

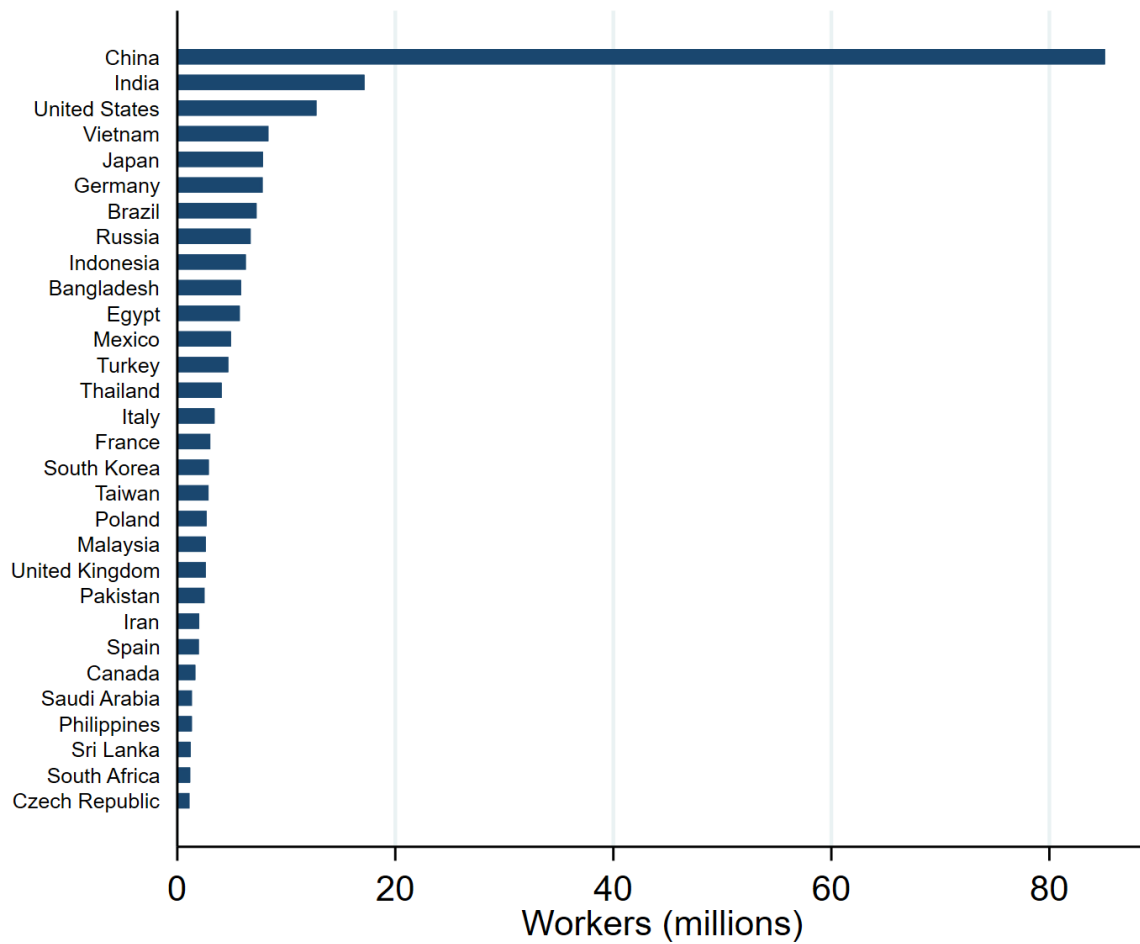
Where Could Reshoring Manufacturers Find Workers?

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Appendix

Figure A1. Manufacturing Employment by Country, 2022



Source: [United Nations Industrial Development Organization](#) (UNIDO)

Notes: UNIDO estimates for China are calculated using data from the National Bureau of Statistics of China. Some organizations such as the International Labor Organization estimate much higher Chinese manufacturing employment compared with UNIDO's estimates.

