in the Pittsburgh Region: 1970-2004

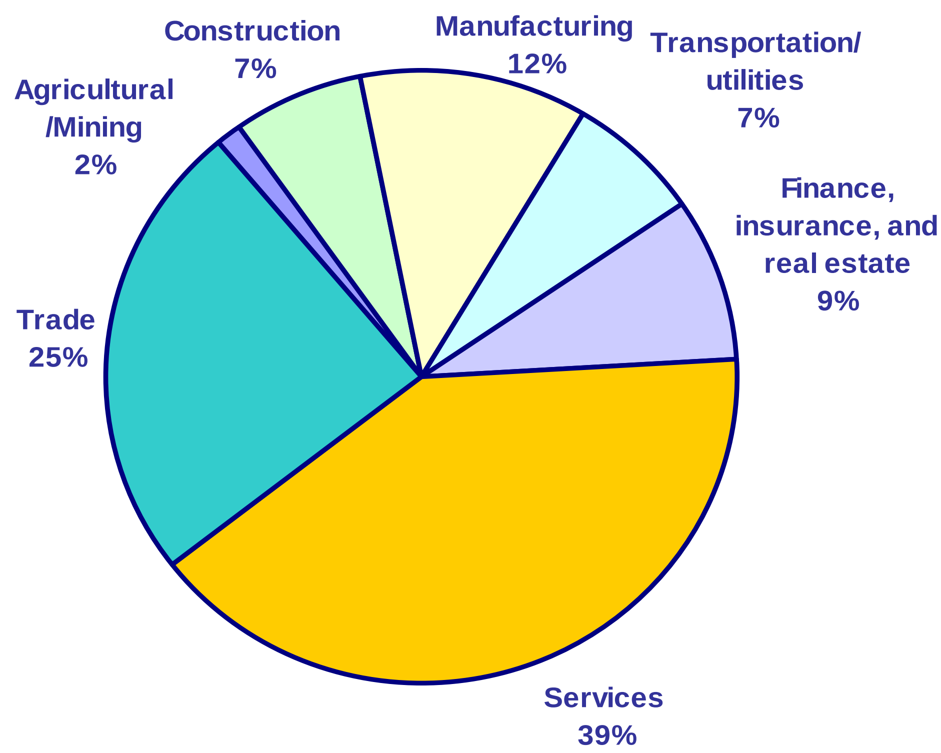


Pittsburgh Region Employment by Industry

