

Fact Sheet

New Jersey Women in Manufacturing During COVID-19

August 2022



MANUFACTURING, one of New Jersey's key [industry](#) sectors, faced a number of challenges during the pandemic, including business closures, a shortage of skilled workers, reductions in demand, and enormous disruptions to national and global supply chains that impacted access to production inputs. While much has been written about how these challenges impacted U.S. manufacturing nationally, less is known about the impact on New Jersey's workforce. Using American Community Surveys (ACS) data, we analyze how the pandemic altered the economic experiences of New Jersey women and men working in manufacturing. In this factsheet, the manufacturing industry includes a number of sub-industries as categorized in the American Community Surveys.¹ These sub-industries are reported in the Appendix.²

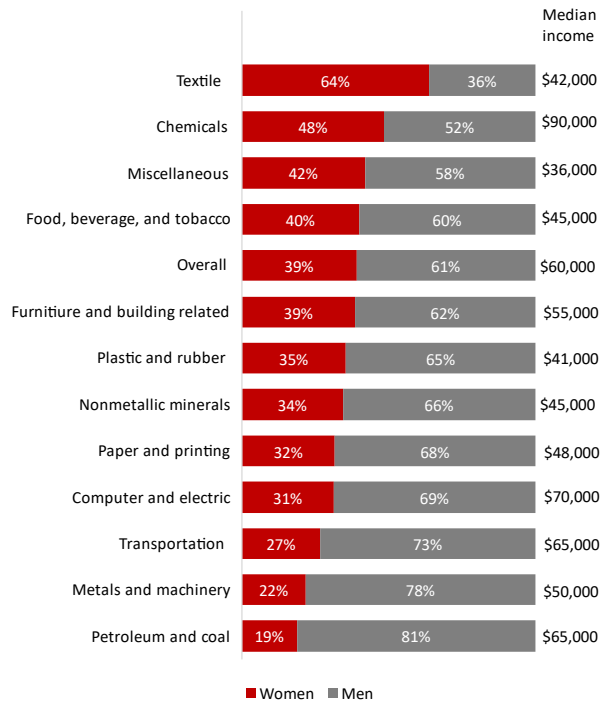
Men make up the majority of New Jersey's manufacturing workers. In 2020, 39% of the state's manufacturing workers were women. Textile manufacturing had the highest share of women at 64% and was the only major industry category in which women constituted more than half of the workforce. Petroleum and coal manufacturing had the lowest share of women at just 19%.

¹Note that 2020 ACS data use [experimental survey weights](#) to account for COVID-related disruptions in survey collection. ACS are household survey data and therefore will not directly match state-level employment statistics.

² We explicitly examine industries, not occupational categories.

