WHO'S IN AND WHO'S OUT

in New York City's Tech Sector?

Irene Lew

Community Service Society | Fighting Poverty
Strengthening
New York

WHO'S IN AND WHO'S OUT
IN NEW YORK CITY'S TECH SECTOR?

New York City's tech workforce has more than doubled over the past decade, from just over 60,000 workers in 2006 to nearly 130,000 by 2016.[1] Yet a new Community Service Society analysis found that this growth is not benefiting everyone: women, black and Latinx adults, and native New Yorkers are underrepresented in New York City's burgeoning tech industry.

Using 2016 American Community Survey data from the Census Bureau, we found dramatic racial and gender disparities in the demographic composition of New York City's tech workforce. Compared to those working in non-tech industries, the tech workforce is disproportionately white and Asian, male, and more likely to include non-native New Yorkers and commuters from outside of New York City. Blacks account for 19 percent of those working in New York City-based jobs outside of the tech industry, but only 7 percent of the city's tech workforce. Together, black and Latinx adults represent just 18 percent of the NYC tech workforce, while they make up 43 percent of those working in non-tech-related industries. Meanwhile, men make up more than two-thirds (68 percent) of tech workers in New York City, although they are a much lower share of those working in non-tech industries.

Share of population aged 18 and over working in NYC-based jobs

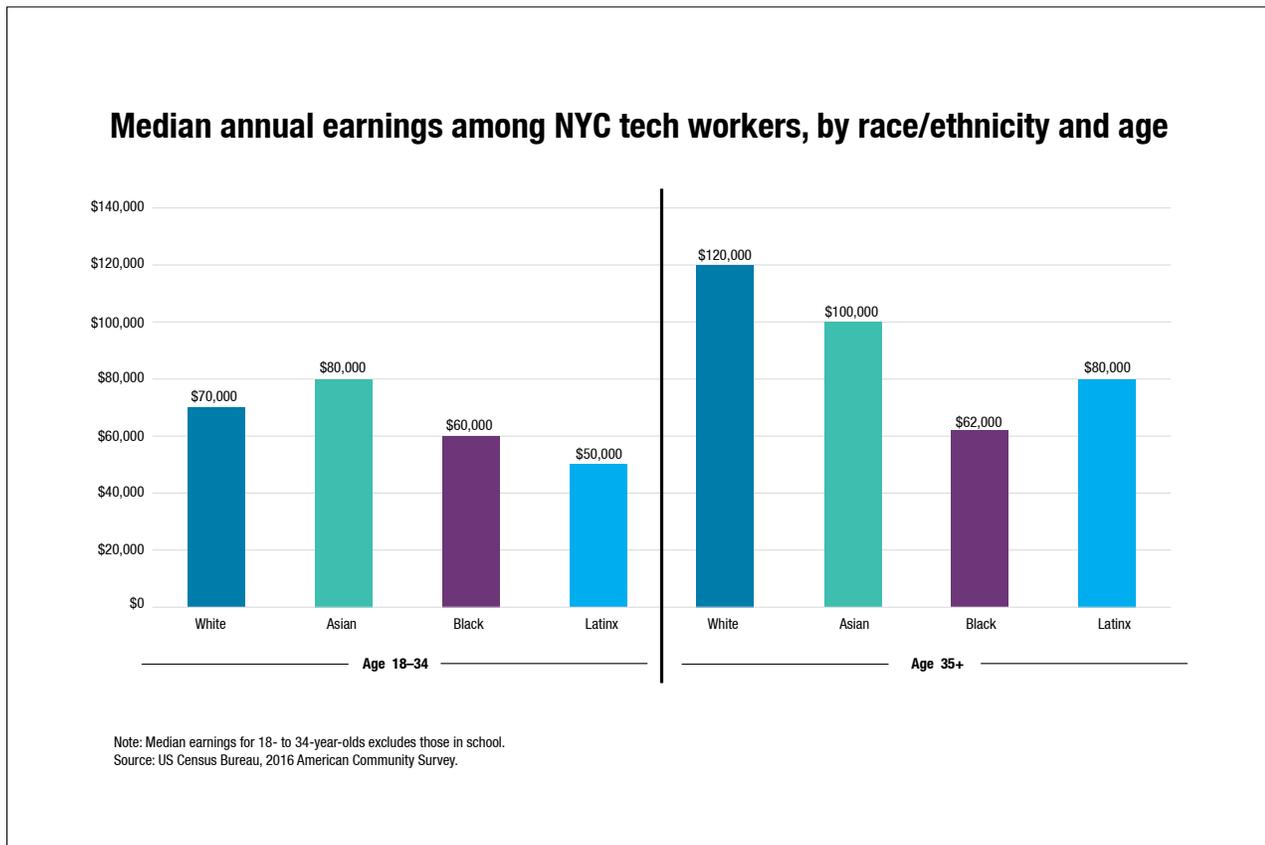|	Tech	Non-tech
Share of workers	3%	97%
White	56%	40%
Asian	23%	14%
Black	7%	19%
Latinx	11%	25%
Men	68%	53%
Bachelor's degree or higher	81%	48%
Lives outside of NYC	30%	22%
Born in NY state	29%	38%