1970

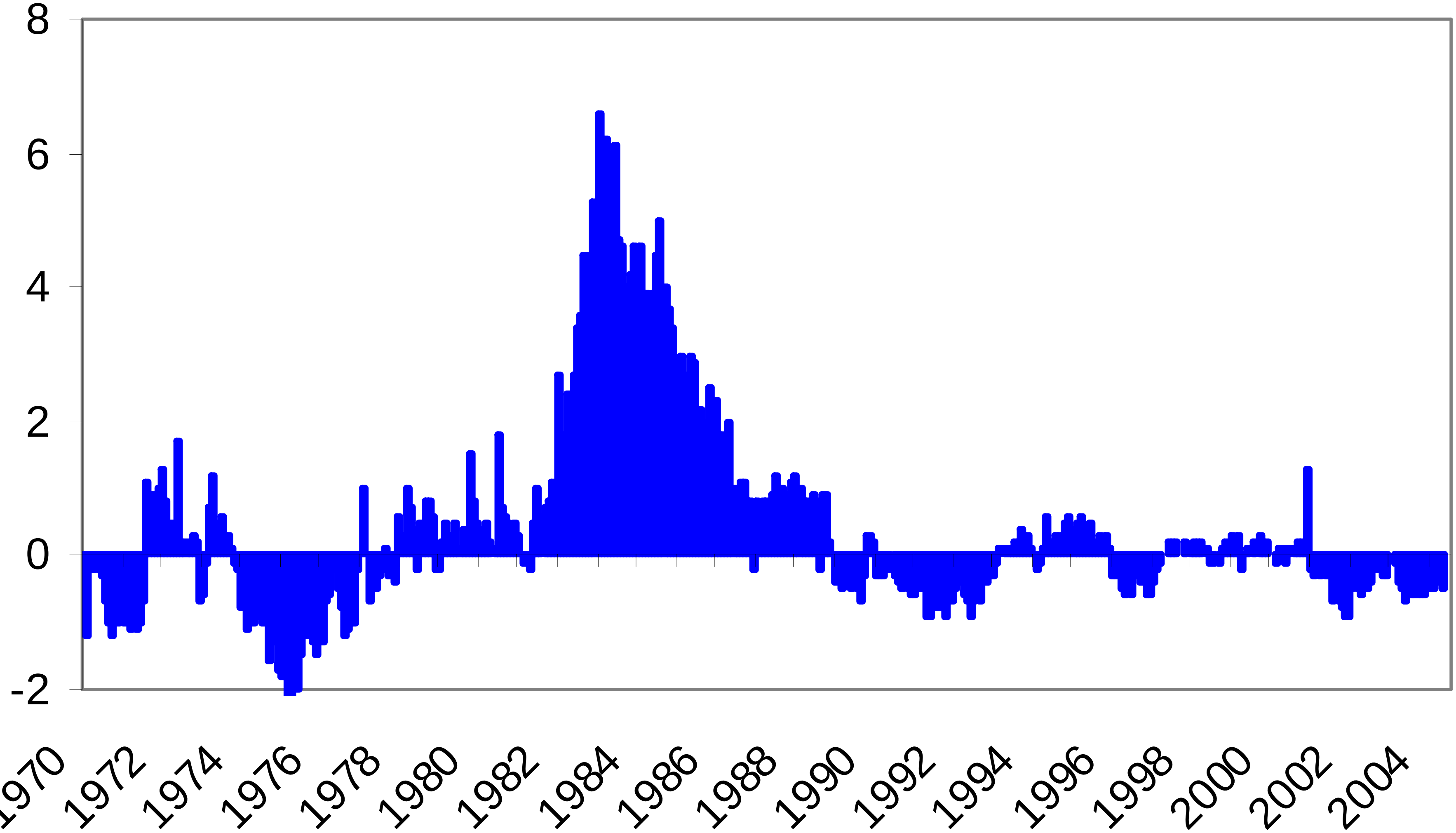


2000

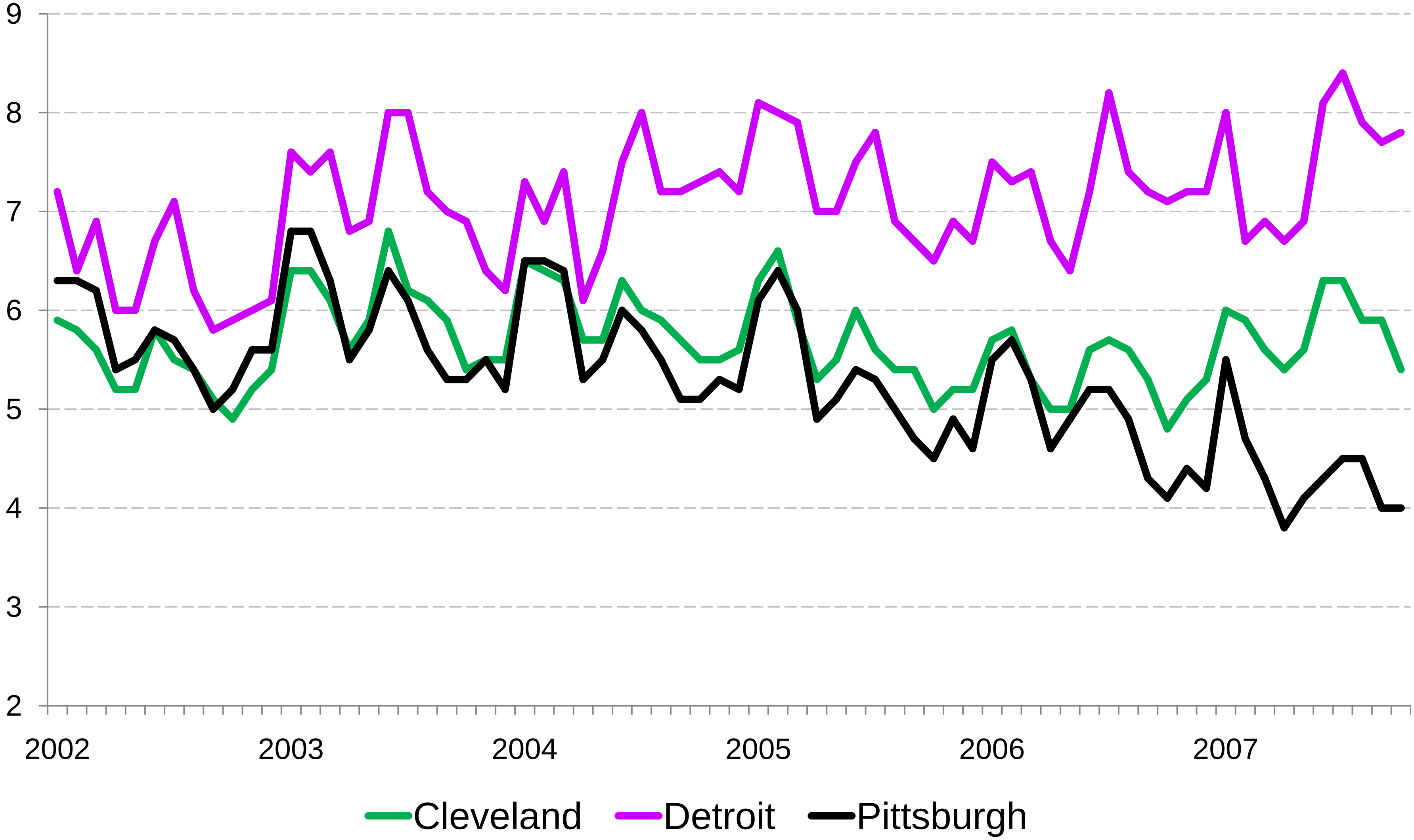


Manufacturing Employment Share Down 63%

