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#### 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







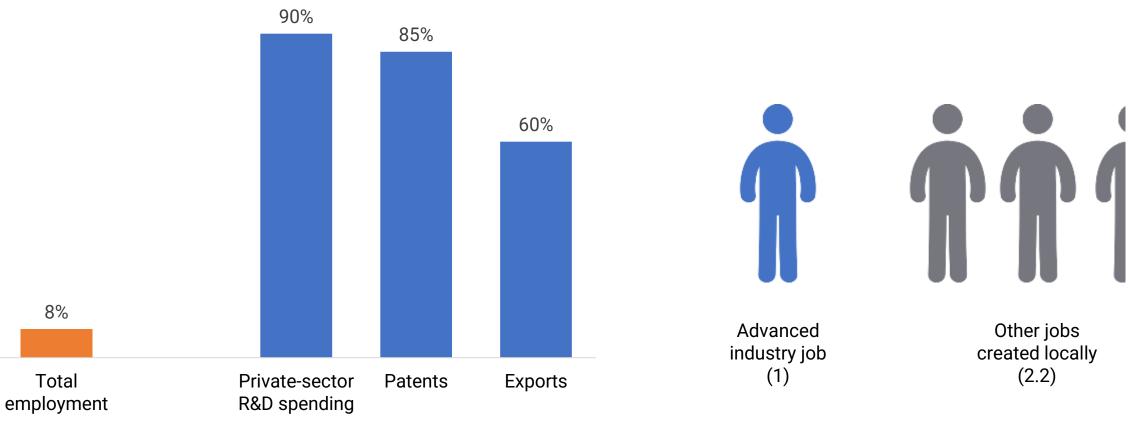
# Advanced industries are critical to U.S. economic dynamism



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Advanced industry share of total U.S. activity

Multiplier effect of advanced industry jobs



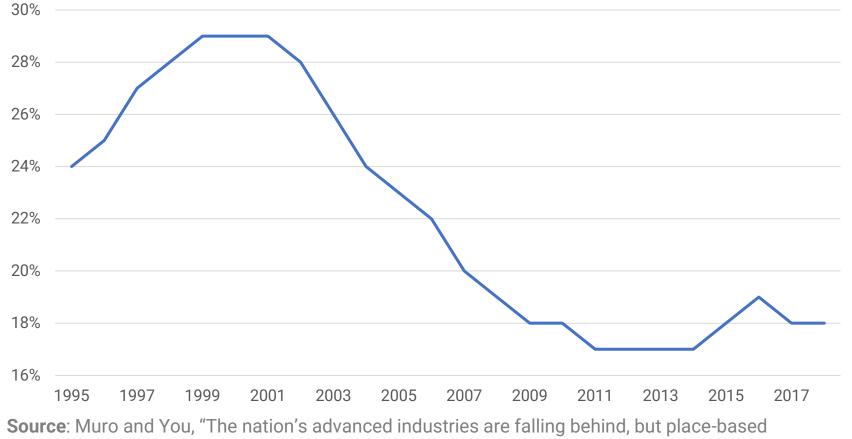
**Source**: Muro and You, "The nation's advanced industries are falling behind, but place-based strategies can help them catch up" (Brookings, 2023)

# The U.S. has lost ground globally in advanced industries



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

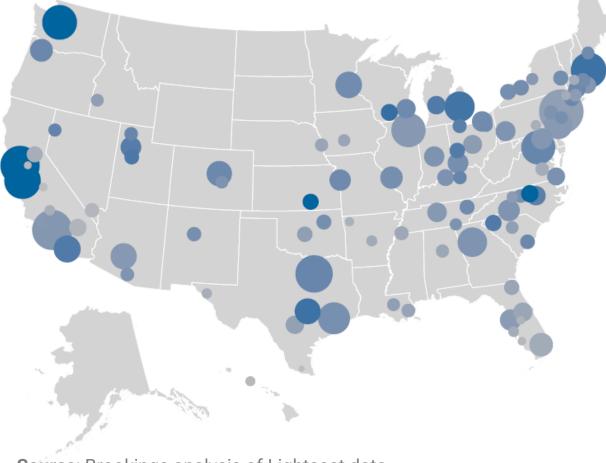


strategies can help them catch up" (Brookings, 2023)

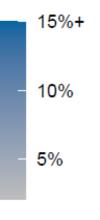
# U.S. metro areas concentrate advanced industry clusters

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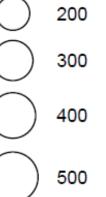
Advanced industry jobs, 100 largest metro areas, 2024



Share of jobs in<br/>advanced industriesThousands of jobs in<br/>advanced industries



100
200



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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

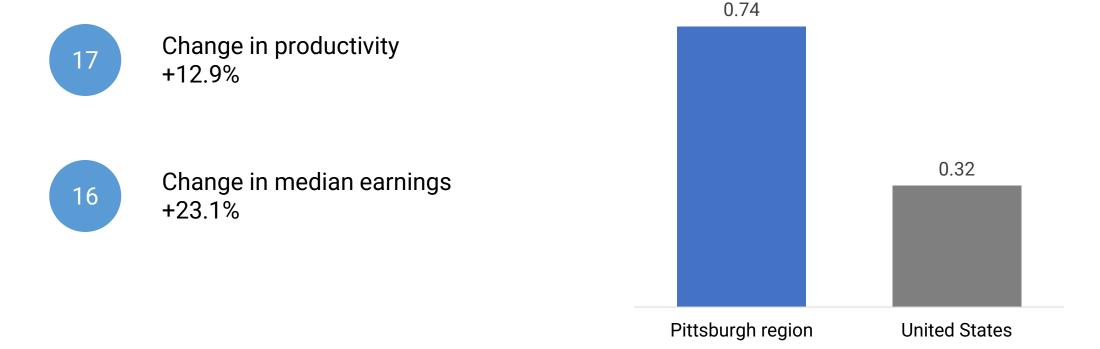
Manufacturing							Services		
Navigational, Measuring, Electromedical, and Control Instruments		Plastics Product		Other General Purpose Machinery		ral		Software Publishers	
						/		Wired and Wireless	
			Petrol		Semic		Computer Systems Design and Related Services	Telecommunication (except Satellite)	
		dical Equipment and						Data Processi Hosting,	Web Search Portals,
Electrical Equipment	Other Electric Equipme	al Basic		ime	Resin,		Scientific Research and	and Related Services	Libraries, Archives, and
	Commu	Other	Agri.		l M c Ve			Medical and	
	Equipme		Pain	́ р.,			Development Services	Diagnostio	
Metalworking Machinery	Other Miscella			Ae.			<b>Energy</b> Support Activities for Mining		nd Gas action