Source: US Census Bureau, 2016 American Community Survey.

Unequal pay in NYC's tech industry

There are clear economic benefits to securing a job in New York City's thriving tech sector: the median annual salary for adults employed in the industry—$85,000—is nearly double that of workers employed in non-tech-related sectors ($43,000). In fact, the median salary for a tech worker in New York City has climbed by 25 percent over the past decade, while wages among non-tech workers have stagnated.

Yet, wage inequality within the industry is a problem. Even when black and Latinx adults are able to break into the New York City tech sector, they earn well below their white and Asian counterparts. Among young adult tech workers aged 18–34, blacks earn a median salary that is $10,000 below that of whites and $20,000 below that of Asians. The racial pay gap widens with age—for adult tech workers aged 35 and over, the median salary of whites ($120,000) is nearly double the typical salary earned by black tech workers ($62,000). While part of the racial pay gap is due to black and Latinx tech workers being paid less than their white and Asian counterparts for the same roles, black and Latinx tech workers are also less likely to be in senior or leadership positions.

Median annual earnings among NYC tech workers, by race/ethnicity and age

Note: Median earnings for 18- to 34-year-olds excludes those in school.
Source: US Census Bureau, 2016 American Community Survey.

The wage gap between men and women in the tech sector is also a concern: the median salary earned by a young adult female tech worker in 2016 was $10,000 below the salary earned by her male counterpart. Similar to the racial wage gap in tech, gender pay disparities also increase with age: female tech workers aged 35 and older are earning a median salary that is $30,000 below that of male tech workers in the same age cohort.

Median annual earnings among adults working in NYC's tech sector, by age group

	Age 18–34		Age 35+	
	Men	Women	Men	Women
Median earnings	$75,000	$65,000	$115,000	$85,000
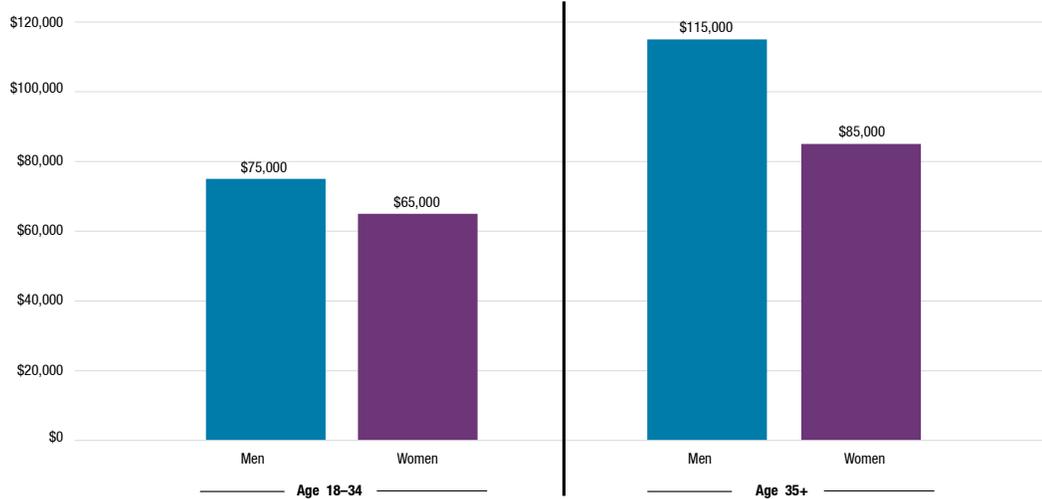
Note: Excludes those in school.
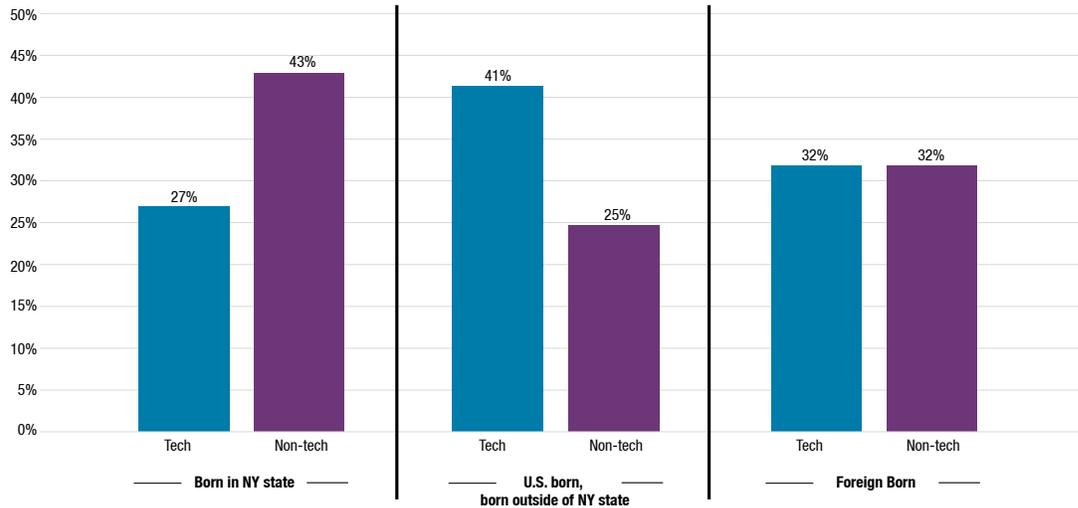Source: US Census Bureau, 2016 American Community Survey.