Figure 1. Gender breakdown in manufacturing sectors in New Jersey, 2020

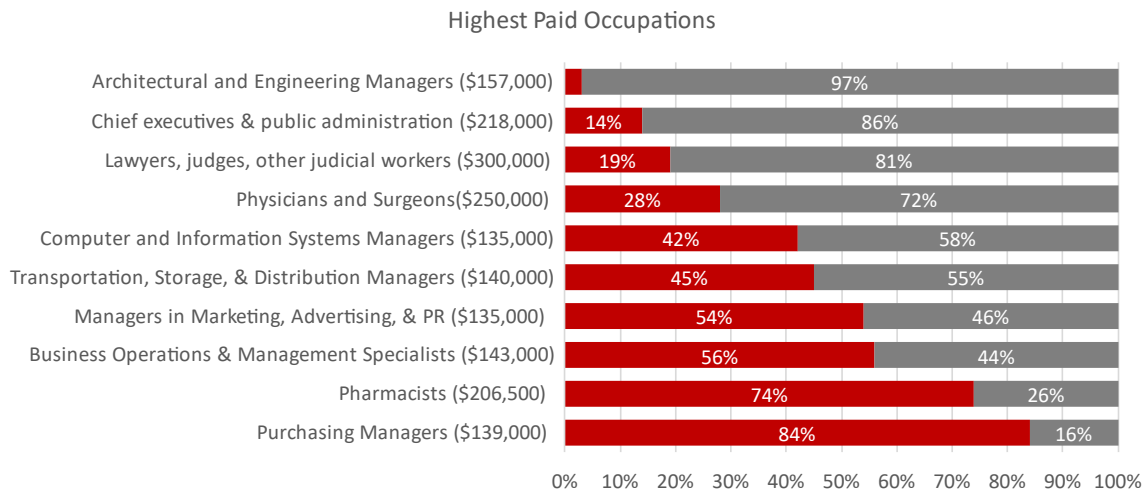
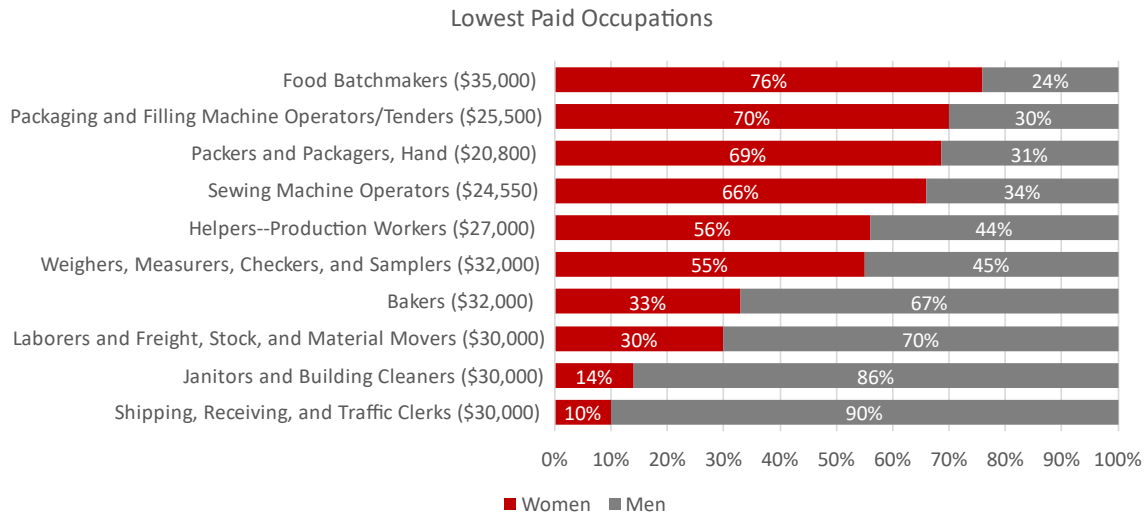
Note: Sample limited to New Jersey respondents. Median income is among year-round and full-time workers.
Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.



Across these industry categories, women are overrepresented in the majority of the lowest-wage occupations in manufacturing, including food batch makers, packaging and filling machine operators, packers, and sewing machine operators. However, they are also overrepresented in some of the highest-wage occupations in manufacturing, including purchasing managers and pharmacists.

Figure 2. Highest & lowest paid manufacturing occupations in New Jersey by gender breakdown,

2020



Note: Top/bottom ten paid occupations in manufacturing calculated by median 2020 income of full-time and year-round New Jersey workers. Median income listed in parentheses. Sample limited to New Jersey respondents working in a manufacturing industry.

Source: Rutgers University's Center for Women & Work analysis of survey-weighted 1-year ACS data.

The [detailed industry analysis](#) from the state's Department of Labor and Workforce Development indicates that employment in New Jersey's manufacturing industry remained relatively steady in 2020, but jobs in manufacturing in New Jersey have been generally declining since 1990.