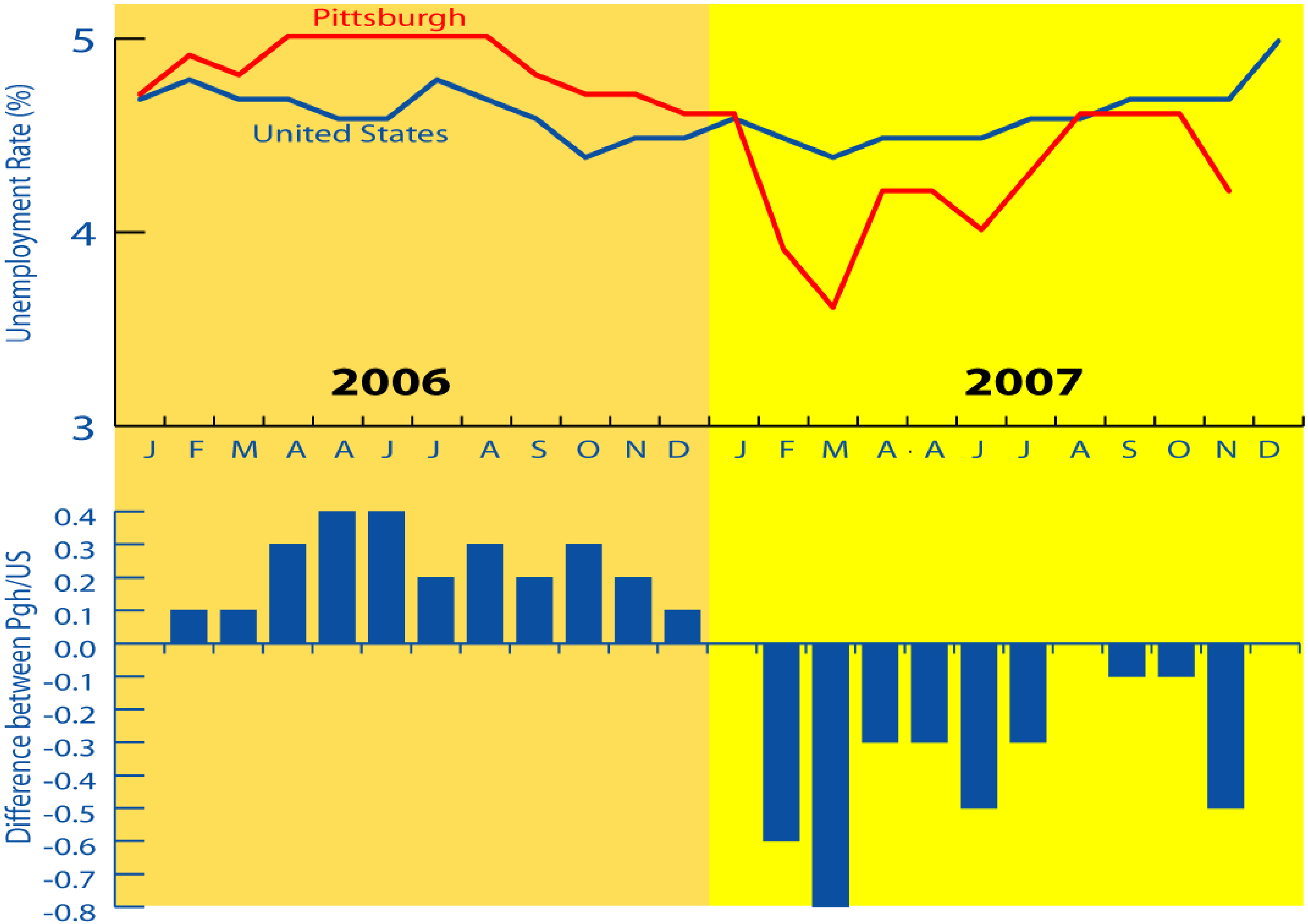
Difference Between Pittsburgh and U.S. Unemployment Rates:1970-2004



