

2018 QUARTER 3

New River/ Mount Rogers Workforce Report



NEW RIVER | MOUNT ROGERS REGION



OUTREACH & INTERNATIONAL AFFAIRS
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OFFICE OF ECONOMIC DEVELOPMENT

Introduction

2018 Quarterly Workforce Report 3

Welcome to the 2018 quarter three workforce report, produced by the Virginia Tech Office of Economic Development for the New River/Mount Rogers Workforce Development Board. This document focuses on gender in the workplace at the national and regional level. National trends provide context for gender-based wage differences and the barriers women face throughout their time in the workforce. Regional trends illustrate how these differences affect the ten counties and three cities that comprise the workforce area.

This report begins by outlining national trends related to gender-based workforce inequalities and details information on the role of gender in labor force participation, highlighting disparities between education attainment and career opportunities for men and women. The report continues this focus on page four, displaying data on female representation at all levels of the corporate ladder as well as information related to female representation and weekly wages for national sectors and female employment in science, technology, engineering, and mathematics (STEM) fields.

This quarter's data snapshot then focuses on regional trends, including information and data related to demographic changes, female labor force participation, and female representation in regional industry sectors. Page six offers an overview of occupations for both men and women. Additionally, a map illustrating female representation in the regional labor force and the gender wage gap is included on page six. The next two pages (seven and eight) include information and data related to female employment in GO Virginia target industries within the region as well as other industries important to the area economy.

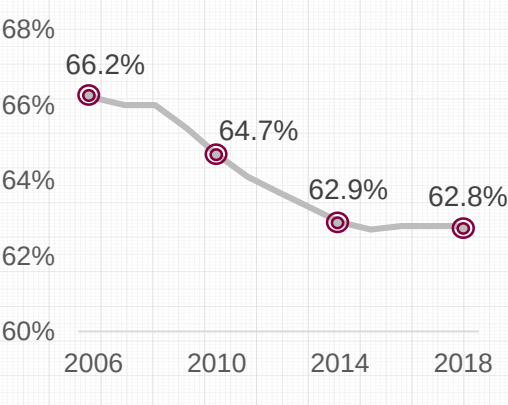
Page nine includes brief summaries of interviews with women working in some of the region's target industries. These interview summaries offer personal experiences and perspectives from females in industries or occupations where women may be underrepresented. The report concludes with a brief summary.



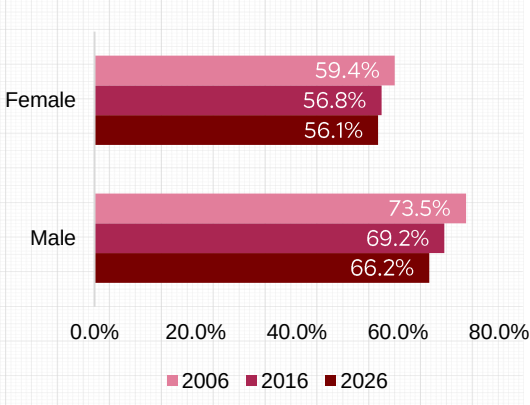
National Trends

Labor force participation

Participation Rate, March 2006-18



Participation Rate by Gender, 2006-26



National Labor force participation fell by 3.4% from 2006 to 2018. During this same period, men exited the labor force at a higher rate than women. For instance, female labor force participation has declined marginally in the past 10 years- falling by only 2.6%- while male labor force participation fell at a rate of 4.3%.