Table A1. Locations of US Manufacturing Production Clusters

Region	Workers without college degrees	Product category	Ratio of exports to imports
Atlanta–Sandy Springs–Roswell, GA	12,989	Motor vehicles and motor vehicle equipment	0.38
	8,217	Machinery, not elsewhere classified or not specified	0.63
	7,333	Plastics products	0.62
	7,292	Animal slaughtering and processing	1.52
	6,218	Printing and related support activities	0.92
	5,904	Medical equipment and supplies	0.79
	5,883	Carpet and rug mills	0.24
	5,536	Furniture and related products	0.12
	5,527	Electric lighting and electrical equipment, and other electrical components, not elsewhere classified	0.47
	5,350	Miscellaneous, not elsewhere classified	0.68
Austin–Round Rock, TX	8,744	Electronic components and products, not elsewhere classified	0.54
Baton Rouge, LA	6,849	Industrial and miscellaneous chemicals	1.02
Birmingham–Hoover, AL	9,847	Motor vehicles and motor vehicle equipment	0.38
	10,307	Medical equipment and supplies	0.79
	7,788	Electronic components and products, not elsewhere classified	0.54
	5,942	Machinery, not elsewhere classified or not specified	0.63
	5,533	Pharmaceutical and medicine	0.52
	5,332	Aircraft and parts	2.49
Bremerton–Silverdale, WA	6,787	Ship and boat building	0.72
Charleston–North Charleston, SC	5,317	Motor vehicles and motor vehicle equipment	0.38
Charlotte–Concord–Gastonia, NC–SC	10,768	Motor vehicles and motor vehicle equipment	0.38
	7,462	Machinery, not elsewhere classified or not specified	0.63
Chicago–Naperville–Elgin, IL–IN–WI	23,689	Motor vehicles and motor vehicle equipment	0.38
	18,130	Machinery, not elsewhere classified or not specified	0.63
	16,923	Iron and steel mills and steel products	0.42
	16,360	Printing and related support activities	0.92
	14,611	Plastics products	0.62
	13,863	Miscellaneous, not elsewhere classified	0.68
	12,350	Medical equipment and supplies	0.79
	11,817	Machine shops; turned products; screws, nuts, and bolts	1.05
	11,236	Miscellaneous fabricated metal products	0.44
	9,945	Electric lighting and electrical equipment, and other electrical components, not elsewhere classified	0.47
	9,565	Animal slaughtering and processing	1.52
	9,204	Electronic components and products, not elsewhere classified	0.54
	8,697	Seafood and other miscellaneous foods, not elsewhere classified	0.58
	8,562	Pharmaceutical and medicine	0.52
	7,360	Structural metals, and boilers, tanks, and shipping containers	0.38

	7,080	Bakeries and tortilla, except retail bakeries	0.27
	6,714	Industrial and miscellaneous chemicals	1.02
	6,032	Furniture and related products	0.12
	5,622	Resin, synthetic rubber, and fibers and filaments	2.20
	5,220	Sugar and confectionery products	0.31
	5,078	Metalworking machinery	0.44
	5,056	Beverages	0.31
Cincinnati, OH–KY–IN	11,612	Motor vehicles and motor vehicle equipment	0.38
	6,702	Machinery, not elsewhere classified or not specified	0.63
Cleveland–Elyria, OH	9,079	Motor vehicles and motor vehicle equipment	0.38
	7,730	Machinery, not elsewhere classified or not specified	0.63
	5,689	Miscellaneous fabricated metal products	0.44
	5,190	Machine shops; turned products; screws, nuts, and bolts	1.05
Columbus, OH	12,496	Motor vehicles and motor vehicle equipment	0.38
Dallas–Fort Worth–Arlington, TX	16,744	Aircraft and parts	2.49
	14,632	Motor vehicles and motor vehicle equipment	0.38
	11,124	Machinery, not elsewhere classified or not specified	0.63
	10,850	Printing and related support activities	0.92
	10,186	Electronic components and products, not elsewhere classified	0.54
	9,231	Furniture and related products	0.12
	8,866	Plastics products	0.62
	8,389	Miscellaneous, not elsewhere classified	0.68
	7,854	Structural metals, and boilers, tanks, and shipping containers	0.38
	7,358	Medical equipment and supplies	0.79
	5,761	Beverages	0.31
	5,743	Animal slaughtering and processing	1.52
Dalton, GA	9,603	Carpet and rug mills	0.24
Dayton, OH	6,090	Motor vehicles and motor vehicle equipment	0.38
Detroit–Warren–Dearborn, MI	115,948	Motor vehicles and motor vehicle equipment	0.38
	10,915	Machinery, not elsewhere classified or not specified	0.63
	8,183	Machine shops; turned products; screws, nuts, and bolts	1.05
	6,629	Plastics products	0.62
	6,543	Metalworking machinery	0.44
	5,886	Iron and steel mills and steel products	0.42
	5,296	Miscellaneous, not elsewhere classified	0.68
Elkhart–Goshen, IN	12,710	Motor vehicles and motor vehicle equipment	0.38
Evansville, IN–KY	6,955	Motor vehicles and motor vehicle equipment	0.38
Fayetteville–Springdale–Rogers, AR–MO	9,184	Animal slaughtering and processing	1.52
Flint, MI	10,986	Motor vehicles and motor vehicle equipment	0.38
Fort Wayne, IN	7,176	Motor vehicles and motor vehicle equipment	0.38
Grand Rapids–Wyoming, MI	18,035	Motor vehicles and motor vehicle equipment	0.38
	5,871	Furniture and related products	0.12
Greensboro–High Point, NC	5,045	Furniture and related products	0.12
Greenville–Anderson–Mauldin, SC	11,101	Motor vehicles and motor vehicle equipment	0.38