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



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) Share of jobs in advanced industries (%), 2024



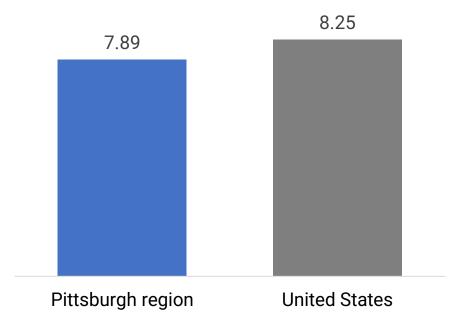
Change in jobs -4.1%



Change in employment rate +3.8 % points

37

Change in median earnings gap between white workers and workers of color +\$1,606



Source: Brookings Metro Monitor 2024; Brookings analysis of Lightcast data

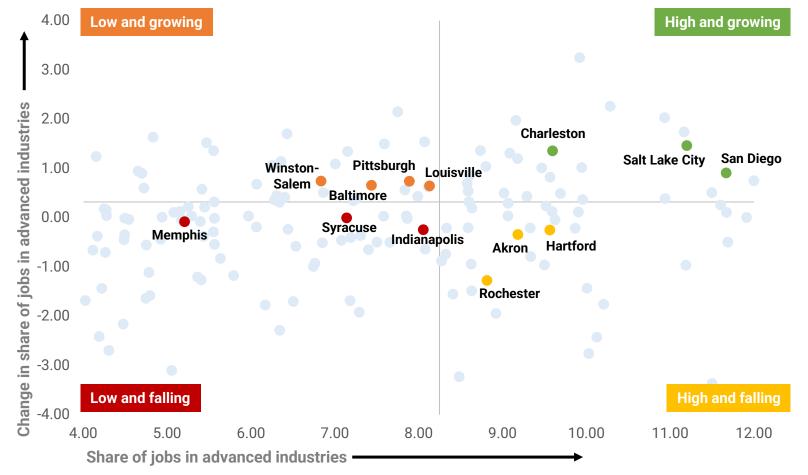


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### Other Industrial Heartland regions exhibit advanced industry challenges



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



Source: Brookings analysis of Lightcast data

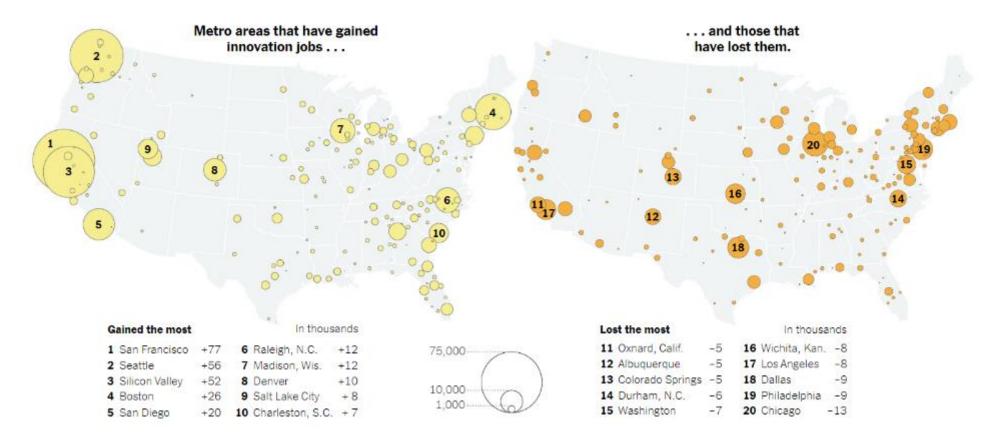


# The U.S. innovation economy has become highly geographically unbalanced



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Change in innovation-sector jobs, 2005 to 2017



Source: Porter, "A Few Cities Have Cornered Innovation Jobs. Can That Be Changed?" (New York Times, 2019)

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



University rankings for federally financed R&D expenditures





Total NIH Funding, 2023

Total Federal Funding for Computer/Information Sciences, 2022

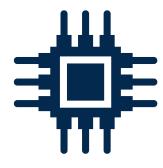
Source: NIH; National Center for Science and Engineering Statistics



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 placebased economic strategies

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Place-based industrial policy investments, by bill/program

CHIPS for America Fund \$39,000,000	Regional technology and innovati hubs \$10,000,000,000	on Regional Cl Hubs \$8,000,000,	ean Hydrogen 000
	Regional Innovation Engines / Translation Accelerator \$6,500,000,000	Collaborate Innovation Resource Center program \$3,100,000,000	Economic Adjustment Assistance \$3,000,000,000
	Regional Clean Direct Air Capture Hubs \$3,500,000,000		

ARPA CHIPS IIJA

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

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#### ELECTION 24 \*\*\* ISSUES AT STAKE

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