Marital Status and Labor force Participation

Labor force participation also varies by marital status for women and men. For instance, divorced women participate in the labor force at a higher rate than their married counterparts. By contrast, married men were more likely to participate in the labor force than divorced men. Moreover, unmarried mothers are more likely to participate in the labor force than married mothers. In 2015, working wives contributed an

Labor Force Participation by Marital Status, 2016

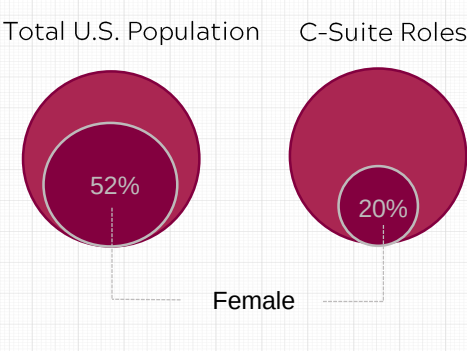
Married		Divorced	
Women	Men	Women	Men
57.9%	73.31%	62.5%	66%
Unmarried Mothers		Married Mothers	
75.9%		68.6%	

average of 37% to total family incomes. This figure has increased by 10% from 1970, possibly due to the higher proportion of wives earning more than their husbands. In 1987, for instance, 18 percent of working wives earned more than their working spouses; in 2015, 29 percent of wives earned more than their husbands. Additionally, this trend aligns with the national decrease in wage gap during the past two decades.

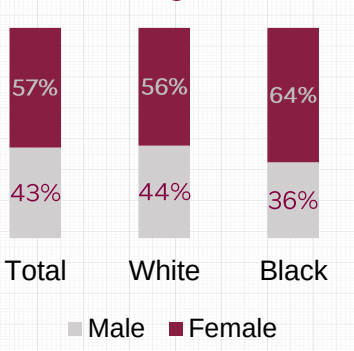
Education and Careers

Women graduate more and are hired less. Women account for 57% of recent college graduates yet more men are hired to entry level positions. At every subsequent step of the career pipeline, female representation continues to decline. Moreover, women of color see far less representation at senior levels. Overall, one in five C-suite leaders are women, and fewer than one in thirty is a woman of color.

Female population vs. C-Suite Roles*



Bachelor's Degree Awarded



*C-Suite Roles are those at the top of the corporate ladder, including CTO, COO, CFO, CEO
Sources: Bureau of Labor Statistics (BLS)
National Center for Education Statistics (NCES)
McKinsey and Company. (2017). *women in the workplace* (pp. 1-34).

National Trends

Representation in the corporate pipeline by gender and race

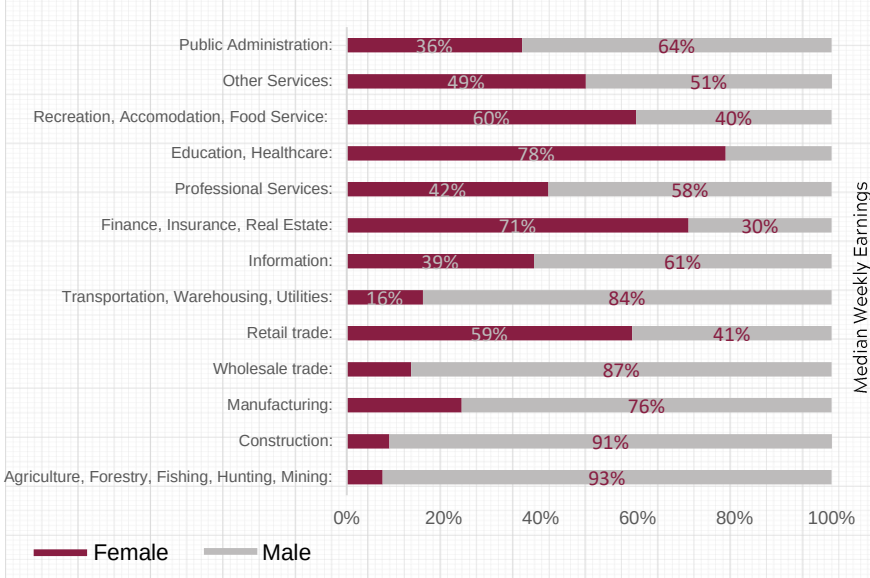
Demographics of Corporate Positions, 2017