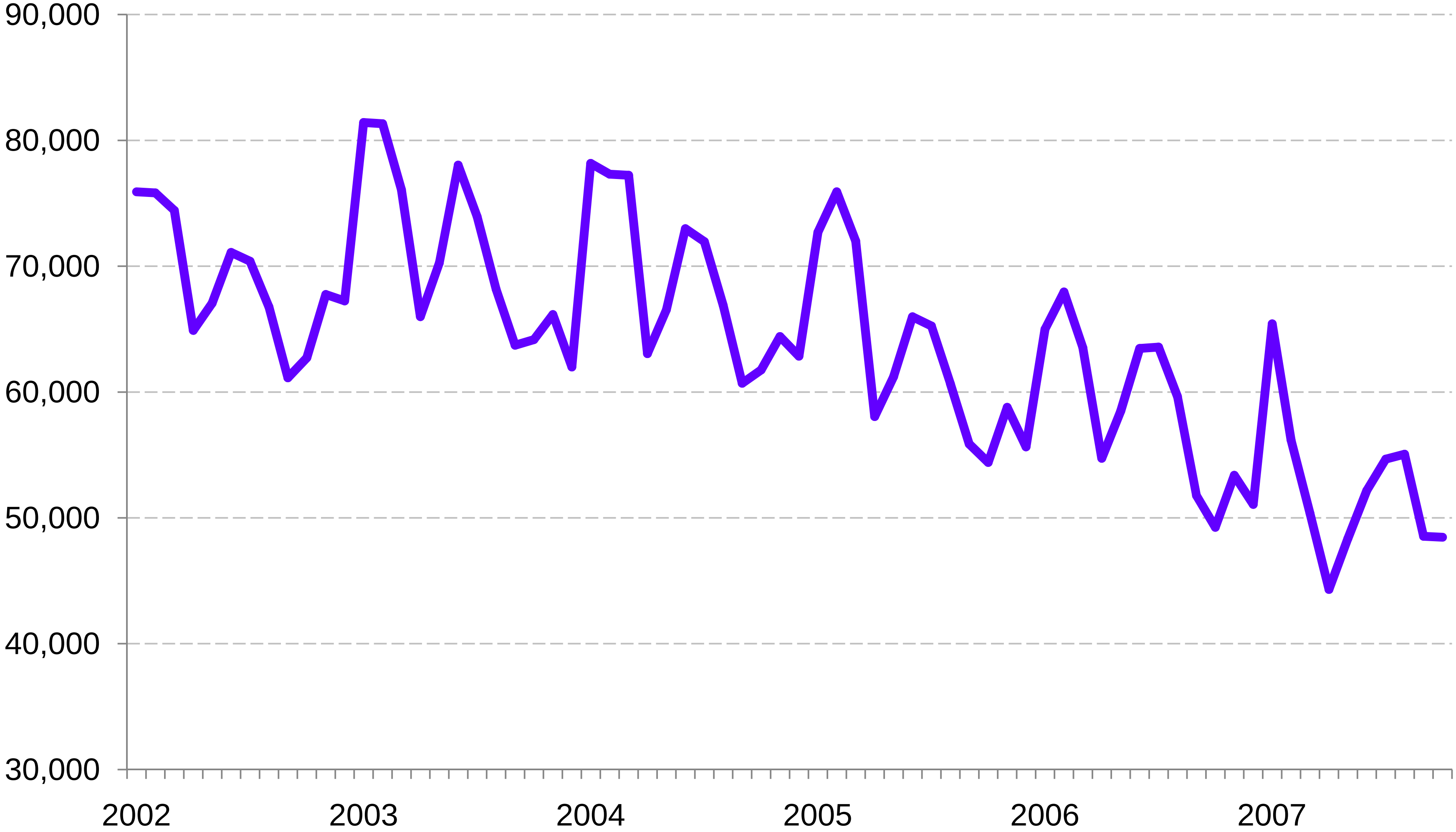
Regional Unemployment Rates 2002 – October 2007
Pittsburgh, Cleveland and Detroit