Gulfport–Biloxi–Pascagoula, MS	5,982	Ship and boat building	0.72
Hartford–West Hartford–East Hartford, CT	7,231	Aircraft and parts	2.49
Hickory–Lenoir–Morganton, NC	11,072	Furniture and related products	0.12
Houston–The Woodlands–Sugar Land, TX	22,760	Industrial and miscellaneous chemicals	1.02
	19,736	Petroleum refining	1.73
	18,942	Machinery, not elsewhere classified or not specified	0.63
	8,032	Miscellaneous, not elsewhere classified	0.68
	7,865	Construction, and mining and oil and gas field machinery	0.61
	7,837	Structural metals, and boilers, tanks, and shipping containers	0.38
	7,430	Iron and steel mills and steel products	0.42
	6,822	Miscellaneous fabricated metal products	0.44
	6,750	Machine shops; turned products; screws, nuts, and bolts	1.05
	5,719	Motor vehicles and motor vehicle equipment	0.38
	5,273	Medical equipment and supplies	0.79
	5,102	Plastics products	0.62
Indianapolis–Carmel–Anderson, IN	16,265	Motor vehicles and motor vehicle equipment	0.38
Kansas City, MO–KS	11,779	Motor vehicles and motor vehicle equipment	0.38
Knoxville, TN	8,706	Motor vehicles and motor vehicle equipment	0.38
Lafayette–West Lafayette, IN	6,843	Motor vehicles and motor vehicle equipment	0.38
Lansing–East Lansing, MI	7,610	Motor vehicles and motor vehicle equipment	0.38
Lexington–Fayette, KY	8,458	Motor vehicles and motor vehicle equipment	0.38
Los Angeles–Long Beach–Anaheim, CA	44,890	Aircraft and parts	2.49
	23,764	Medical equipment and supplies	0.79
	23,445	Cut and sew, and apparel accessories and other apparel	0.08
	18,013	Printing and related support activities	0.92
	17,595	Electronic components and products, not elsewhere classified	0.54
	15,796	Miscellaneous, not elsewhere classified	0.68
	13,960	Furniture and related products	0.12
	13,194	Motor vehicles and motor vehicle equipment	0.38
	11,276	Machinery, not elsewhere classified or not specified	0.63
	10,797	Machine shops; turned products; screws, nuts, and bolts	1.05
	10,668	Bakeries and tortilla, except retail bakeries	0.27
	8,895	Pharmaceutical and medicine	0.52
	8,732	Electric lighting and electrical equipment, and other electrical components, not elsewhere classified	0.47
	8,280	Miscellaneous fabricated metal products	0.44
	8,210	Plastics products	0.62
	7,230	Beverages	0.31
	7,154	Seafood and other miscellaneous foods, not elsewhere classified	0.58
	7,119	Structural metals, and boilers, tanks, and shipping containers	0.38
	6,544	Soap, cleaning compounds, and cosmetics	0.94
	5,390	Animal slaughtering and processing	1.52