	Entry Level	Manager	Director	VP	SVP	C-Suite
White Men	36%	47%	54%	61%	70%	67%
White Women	31%	26%	26%	23%	18%	18%
Men of Color	16%	16%	13%	11%	9%	12%
Women of Color	17%	11%	8%	6%	4%	3%

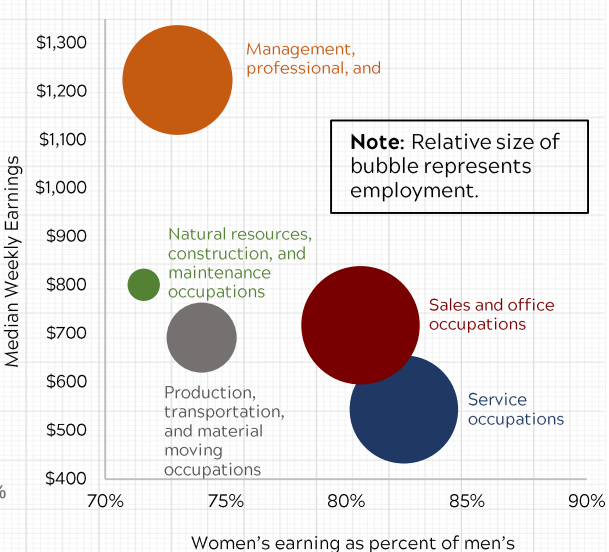
Women fall behind early and continue to lose ground with every step. Women are underrepresented at every level of the corporate pipeline, with female representation tapering at every level of the corporate ladder. Moreover, women of color see a fraction of the representation observed in their white counterparts. At every step of the corporate ladder, women of color see the least representation of all reported groups.

Women's Earnings and Occupations

Female Representation by Industry, 2016



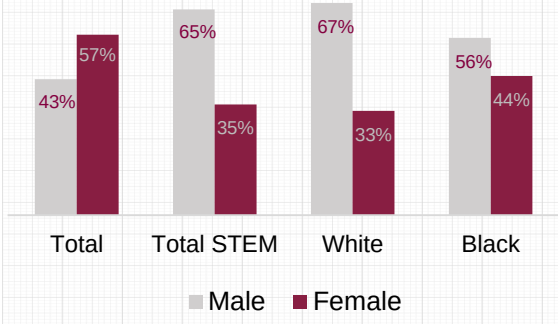
Women's Employment and Median Weekly Wage by Industry, 2016



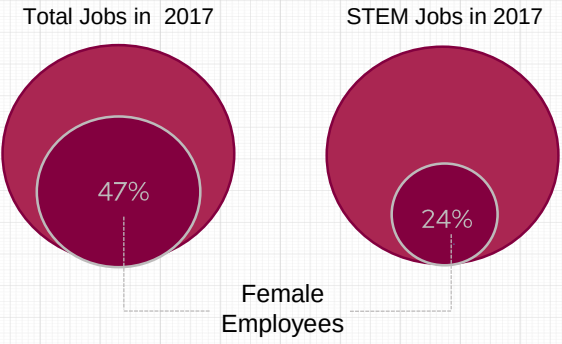
Education and Employment in the STEM Fields

While women are more likely to earn bachelor's degrees, they are less likely to pursue degrees in STEM fields. Additionally, African American women are more likely to pursue STEM education than their white counterparts.