Pittsburgh vs. US Unemployment Rates: 2006-2007



Total Unemployment
Pittsburgh MSA: 2002 – October 2007



Local Technology Development

- History of promoting ‘high tech’ for local economic development since 1980’s
- Aversion to “Smokestack Chasing”
- Continuing need for brownfield redevelopment throughout region
- Technology base built up locally by history of heavy industry.
  - Biotechnology
  - Advanced Manufacturing
  - Energy (including Nuclear)

TBED Programs

- Early Technology Based Economic Development (TBED) focus:
- Ben Franklin Partnership created in 1983
- Industry Specific TBED programs today:
  - Innovation Works: (Pennsylvania) Economic Development Agency
  - Pittsburgh Life Sciences Greenhouse
  - Other Public/Private Initiatives
- Programming of some tobacco settlement funds into life sciences research

Biotechnology/Life Sciences in Pittsburgh

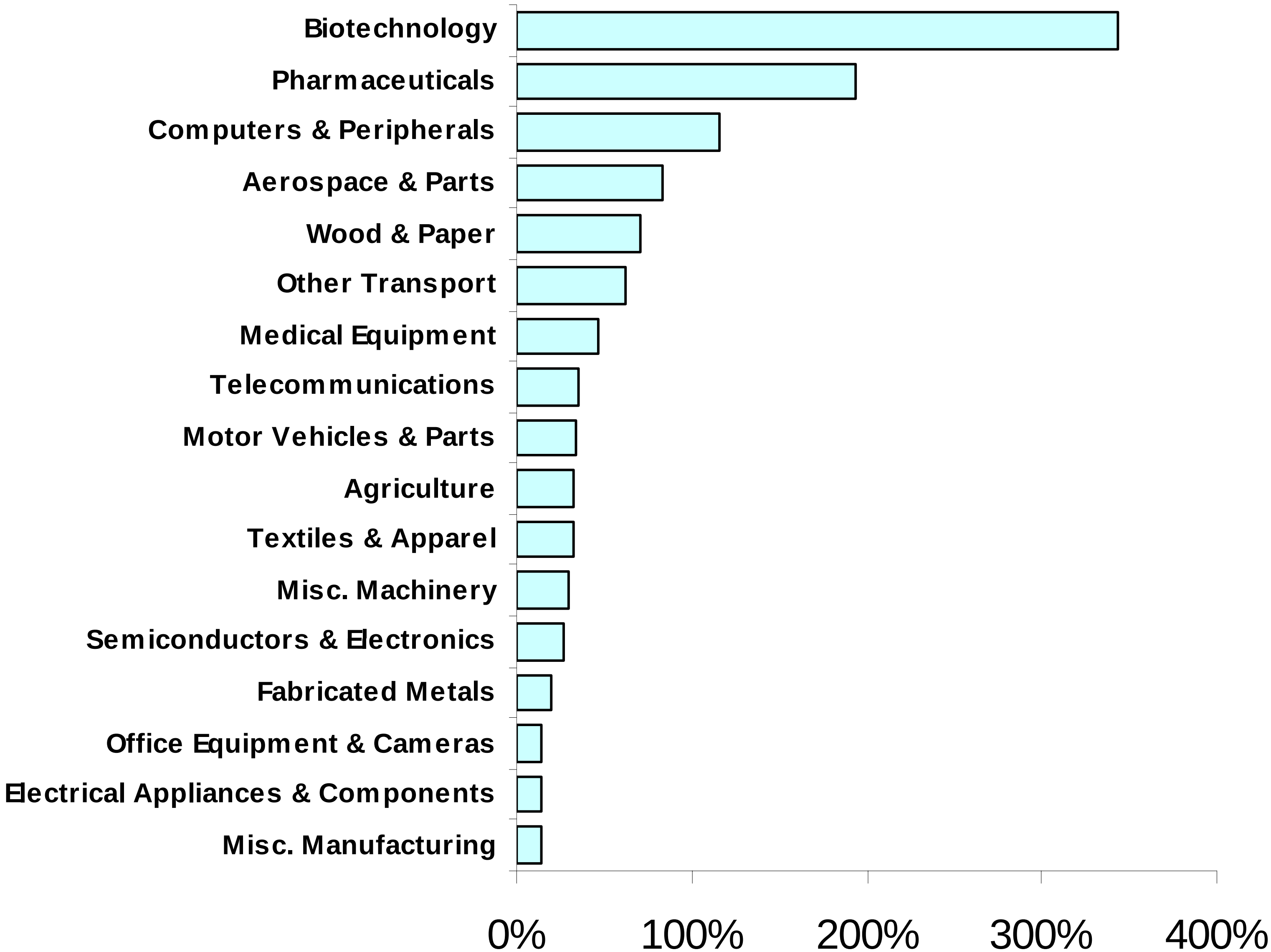
- History of medical technology

  (Jonas Salk/Polio Vaccine - 1950)
- Emergence of transplant technology in 1980's
- Pittsburgh region receives large concentration of national biomedical research $