Underrepresentation of local residents in the NYC tech workforce

Commuters living outside of the five boroughs make up a larger share—30 percent—of New York City's tech workforce relative to those working outside of the tech sector (22 percent). Residents from the city's poorest communities (with poverty rates of 30 percent or more), like Brownsville in Brooklyn and Mott Haven in the Bronx, make up just 15 percent of the city's tech workforce.

New York City's tech workforce is more likely to be comprised of non-native New Yorkers compared to those working outside of the tech sector. Thirty-four (34) percent of the city's tech workforce is U.S.-born but born outside of New York State, compared to

just 18 percent of those in sectors outside of tech. Young adults under the age of 35, who represent more than half of the city's tech workforce, are also much more likely than young adults working outside of tech to be non-native New Yorkers: 41 percent of the young adult New York City tech workforce is U.S.-born but born outside of New York state, compared to just a quarter of those working outside of the tech industry. This suggests that high-paying tech employment opportunities are drawing qualified millennials to jobs in New York City more so than providing avenues for upward mobility for economically disadvantaged native New Yorkers.

Birthplace of population aged 18–34 working in NYC-based jobs, by sector

	Tech	Non-tech
Born in NY state	27%	43%
U.S. born, born outside of NY state	41%	25%
Foreign Born	32%	32%

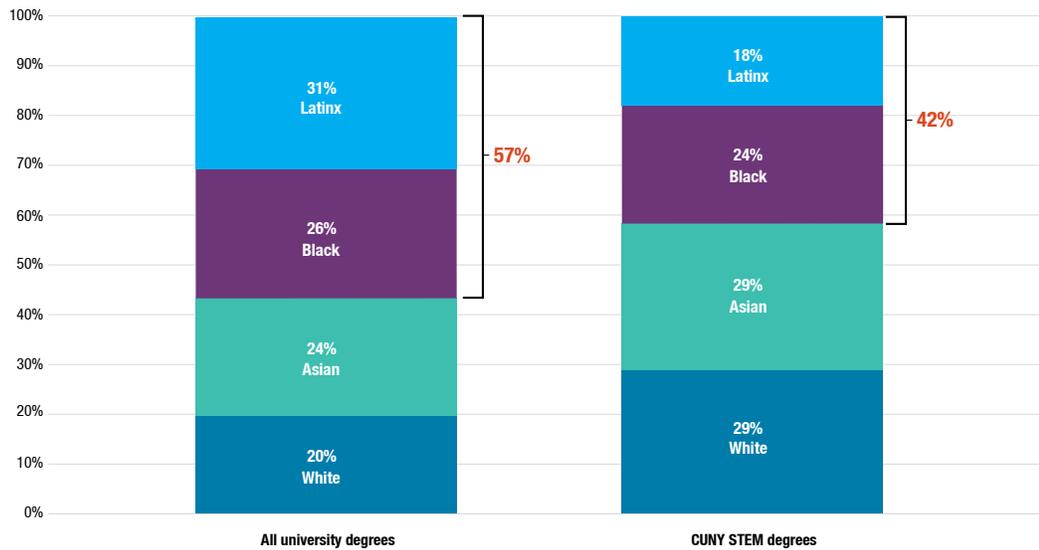Note: Excludes those still in school.
Source: US Census Bureau, 2016 American Community Survey.