Bachelor's degree in STEM Fields, 2017



Female Representation in STEM Fields, 2017

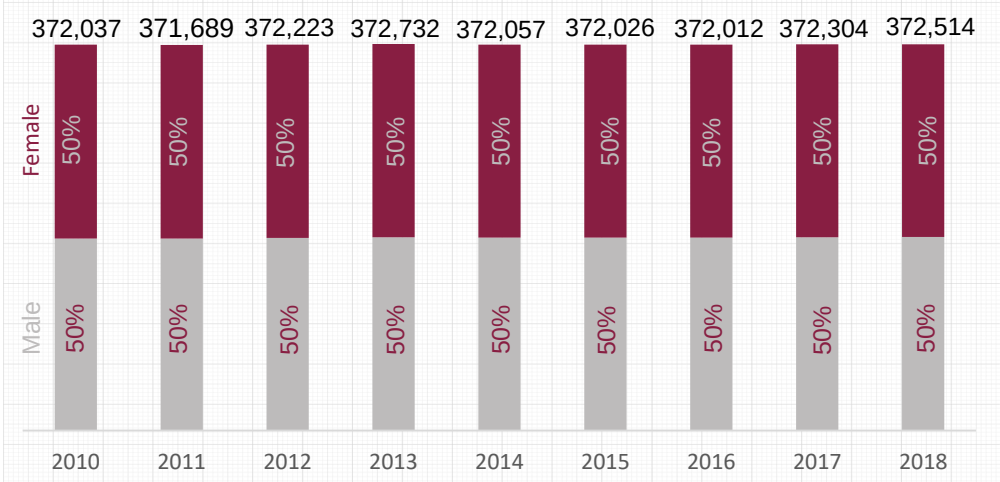


Sources: National Center for Education Statistics (NCES) McKinsey and Company. (2017). *women in the workplace*(pp. 1-34). <http://www.esa.doc.gov/sites/default/files/women-in-stem-2017-update.pdf>

Regional Overview

Demographic Trends

Population Change, Overall and by Gender, 2010-2018

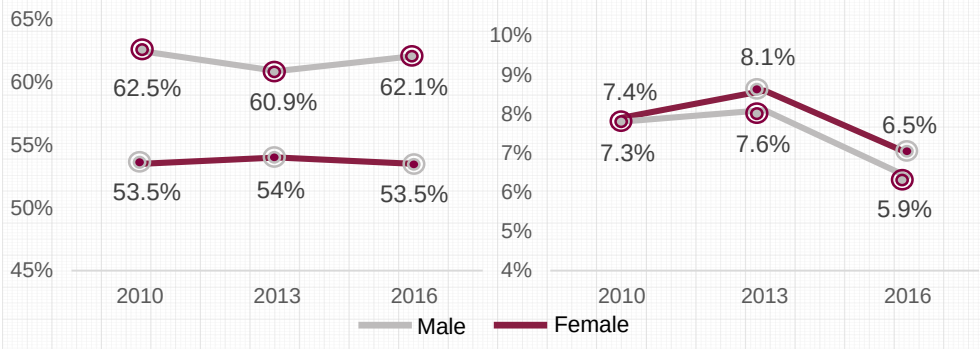


Region II grew by only 0.12% (477 people) from 2010 to 2018. Despite these marginal demographic changes Workforce Development Area 2 has remained evenly represented in terms of gender. During this period, losses in the regional female population mirrored growth in the regional male population, keeping the proportion of men and women evenly distributed from 2010-2018.

Women In the Labor Force

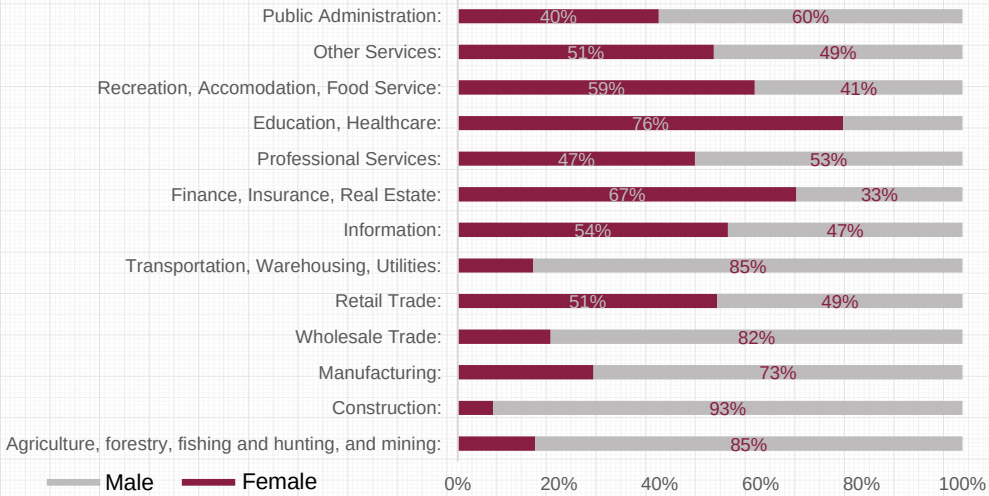
Distinct from national trends, Regional Labor Force Participation has remained largely stable. Additionally, both male and female unemployment is falling, with female unemployment falling more rapidly than male unemployment.