Louisville/Jefferson County, KY–IN	5,161	Fabric mills, except knitting mills	0.84
	19,539	Motor vehicles and motor vehicle equipment	0.38
Miami–Fort Lauderdale–West Palm Beach, FL	6,089	Aircraft and parts	2.49
	5,569	Printing and related support activities	0.92
Milwaukee–Waukesha–West Allis, WI	7,054	Printing and related support activities	0.92
	6,197	Machinery, not elsewhere classified or not specified	0.63
Minneapolis–St. Paul–Bloomington, MN–WI	20,901	Medical equipment and supplies	0.79
	11,603	Machinery, not elsewhere classified or not specified	0.63
	8,678	Printing and related support activities	0.92
	7,923	Machine shops; turned products; screws, nuts, and bolts	1.05
	5,913	Electronic components and products, not elsewhere classified	0.54
	5,789	Plastics products	0.62
	5,505	Miscellaneous, not elsewhere classified	0.68
	5,091	Furniture and related products	0.12
	5,602	Motor vehicles and motor vehicle equipment	0.38
	6,259	Motor vehicles and motor vehicle equipment	0.38
	17,651	Motor vehicles and motor vehicle equipment	0.38
Nashville–Davidson–Murfreesboro–Franklin, TN	21,834	Pharmaceutical and medicine	0.52
	17,037	Miscellaneous, not elsewhere classified	0.68
New York–Newark–Jersey City, NY–NJ–PA	15,824	Printing and related support activities	0.92
	13,907	Medical equipment and supplies	0.79
	12,823	Cut and sew, and apparel accessories and other apparel	0.08
	11,611	Electronic components and products, not elsewhere classified	0.54
	10,708	Machinery, not elsewhere classified or not specified	0.63
	10,652	Bakeries and tortilla, except retail bakeries	0.27
	8,757	Furniture and related products	0.12
	8,332	Soap, cleaning compounds, and cosmetics	0.94
	7,347	Structural metals, and boilers, tanks, and shipping containers	0.38
	7,309	Plastics products	0.62
	7,195	Seafood and other miscellaneous foods, not elsewhere classified	0.58
	6,570	Electric lighting and electrical equipment, and other electrical components, not elsewhere classified	0.47
	6,485	Aircraft and parts	2.49
	6,467	Beverages	0.31
	6,418	Miscellaneous fabricated metal products	0.44
	6,318	Industrial and miscellaneous chemicals	1.02
	5,751	Motor vehicles and motor vehicle equipment	0.38
	8,853	Animal slaughtering and processing	1.52
Omaha–Council Bluffs, NE–IA	10,043	Pharmaceutical and medicine	0.52
	7,345	Medical equipment and supplies	0.79
Philadelphia–Camden–Wilmington, PA–NJ–DE–MD			