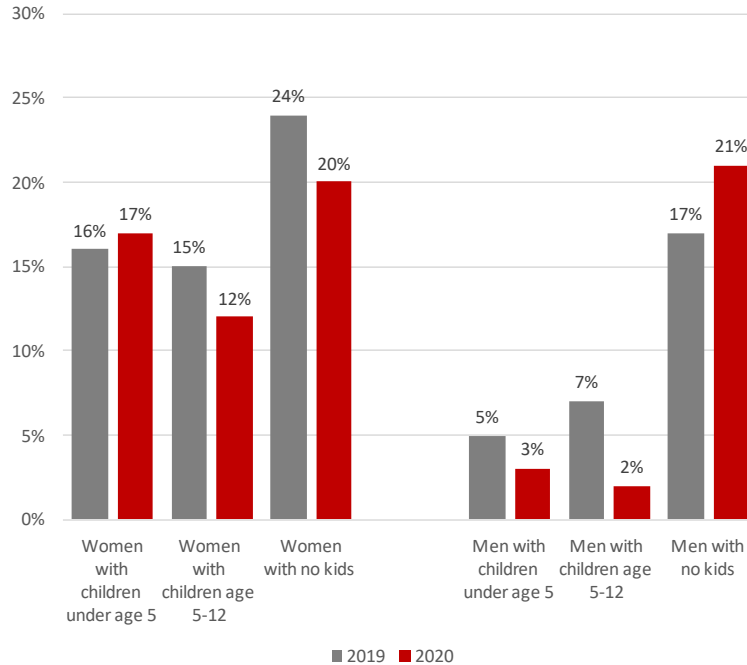
Despite general decline, **there was a slight increase (4%) in the number of women working in manufacturing between 2019 and 2020 in New Jersey**, while the number of men employed in manufacturing decreased slightly (by less than 1%). The number of women with young children employed in manufacturing increased substantially. Survey-weighted ACS estimates suggest that there was an 18% increase in women with young children (under age 5) working in manufacturing, from about 15,641 in 2019 to 18,473 in 2020. However, women with young children were more likely to be working

part-time (less than 35 hours per week) in their manufacturing jobs compared to women with school-aged children and men with children. Many men and women *without* children also worked part-time.

Figure 3. Share of manufacturing workers employed part-time, by gender and parenthood status, New Jersey, 2019 and 2020

Note: Sample limited to New Jersey respondents. Workers are considered “part-time” if they indicated they typically work less than 35 hours per week.

Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.

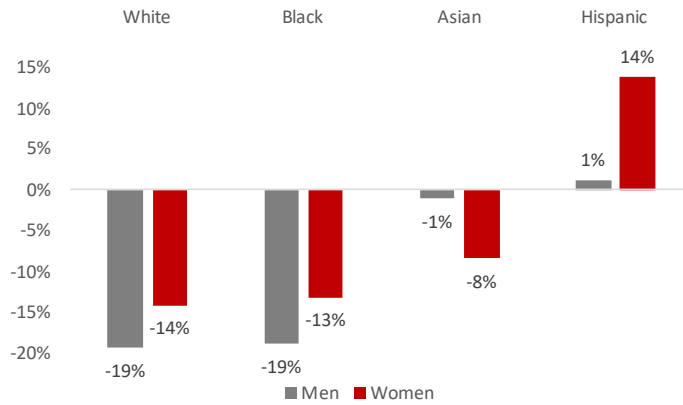


Among all manufacturing industries, **chemical manufacturing experienced one of the largest increase in women’s employment between 2019 and 2020** (an 11% increase, or just over 5,000 women workers), while computer and electric manufacturing saw among the largest decreases in women’s employment (a 20% decrease, or around 3,000 women workers). Men’s employment also increased in New Jersey chemical manufacturing (3%) and in computer and electronic manufacturing (6%).

Race and ethnicity also played a role. **Black and White women left or lost their manufacturing jobs in large numbers in 2020**: there was a 13% decrease in the number of Black women working in manufacturing between 2019 and 2020, and a 14% decrease among White women. This decline is substantially larger than that of Asian women (8%). In contrast, there was a **14% increase in Hispanic women workers in manufacturing between 2019 and 2020**. Many of these gains were in chemical manufacturing (a 40% increase, or an increase of about 2,900 Hispanic women workers) and textile manufacturing (a 41% increase, or an increase of about 1,600 Hispanic women workers).