Labor Force Participation by Gender, 2010-2016



Women In Industry

Industry by Gender, 2016



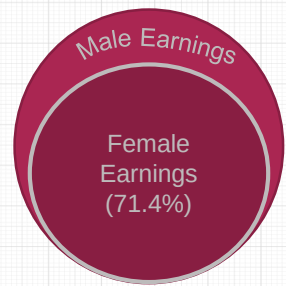
The majority of regional sectors are predominately male, with five sectors employing less than 30% women. Only three sectors have considerable female representation, including; education and healthcare; finance, insurance, and real estate; and recreation, accommodation, and food service. When compared to national trends, some regional sectors show better female representation. For instance, finance and real estate is predominately female in the region, and predominately male at the national level.

Regional Overview

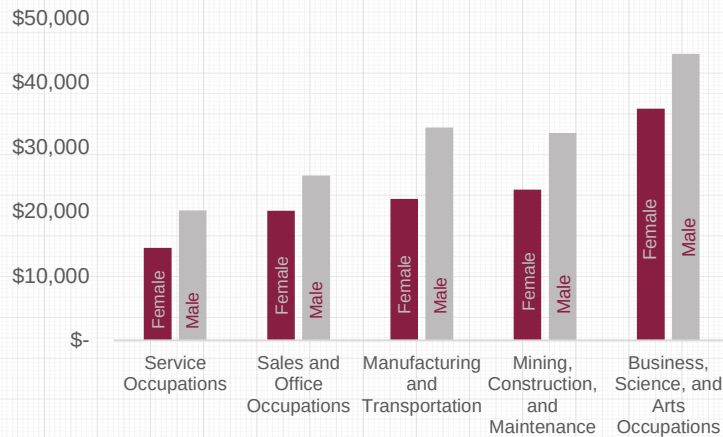
Women and Wages

Women are Compensated 28.6% less than men in the region, on average. While this is largely on par with national earnings, there are large gaps in compensation for certain occupations in the region. For instance, women make 33% less than men for manufacturing and transportation positions and 27.3% less for mining, construction and maintenance positions.