- Continuing Public/Private focus on development of biomedical firms.
- *Commercialization a challenge*

Top Regions Receiving National Institutes of Health (NIH) Funding - 2006

1) Boston-Cambridge-Quincy, MA-NH	$2,143,252,094
2) New York-Northern New Jersey-Long Island, NY-NJ-PA	$ 1,654,994,643
3) Washington-Arlington-Alexandria, DC-VA-MD-WV	$ 1,136,095,361
4) Los Angeles-Long Beach-Santa Ana, CA	$ 1,006,321,555
5) San Francisco-Oakland-Fremont, CA	$ 908,812,334
6) Durham, NC	$ 869,049,262
7) San Diego-Carlsbad-San Marcos, CA	$ 846,332,838
8) Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	$ 842,361,335
9) Baltimore-Towson, MD	$ 836,195,899
10) Seattle-Tacoma-Bellevue, WA	$ 814,096,207
11) Chicago-Naperville-Joliet, IL-IN-WI	$ 646,421,371
12) Houston-Sugar Land-Baytown, TX	$ 629,182,814
13) Pittsburgh, PA	$ 499,313,873
14) Ann Arbor, MI	$ 412,502,923
15) St. Louis, MO-IL	$ 411,688,813
16) New Haven-Milford, CT	$ 362,509,511
17) San Jose-Sunnyvale-Santa Clara, CA	$ 360,950,513
18) Nashville-Davidson--Murfreesboro--Franklin, TN	$ 307,474,072
19) Atlanta-Sandy Springs-Marietta, GA	$ 297,841,804