Figure 4. Percent change in number of workers employed in manufacturing in New Jersey, 2019 and 2020

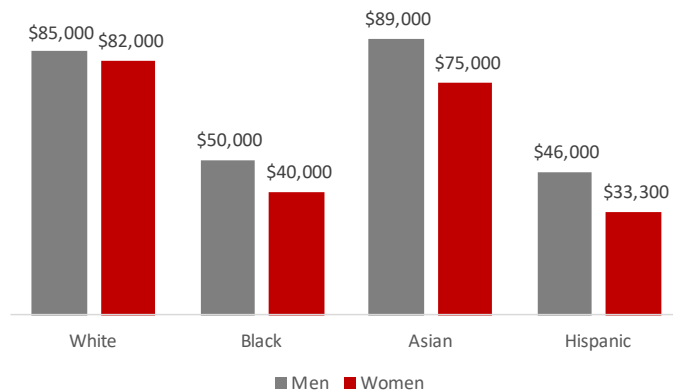
Note: Sample limited to New Jersey respondents.
Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.



Despite their job gains, **Hispanic women earned the lowest wages in manufacturing on average.** In fact, in 2020, Hispanic women working full-time in manufacturing earned a median annual wage of just \$33,300. For this reason, it may be the case that when the pandemic required an uptick in manufacturing labor, Hispanic women were called upon to fill the gap.

Figure 5. Median wages for full-time manufacturing workers in New Jersey, 2020

Note: Sample limited to New Jersey respondents.
Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.



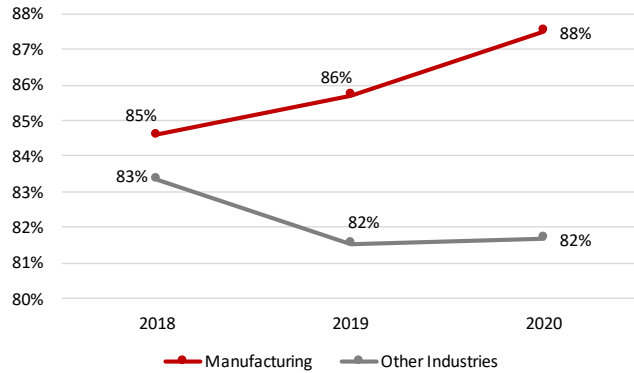
From 2019 to 2020, the median wages of men working full-time and year-round in manufacturing industries increased by 3% (from \$70,000 to \$72,000) while women’s median wages increased by 5% (from \$60,000 to \$63,000). Women’s relatively higher wage gains **helped shrink gender wage inequities in manufacturing: in 2019, women working full-time in manufacturing earned 86% of what men earned, but this ratio increased to 88% in 2020.**³ In other industries in New Jersey, the gender pay ratio remained stagnant, where women earned 82% of men’s earnings in 2019 and 2020.

³ *Gender wage gaps* are typically calculated using the wages of workers who were employed *full-time* and *year-round*. Using American Community Surveys data, we include respondents in this measurement group if they are over age 16, reported that they usually worked 35 or more hours per week, and worked at least 50 weeks during the previous 12 months. This means that the wages of those working part-time or seasonally are not included in wage gap analyses.

Figure 5. Gender pay ratio in manufacturing and non-manufacturing industries in New Jersey, 2018 to 2020

Note: Sample limited to New Jersey individuals who have non-zero labor income and are working full-time and year-round. This includes all people 16 years old and over who usually worked 35 hours or more per week and worked for at least 50 weeks in the previous year.

Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.