Women’s Earnings as a Percent of Men’s, 2016

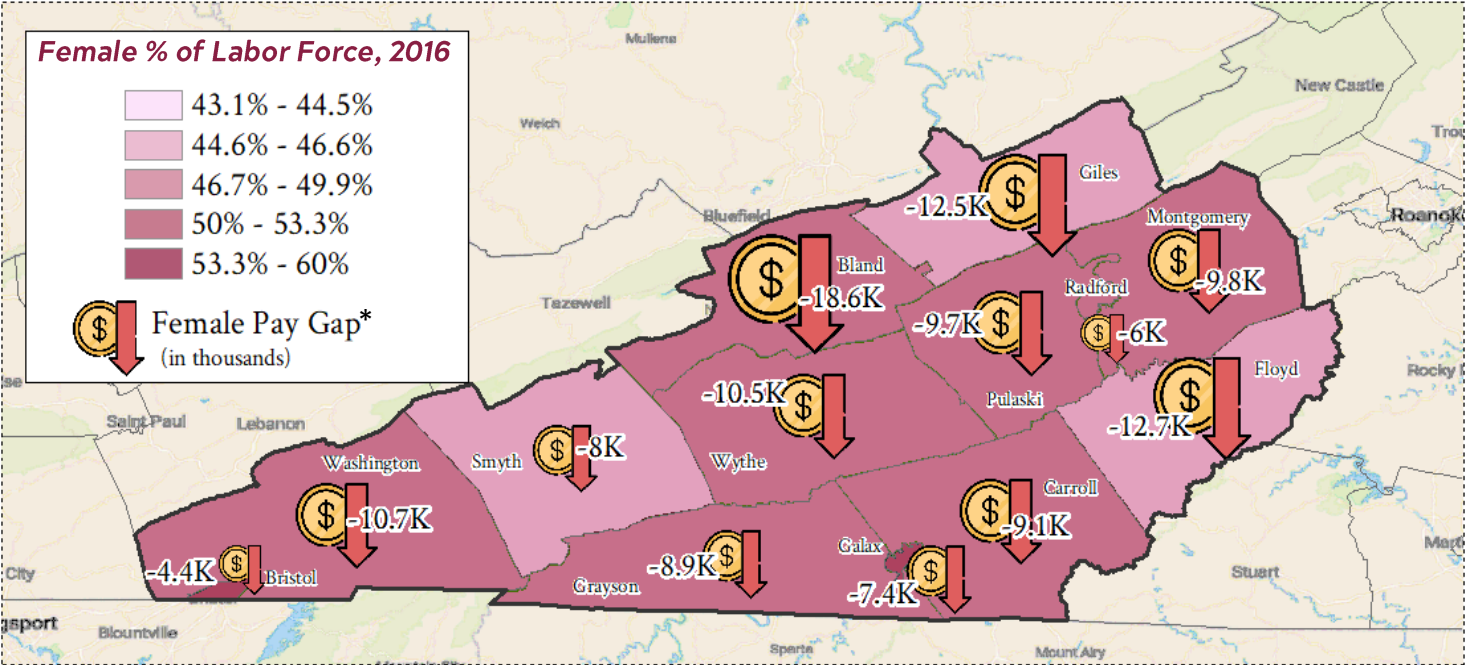


Median Occupational Earnings by Gender, 2016



Female Representation in the Regional Labor Force

The following map shows female labor force representation and differences in compensation for men and women for the ten counties and three cities in the regional workforce area. Localities with lighter shades of maroon have a lower percentage of women in their labor force and localities with darker shades show a higher number of women in the labor force. In 2016, for example, Floyd, Smyth, and Giles County had the lowest percentage of females in their labor force, while Pulaski County and the Cities of Bristol, Galax, and Radford had the highest. The additional symbols on the map represent gender based waged gaps for each county in 2016. Wage differences vary tremendously throughout the region. For example, women in Bland County are compensated \$18,600 less than their male counterparts, while women in the City of Bristol are only compensated \$4,400 less.



*The wage gap displayed on this map is the difference between median male and female earnings, across all occupations for 2016.

Sources: U.S. Census Bureau, American Community Survey, Tables S2401, S2403, S2411

Healthcare

Approximately 81% of workers in this industry are women. Many healthcare occupations are high-paying, and predominately female, but typically require post-secondary education, such as programs related to nursing, counseling, and radiology. Nevertheless, this growing sector accounts for several of the highest paying job opportunities for women in the region.

Occupation	Annual Openings	Total Workers (2018)	% Female Workers	Projected Job Change (2018-2023)	Median Hourly Earnings
Dental Hygienists	16	232	97%	3%	\$29.78
Nurse Practitioners	15	176	94%	15%	\$40.32
Licensed Practical & Vocational Nurses	96	1,109	93%	6%	\$17.47
Registered Nurses	129	2,124	93%	4%	\$25.82
Medical Records & Health Information Technicians	13	176	91%	9%	\$16.26
Therapists	40	638	81%	7%	\$33.87
Diagnostic Technicians	18	275	77%	5%	\$25.14

Education

Approximately 72% of workers in this industry are women. The education and healthcare sector has the highest concentration of women in the region, employing over 7,000 women. Unlike many manufacturing and some IT positions, however, these occupations typically entail differing degrees of post-secondary education. For instance, a teacher might spend up to six years in a formal institution while a similarly paid production worker might pursue one year of technical training.

