Revitalizing American industry: Place-based innovation for economic development

Alan Berube, Interim VP and Director, Brookings Metro

April 24, 2024
High levels of R&D and STEM workers characterize U.S. advanced industries
Advanced industries are critical to U.S. economic dynamism

Advanced industry share of total U.S. activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total employment</td>
<td>8%</td>
</tr>
<tr>
<td>Private-sector R&amp;D spending</td>
<td>90%</td>
</tr>
<tr>
<td>Patents</td>
<td>85%</td>
</tr>
<tr>
<td>Exports</td>
<td>60%</td>
</tr>
</tbody>
</table>

Multiplier effect of advanced industry jobs

- Advanced industry job: (1)
- Other jobs created locally: (2.2)

Source: Muro and You, “The nation’s advanced industries are falling behind, but place-based strategies can help them catch up” (Brookings, 2023)
The U.S. has lost ground globally in advanced industries

U.S. share of global gross output in advanced industries
1995 to 2018

Source: Muro and You, “The nation’s advanced industries are falling behind, but place-based strategies can help them catch up” (Brookings, 2023)
U.S. metro areas concentrate advanced industry clusters

Advanced industry jobs, 100 largest metro areas, 2024

Source: Brookings analysis of Lightcast data
The Pittsburgh region’s two largest advanced industry sectors are in services

Advanced industry jobs by total employment, Pittsburgh metro area, 2023

Source: Brookings analysis of Lightcast data
Pittsburgh’s advanced industries contributed to the region’s recent economic progress

Pittsburgh region rankings on Brookings Metro Monitor, 2012-22 (out of 55 regions)

- Change in productivity: +12.9%
- Change in median earnings: +23.1%

Change in share of all jobs in advanced industries (% points), 2013-2024

- Pittsburgh region: 0.74
- United States: 0.32

Source: Brookings Metro Monitor 2024; Brookings analysis of Lightcast data
Pittsburgh’s advanced industries are not yet generating inclusive growth and prosperity

Pittsburgh region rankings on Brookings Metro Monitor, 2012-22 (out of 55 regions)

- Change in jobs: -4.1%
- Change in employment rate: +3.8 %
- Change in median earnings gap: +$1,606

Share of jobs in advanced industries (%), 2024

- Pittsburgh region: 7.89
- United States: 8.25

Source: Brookings Metro Monitor 2024; Brookings analysis of Lightcast data
Other Industrial Heartland regions exhibit advanced industry challenges

Share (2024) and change in share (2013-24), advanced industry jobs, metro areas

Source: Brookings analysis of Lightcast data
The U.S. innovation economy has become highly geographically unbalanced

Change in innovation-sector jobs, 2005 to 2017

The federal government invests significantly in university-based R&D at Pitt and CMU

University rankings for federally financed R&D expenditures

6th Total NIH Funding, 2023

2nd Total Federal Funding for Computer/Information Sciences, 2022

Source: NIH; National Center for Science and Engineering Statistics
Three major bills are unleashing substantial investment in U.S. advanced industries

- **INFRASTRUCTURE INVESTMENT AND JOBS ACT**
  - $1.2 TRILLION

- **CHIPS AND SCIENCE ACT**
  - $280 BILLION

- **INFLATION REDUCTION ACT**
  - $433 BILLION
Washington is investing $80 billion in place-based economic strategies

Source: Muro, Maxim, Parilla, and Briggs, “Breaking down an $80 billion surge in place-based industrial policy” (Brookings, 2022)
Voters and policymakers face choices on how to further revitalize American industry.

- Targeted, direct government investment
- Broader tax and regulatory relief
- Higher trade barriers