Growth in Pittsburgh Region Patent Production 1990-1995 versus 1995-2000



Concentration of Engineering Occupations in Pittsburgh

Occupation	Employment Pittsburgh	Employment US	% of US
Nuclear Engineers	1,340	15,870	**8.4%**
Mining and Geological Engineers	130	5,480	2.4%
Industrial Engineers	2,500	184,900	1.4%
Electrical Engineers	1,870	147,120	1.3%
Environmental Engineers	620	50,120	1.2%
Materials Engineers	230	20,940	1.1%
Engineers, All Other	1,580	153,090	1.0%
Civil Engineers	2,070	226,100	0.9%
Mechanical Engineers	2,000	219,040	0.9%
Health and Safety Engineers	170	25,910	0.7%
Architects	580	96,540	0.6%
Surveyors	310	51,960	0.6%
Chemical Engineers	170	28,590	0.6%
Electronics Engineers	790	133,410	0.6%
Computer Hardware Engineers	330	79,670	0.4%
Landscape Architects	nr	19,130	
Petroleum Engineers	nr	14,790	
Total - Architecture and Engineering Occupations	22,570	2,385,680	0.9%

Foreclosures – 100 Largest Metro Areas – 3Q 2007

Rank	Area	Total filings	**Foreclosure rate: 1 filing for every X households**	Properties with filings	Pct. change from Q3 2006
1	**STOCKTON, CA**	7,116	**31**	4,409	465.3
2	**DETROIT/LIVONIA/DEARBORN, MI**	25,708	**33**	16,079	93.4
3	**RIVERSIDE/SAN BERNARDINO, CA**	31,661	**43**	20,664	267.9
4	**FORT LAUDERDALE, FL**	16,595	**48**	9,367	127.4
5	**LAS VEGAS/PARADISE, NV**	14,948	**48**	11,482	200.3
6	**SACRAMENTO, CA**	15,479	**48**	9,241	408
7	**CLEVELAND/LORAIN/ELYRIA /MENTOR, OH**	16,332	**57**	11,821	178.5
8	**MIAMI, FL**	15,484	**60**	10,232	82
9	**BAKERSFIELD, CA**	3,947	**64**	2,824	361.4
10	**OAKLAND, CA**	13,245	**71**	8,062	268.8
11	**AKRON, OH**	3,992	**76**	2,941	128
12	**DENVER/AURORA, CO**	13,179	**77**	7,751	28.3
13	**FRESNO, CA**	3,687	**79**	2,434	239.9
14	**MEMPHIS, TN**	6,239	**85**	3,353	38.6
15	**PHOENIX/MESA, AZ**	18,328	**87**	11,242	246
74	**PITTSBURGH, PA**	2,548	**432**	1,526	-28.6
100	**GREENVILLE, SC**	79	**3,289**	65	-82.3

Renewed Strength in Traditional Industries

- Global steel market resurgence benefiting region
- Global steel *support* industry remaining
- Energy prices impacting local coal industry
- Pittsburgh and commercial nuclear power
  - Potential new domestic sales for first time in decades
  - China/International Sales
  - Westinghouse expansion