Occupation	Annual Openings	Total Workers (2018)	% Female Teachers	Projected Job Change (2018-2023)	Median Hourly Earnings
Special Education Teachers	36	492	90%	1%	\$24.85
Elementary School Teachers	112	1,452	87%	0%	\$22.29
Middle School Teachers	36	488	85%	1%	\$22.59
Instructional Coordinators	24	263	78%	1%	\$27.02
Counselors	38	348	77%	3%	\$24.29
Self-Enrichment Education (Non-Academic)	45	331	72%	11%	\$17.76
Administrators (High School or Below)	39	497	68%	1%	\$37.38
High School Teachers	70	978	67%	0%	\$22.88
Post-High School Teachers	319	4,007	53%	1%	\$29.15

Manufacturing

Approximately 36% of workers in this industry are women. The vast majority of women in the regional manufacturing industry work in lower paying office and administrative support positions. Manufacturing occupations, especially welders, machinists, and other operations workers, play an important role in providing meaningful, family-wage supporting jobs. In the region, however, less than 4% of these higher paying, more technical manufacturing jobs are filled by women.

Occupation	Annual Openings	Total Workers (2018)	% Female Workers	Projected Job Change (2018-2023)	Median Hourly Earnings
Secretaries & Administrative Assistants	228	2,086	95%	0%	\$15.21
Bookkeeping & Accounting Clerks	184	1,609	89%	1%	\$15.90
Administrative Supervisors	152	1,400	67%	5%	\$20.45
Maintenance & Repair Workers	189	1,744	4%	5%	\$15.98
Tractor-Trailer Drivers	193	1,697	3%	1%	\$17.81
Machinery Mechanics	73	755	2%	3%	\$21.15
Construction Equipment Operating Engineers	60	514	2%	2%	\$16.97
Automotive Service Technicians & Mechanics	97	1,003	1%	0%	\$15.52

Information Technology

Approximately 29% of workers in this industry are women. Traditionally, IT occupations have been disproportionately male and many still are. However, data suggests that female participation in the IT Sector is steadily increasing. Similar to the industries above, occupations with a growing female component typically pay less than those that are still predominately male.

Occupation	Annual Openings	Total Workers (2018)	% Female Workers	Projected Job Change (2018-2023)	Median Hourly Earnings
Graphic Designers	22	201	60%	6%	\$17.48
Computer Systems Analysts	32	435	38%	2%	\$35.76
Web Developers	13	154	35%	6%	\$23.20
Computer Network Support Specialists	15	170	29%	6%	\$25.02
Computer User Support Specialists	52	586	29%	7%	\$22.08
Information Security Analysts	11	130	26%	6%	\$38.88
Computer Programmers	6	80	24%	5%	\$32.41
Network & Computer System Admins	22	317	21%	2%	\$32.29
Software Developers	64	711	22%	9%	\$39.74

Manufacturing

Mary is the Manger of Operations at PBE Group, a manufacturer located in Tazewell, Virginia. Mary's role at PBE Group is incredibly varied- she oversees production, human resources, quality assurance, customer relations, and purchasing, as well as many smaller corporate functions. Mary has been with PBE group for 35 years, starting as a production employee. Mary's dedication and diligence was quickly noticed by company management, who continued to promote her within the firm. While Mary does not hold a bachelor's degree, her desire to learn and strong work ethic has placed her in engineering, financial, and other deeply technical roles. She now serves as second in command at PBE group, reporting only to the COO (chief operating officer) of the firm- who is also a woman. Mary stressed that encouraging leadership and teambuilding amongst her subordinates and fellow managers has greatly contributed to her success at PBE, mentioning that a team is only as strong as their weakest link. Unsurprisingly, Mary's management style is hands on- her favorite part of the job is working with her staff. Mary mentioned that her gender did not work against her when she joined the company in 1982. Company leadership at PBE has been traditionally female, and many of their manufacturing and production jobs are actually suited for women in that women are just as capable as men when it comes to technologically advanced positions. The caveat to these occupations, however, is the educational requirement. While Mary does not possess a bachelors degree, she acknowledges the importance of education for future manufacturing jobs, especially in that manufacturing firms such as PBE are only hiring engineers. Encouraging young people to pursue STEM education is important to both Mary and PBE, both of whom participate in outreach programs targeted at middle-school aged children. Additionally, PBE offers factory tours for high-school and college students.