Tech jobs require more education, but tech talent pipeline needs strengthening

Young adults with a four-year degree have the most success in gaining entry to the city's tech industry. More than 8 out of every 10 (84 percent) New York City tech workers aged 18–34 have at least a bachelor's degree. In contrast, over a quarter (26 percent) of NYC's young adult workforce in non-tech industries have a high school diploma or less, while only 4 percent of tech workers have such low educational attainment levels.

The CUNY system is often the most affordable and accessible pathway to a four-year college degree, especially for students of color and those from low-income families graduating from New York City public high schools. However, the vast majority of incoming CUNY students will choose a non-STEM (Science Technology Engineering Math) major that provides little preparation for tech-sector jobs. Less than a quarter of enrolled CUNY students in Fall 2016 were STEM majors, and among those enrollees, there are key disparities. Men are nearly twice as likely as women to enroll in a STEM discipline at CUNY. Furthermore, black and Latinx students are less likely to graduate from CUNY with a STEM degree— they made up 57 percent of all CUNY degrees awarded in 2016–17, but only 42 percent of all CUNY degrees awarded in a STEM discipline.

Racial/ethnic distribution of CUNY degrees awarded (2016–17)

All university degrees
- 31% Latinx
- 26% Black
- 24% Asian
- 20% White
- 57% (Latinx + Black)

CUNY STEM degrees
- 18% Latinx
- 24% Black
- 29% Asian
- 29% White
- 42% (Latinx + Black)

Notes: University degrees include certificate, associate's, bachelor's, master's degree, advanced certificate, and doctorate degrees.
Source: CUNY Office of Institutional Research.

Given that a majority of our city's tech workforce has a four-year degree, it is important to consider ways to increase enrollment and retention in STEM post-secondary degree programs among women and black and Latinx students. However, it is also important to work with our city's largest tech employers to identify the most in-demand skills and create alternative pathways to tech jobs for local residents who face barriers to completing a four-year STEM degree program. For example, nonprofit workforce skills training organizations like the Bronx-based Per Scholas are providing computer and IT certification courses that provide a quicker, affordable pathway to entry-level positions in tech.

Several initiatives have been proposed by the city and other stakeholders to tackle the lack of diversity and unequal pay in the local tech industry. The city has proposed the Union Square tech training center, a 240,000 square foot building that aims to create more than 600 good-paying jobs and would house three floors of free or low-cost digital skills training by various nonprofit workforce development providers to low-income New Yorkers. More recently, Queens Borough President Melinda Katz has released a plan for equitable growth of the tech sector in Western Queens that would improve access to existing tech training programs for public housing residents and other underrepresented residents.

Yet, in light of the data presented here, it remains to be seen whether the promise of these city initiatives will be fulfilled. The city must create formal accountability and reporting processes to ensure that these initiatives are serving and benefiting underrepresented groups, especially those with low incomes, NYCHA residents, women, people of color, disconnected young adults, and other marginalized New Yorkers. For-profit tech companies that receive subsidies, tax breaks, and other financial incentives from the city must also be held accountable for recruiting and training local residents so that they have the necessary skills to succeed in these jobs.

However, it is not enough to prepare underrepresented workers for entry-level tech jobs. Given the pay disparities in the city's tech industry, tech employers receiving public subsidies should be required to include plans for fostering a more welcoming and supportive environment for new entrants to the tech industry, especially women, people of color, and those from low-income communities. They should have access to mentoring, on-going skills training, and educational opportunities that can help them remain in the industry and advance to more senior-level positions.

Endnote

[1] Our definition of the tech sector in New York City is based on the same seven industries used by the Federal Reserve Bank of New York: Computer Manufacturing, Electronic Shopping, Software Publishing, Data Processing & Hosting, Internet Publishing & Broadcasting & Web Search Portals, Computer Systems Design and Scientific Research and Development Services. This is a narrower definition that does not include, for example, the number of programmers and software engineers working for non-technology related companies.

Community Service Society | Fighting Poverty
Strengthening
New York

633 Third Ave, 10th FL
New York, NY 10017
PH 212.254.8900
www.cssny.org