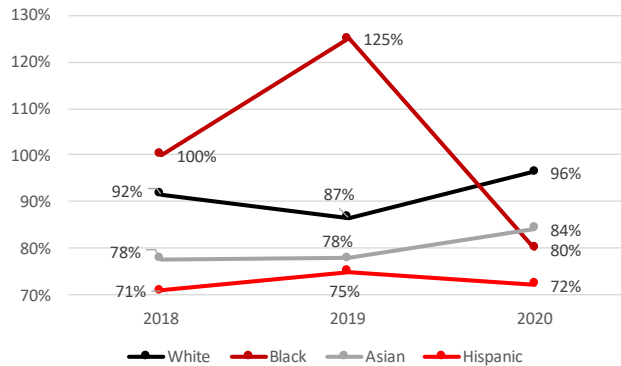


However, gender pay parity worsened among Black workers and Hispanic workers. Among Black manufacturing workers, in 2019, women earned 125% of what Black men earned, but in 2020, this ratio fell to 80%. Among Hispanic manufacturing workers, in 2019, women earned 75% of what Hispanic men earned, but in 2020, this ratio fell to 72%.

Figure 6. Gender pay ratio in manufacturing by race and ethnicity in New Jersey, 2018 to 2020

Note: Sample limited to New Jersey individuals who have non-zero labor income and are working full-time and year-round. This includes all people 16 years old and over who usually worked 35 hours or more per week and worked for at least 50 weeks in the previous year.

Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.

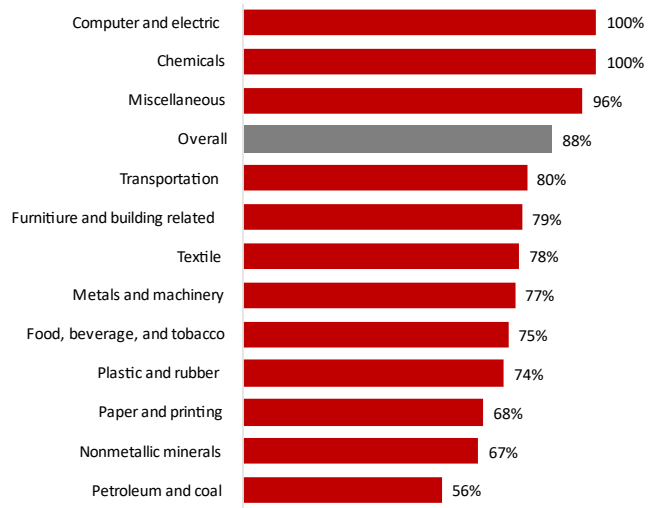


In chemical manufacturing and computer and electric manufacturing in 2020, women working full-time and year-round earned the same median wage as men. On the other end of the spectrum, gender wage inequities were widest in petroleum and coal manufacturing in New Jersey, where women working full-time and year-round earned just 56% of men’s earnings on average.

Figure 7. Gender pay ratio in manufacturing by subindustry in New Jersey, 2020

Note: Sample limited to New Jersey individuals who have non-zero labor income and are working full-time and year-round. This includes all people 16 years old and over who usually worked 35 hours or more per week and worked for at least 50 weeks in the previous year.

Source: Rutgers University’s Center for Women & Work analysis of survey-weighted 1-year ACS data.



While gender equality seems to be improving in many manufacturing sectors in New Jersey, Black and Hispanic women need to be given opportunities to attain the higher paying jobs and sectors in order to help close the overall gender pay gaps in manufacturing. This is especially important as the industry increasingly relies on the labor of Hispanic women and of women with children.

ABOUT THE AUTHORS

This fact sheet was authored by the Rutgers Center for Women and Work with funding support from the [State of Employment and Training Commission's Council on Gender Parity in Labor and Education, State of New Jersey](#).

ABOUT THE CENTER FOR WOMEN AND WORK

[The Center for Women and Work \(CWW\)](#) engages in research, education and programming that promotes economic and social equity for women workers, their families, and communities. CWW's work focuses on addressing women's advancement in the workplace; providing technical assistance and designing programming for educators, industry, and government; and, engaging in issues that directly affect the living standards of working families in New Jersey and around the world.