	7,150	Printing and related support activities	0.92
	6,617	Machinery, not elsewhere classified or not specified	0.63
	5,517	Industrial and miscellaneous chemicals	1.02
	5,496	Aircraft and parts	2.49
	5,441	Miscellaneous, not elsewhere classified	0.68
Phoenix–Mesa–Scottsdale, AZ	13,147	Electronic components and products, not elsewhere classified	0.54
	12,358	Aircraft and parts	2.49
	6,596	Medical equipment and supplies	0.79
Pittsburgh, PA	7,768	Iron and steel mills and steel products	0.42
Portland–Vancouver–Hillsboro, OR–WA	14,346	Electronic components and products, not elsewhere classified	0.54
Providence–Warwick, RI–MA	5,165	Ship and boat building	0.72
Reading, PA	5,206	Electric lighting and electrical equipment, and other electrical components, not elsewhere classified	0.47
Riverside–San Bernardino–Ontario, CA	9,505	Aircraft and parts	2.49
	6,921	Medical equipment and supplies	0.79
	6,419	Motor vehicles and motor vehicle equipment	0.38
	6,360	Machinery, not elsewhere classified or not specified	0.63
	5,324	Miscellaneous, not elsewhere classified	0.68
Salt Lake City, UT	6,822	Medical equipment and supplies	0.79
San Antonio–New Braunfels, TX	10,440	Motor vehicles and motor vehicle equipment	0.38
San Diego–Carlsbad, CA	6,494	Aircraft and parts	2.49
	6,471	Medical equipment and supplies	0.79
	5,649	Electronic components and products, not elsewhere classified	0.54
San Francisco–Oakland–Hayward, CA	6,556	Motor vehicles and motor vehicle equipment	0.38
	5,941	Medical equipment and supplies	0.79
	5,940	Electronic components and products, not elsewhere classified	0.54
San Jose–Sunnyvale–Santa Clara, CA	14,800	Electronic components and products, not elsewhere classified	0.54
	5,533	Medical equipment and supplies	0.79
Seattle–Tacoma–Bellevue, WA	39,691	Aircraft and parts	2.49
South Bend–Mishawaka, IN–MI	5,622	Motor vehicles and motor vehicle equipment	0.38
Spartanburg, SC	8,617	Motor vehicles and motor vehicle equipment	0.38
St. Louis, MO–IL	7,527	Machinery, not elsewhere classified or not specified	0.63
	6,906	Motor vehicles and motor vehicle equipment	0.38
Toledo, OH	10,154	Motor vehicles and motor vehicle equipment	0.38
Tulsa, OK	5,062	Machinery, not elsewhere classified or not specified	0.63
Tupelo, MS	5,121	Furniture and related products	0.12
Tuscaloosa, AL	6,589	Motor vehicles and motor vehicle equipment	0.38
Virginia Beach–Norfolk–Newport News, VA–NC	21,876	Ship and boat building	0.72
Wichita, KS	16,661	Aircraft and parts	2.49

Sources: American Community Surveys, 2019–2023 (via IPUMS) and author’s calculations

Note: Green shading indicates that the region is part of the Fourth District.

Table A2. Industry Shares of Workers Moving into or out of Manufacturing

Industry before being hired into manufacturing	Percent	Wages	Industry after leaving manufacturing	Percent	Wages
All construction	15.11	27.02	All construction	15.81	22.10
Eating and drinking places	7.39	12.36	Eating and drinking places	6.46	15.86
Trucking service	3.56	19.69	Trucking service	3.98	19.35
Warehousing and storage	2.87	21.01	Warehousing and storage	3.47	18.42
Groceries and related products	2.72	26.83	Groceries and related products	2.70	19.50
Miscellaneous repair services	2.43	25.29	Business services, not elsewhere classified	2.46	18.30
Business services, not elsewhere classified	2.30	17.20	Miscellaneous repair services	2.25	23.58
Grocery stores	2.10	17.76	Health services, not elsewhere classified	1.99	18.45
Health services, not elsewhere classified	1.91	20.92	Personnel supply services	1.82	18.29
Agricultural production, crops	1.82	12.62	Computer and data processing services	1.76	21.48
Computer and data processing services	1.69	17.36	Landscape and horticultural services	1.75	17.40
Department stores	1.64	17.31	Services to dwellings and other buildings	1.73	16.93
Landscape and horticultural services	1.63	17.16	Automotive repair and related services	1.73	20.41
Services to dwellings and other buildings	1.60	17.53	Grocery stores	1.72	16.29
Miscellaneous retail stores	1.59	12.01	Lumber and building material	1.55	18.09
Personnel supply services	1.56	18.14	Retailing	1.53	16.34
Automotive repair and related services	1.48	19.04	Department stores	1.50	16.90
Hospitals	1.41	32.43	Agricultural production, crops	1.50	16.90
Engineering, architectural, and surveying services	1.41		Engineering, architectural, and surveying services	1.42	23.79
Lumber and building material retailing	1.38	21.79	Miscellaneous retail stores	1.36	16.29
			Miscellaneous entertainment and recreation services	1.28	16.49

Source: Current Population Survey, 2020–2025 (via IPUMS-CPS) and author's calculations

Note: Red shading indicates that wages in the other industries were lower than wages in manufacturing for the transitioning workers.