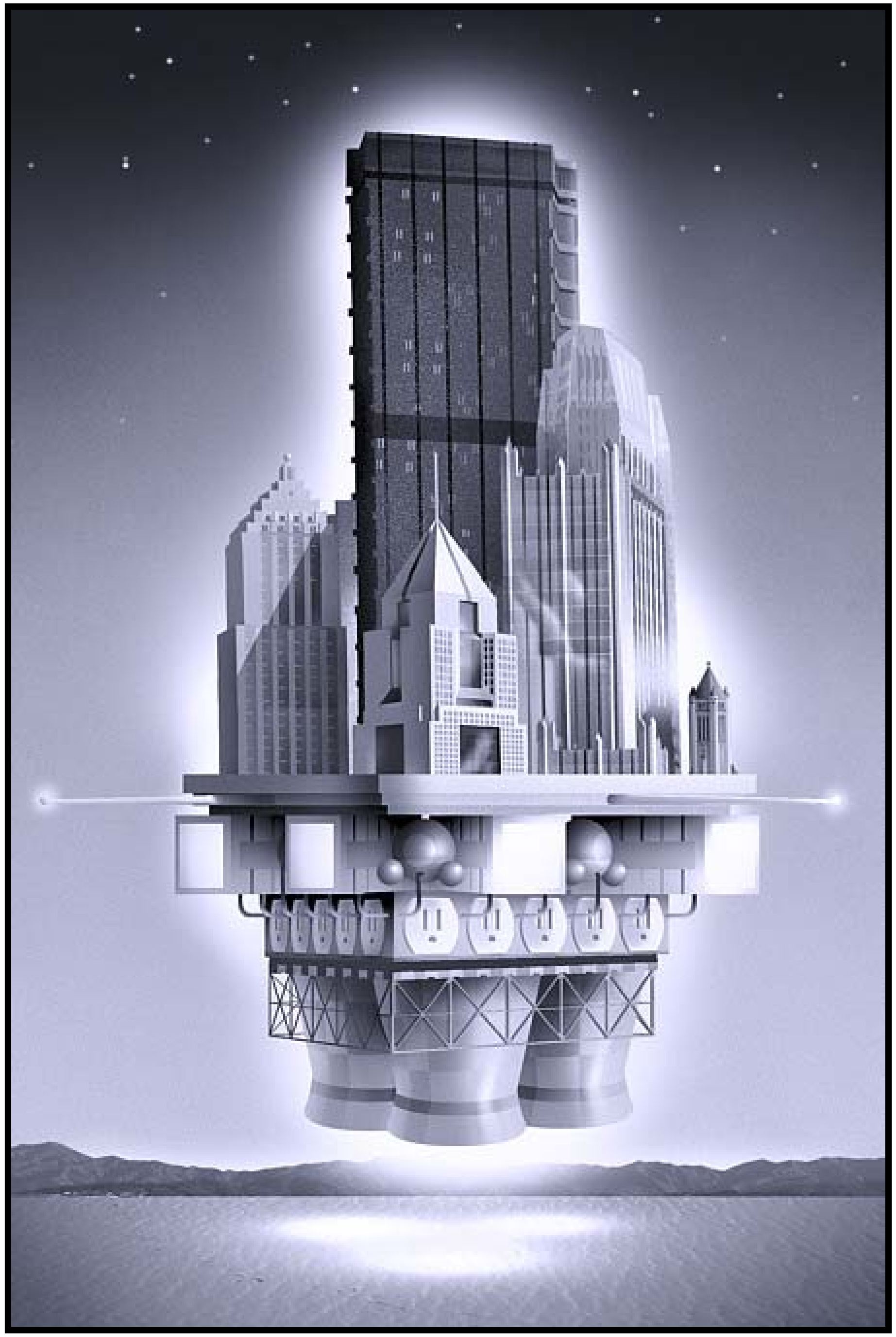
Homestead Steelworks Site - 1998

Conclusions

- Pittsburgh is in a period between what it was and what it will be.
- Transition may be perpetual state
- Region in search of new competitive advantage
- Geographic advantages diminishing
- Capital ever more mobile
- Future: Competition based on people, talent, innovation and adaptability

“...the Pittsburgh region's future depends to such a major extent upon retaining and attracting highly qualified and professional and technical people and business enterprisers, who are in demand everywhere and who command a high standard of residential amenity and cultural and professional opportunities.”

From: *Region With a Future*. Volume 3 of the Economic Study of the Pittsburgh Region. **1964**.



Pittsburgh Region Economic Development Resources

- Pennsylvania Department of Community and Economic Development: http://www.newpa.com/
- Pittsburgh Life Science Greenhouse: www.pittsburghlifesciences.com
- Innovation works: www.innovationworks.org
- Pittsburgh Regional Alliance: www.pittsburgh-region.org
- Pittsburgh Technology Council: www.pghtech.org