Information Technology



After 12 years of experience as an IT specialist in Outreach Information Services at Virginia Tech, Lena finds “the people” as the most fulfilling part of her job. While technical skills are important for setting up new equipment and helping her fellow employees with tech-related issues, Lena mentioned that people skills are just as important. Prior to working in IT, Lena worked as a basketball coach. Lena's personal interest in computers attracted her to IT work when choosing a new career. Additionally, she saw an opportunity in IT after recognizing a lack of tech-savvy women in the job market and the relatively high pay for IT occupations. Lena mentioned that her job search was not as difficult as one might think, especially in that many companies are trying to increase and encourage workplace diversity. Her experience in and outside of the workplace, however, has not been without its challenges. For instance, Lena mentioned that she struggles with underestimation, with some individuals assuming that she cannot do something due to her gender. Despite these small challenges, Lena highly recommends IT employment to female jobseekers, stating that “...they [women] can do whatever a man can do.” Additionally, Lena cited industry growth, job security, and competitive pay as other reasons women should pursue employment in this field. Lena's advice for women seeking to enter this field is to “even out” their experience and education in order to become a well-rounded candidate and to move to a growing city to gain experience.

Summary & Conclusion

While women account for almost half of the labor force nationally and regionally, they are under-represented in many higher paying occupations in important industry sectors. By analyzing national and regional trends, this report highlighted a number of inequalities and challenges women confront before and during their employment, namely:

- Women are more likely to be highly educated (57% of Bachelor’s degree) and less likely to work in higher-level positions (e.g., 20% of C-suite roles).
- There are less women studying (35%) and working in (24%) stem related fields.
- Women are compensated up to 40% less than men, depending on the industry.
- Women are underrepresented in high paying industries and those women that do work in high paying industries tend to make considerably less than men.

Regional Trends



Manufacturing

Approximately 36% of workers in this industry are women.

- Women are predominately employed in low paying, office and administrative support occupations.
- Less than 4% of jobs in higher paying, more technical manufacturing jobs are filled by women.



Healthcare

Approximately 81% of workers in this industry are women.

- Many healthcare occupations are predominately female and high paying.
- Nurse practitioners, therapists, and dental hygienists are among the highest paying occupations in the region, and are at least 80% female.



Information Technology

Approximately 29% of workers in this industry are women.

- Female representation in this industry is growing, but is still somewhat low.
- Predominately male occupations are compensated at approximately twice that of predominately female occupations for this industry



Education

Approximately 72% of workers in this industry are women.

- Educational occupations are also predominately female and relatively high paying.
- These occupations, however, offer less competitive wages and require higher educational attainment.

Regional Trends

There is no “one size fits all” solution to improving employment opportunities for women. While there may be state and national-level policy actions that can help, there are also regional approaches that could be explored by the Workforce Board and other stakeholders:

- Developing industry-wide and company specific mentoring and sponsorship programs for women, including succession planning to encourage future gender equity and leadership development amongst female employees.
- Utilizing social media to highlight female workers and opportunities for women in key industries.
- Increasing the participation of girls in STEM-related training programs and internships in middle and high schools.
- Providing equitable and equal compensation and benefits for women and men.
- Encouraging employers to consider and offer childcare options, flexible scheduling, and creative options for female workers, especially those heading households. Options might include women heading households telecommuting, job sharing, and consulting assignments.



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