ABOUT THE COUNCIL ON GENDER PARITY

The Council on Gender Parity in Labor and Education's mission is to recommend policies, strategies and programs that address gender-based barriers and encourage equal participation of students and workers in education, training, and employment. The Council on Gender Parity in Labor and Education is a joint effort of the New Jersey State Employment and Training Commission and the Division on Women funded through the New Jersey State Budget.



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APPENDIX:

The following sub-industries are included in this factsheet:

Food, beverage, and tobacco:

- Animal food, grain and oilseed milling
- Sugar and confectionery products
- Fruit and vegetable preserving and specialty foods
- Dairy products
- Animal slaughtering and processing
- Retail bakeries
- Bakeries and tortilla manufacturing, except retail bakeries
- Seafood and other miscellaneous foods, n.e.c.⁴
- Not specified food industries
- Beverage
- Tobacco

Petroleum and coal manufacturing:

- Petroleum refining
- Miscellaneous petroleum and coal products
- Resin, synthetic rubber, and fibers and filaments

Textile manufacturing

- Fiber, yarn, and thread mills
- Fabric mills, except knitting mills
- Textile And Fabric Finishing and Fabric Coating Mills
- Carpet and rug mills
- Textile product mills except carpets and rugs
- Knitting fabric mills, and apparel knitting mills
- Cut and Sew, Apparel Accessories and Other Apparel
- Footwear Manufacturing
- Leather and hide tanning and finishing and other allied products manufacturing

Plastic and rubber manufacturing:

- Plastics products
- Tires
- Rubber products, except tires

Paper and printing manufacturing:

- Pulp, paper, and paperboard mills
- Paperboard container manufacturing
- Miscellaneous paper and pulp products
- Printing and related support activities

Chemical manufacturing:

- Agricultural chemicals
- Pharmaceuticals and medicines
- Paint, coating, and adhesives
- Soap, cleaning compound, and cosmetics
- Industrial and miscellaneous chemicals

Nonmetallic mineral manufacturing:

- Pottery, ceramics, and plumbing fixture manufacturing
- Clay building material and refractories manufacturing
- Glass and glass products manufacturing
- Cement, concrete, lime, and gypsum products manufacturing
- Miscellaneous nonmetallic mineral products manufacturing

Metal and machinery:

- Iron and steel mills and steel products manufacturing
- Aluminum production and processing
- Nonferrous metal, except aluminum, production and processing
- Foundries
- Metal forgings and stampings
- Cutlery and hand tool manufacturing
- Structural metals, and boiler, tank, and shipping container manufacturing
- Machine shops; turned product; screw, nut, and bolt manufacturing
- Coating, engraving, heat treating and allied activities
- Ordnance
- Miscellaneous fabricated metal products manufacturing

⁴ “n.e.c.” is an NAICS designation for “not elsewhere classified”

- Not specified metal industries
- Agricultural implements
- Construction, and mining and oil and gas field machinery
- Commercial and service industry machinery manufacturing
- Metalworking machinery
- Engine, turbine, and power transmission equipment manufacturing
- Machinery manufacturing, n.e.c. or not specified

Computer and electric manufacturing:

- Computer and peripheral equipment manufacturing
- Communications, audio, and video equipment
- Navigational, measuring, electromedical, and control instruments
- Electronic components and products
- Household appliances
- Electric lighting, and electrical equipment manufacturing, and other electrical component manufacturing

Transportation:

- Motor vehicles and motor vehicle equipment manufacturing
- Aircraft and parts manufacturing
- Aerospace products and parts manufacturing
- Railroad rolling stock manufacturing
- Ship and boat building
- Other transportation equipment manufacturing

Furniture and building related:

- Sawmills and wood preservation
- Veneer, plywood, and engineered wood products
- Prefabricated wood buildings and mobile homes
- Miscellaneous wood products
- Furniture and related products manufacturing

Miscellaneous manufacturing:

- Medical equipment and supplies
- Sporting and athletic goods, and doll, toy, and game manufacturing
- Miscellaneous manufacturing, n.e.c.