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— NEW YORK CITY'S — **MILLENNIALS** — IN — **RECESSION** — AND — **RECOVERY**



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I. EXECUTIVE SUMMARY

From 2007 to 2009, the nation suffered the worst recession since the Great Depression. During the same period, children of the baby boomer generation – a large population cohort known as the millennials – began their working lives. Not since their grandparents or great-grandparents generation have young people entered adulthood during such adverse labor conditions. The lingering impacts of the recession on this large group of young workers – and the national and local policies adopted to address their unique challenges – will reverberate through the national economy for decades to come.

In New York City the need to understand and address the plight of millennials is even greater. The City has always been a magnet for young people, and this trend has accelerated since the recession. Today the city is home to 1.6 million millennials, nearly one-fifth of the city's population. Their future economic well-being is critically important to New York's long-term ability to thrive.

This report examines how entering adulthood during and after the 2007-2009 Great Recession impacted the earnings and life choices of millennials in New York City. Data from the U.S. Census Bureau and Department of Labor were used to establish trends in employment, wages and other economic factors for young people before, during and after the recession in New York City and nationwide.

Defined in this report as people born between 1985 and 1996, New York City millennials experienced many of the same challenges as their national counterparts – escalating educational requirements for entry-level jobs, soaring higher education costs, and a proliferation of low-wage jobs. In New York City, the challenges faced by the millennials have in some ways been even greater, as housing cost inflation has made the transition to adult independence more arduous. Nonetheless, in some key ways the millennial experience has been more positive in New York City than the rest of the nation.

An analysis of millennials in New York City finds the generation that came of age as the nation began to shed nearly 9 million jobs faces the following obstacles to a bright economic future: higher unemployment, lower real wages, more low-wage jobs, and increased under-employment.

NYC young worker unemployment spiked during recession but has since declined.

In the immediate aftermath of the 2007-2009 Great Recession, the unemployment rate among the city's 18- to 29-year old labor force soared to over 18 percent, more than doubling in the space of one year. At its peak in the city, the young worker unemployment rate was 8 percentage points above the overall city rate.

From 2009 through 2015 total employment of 18- to 29-year olds in New York City increased faster than in the rest of the nation but not fast enough to keep pace with the growth of young workers. Thus, the city unemployment rate among young workers has not yet returned to its pre-recession level.

One positive employment trend for the millennial generation is disparities along racial lines appear to be improving. By 2014 the unemployment rate for young Blacks and Hispanics in New York City reached their lowest levels in a decade, falling to 11 percent and 9 percent. While racial disparities have decreased since the beginning of the Great Recession, the young Black and Hispanic unemployment rates still far exceed the current rate for young Whites (5 percent) and Asians (7 percent).

Millennials are earning lower real wages than the previous generation.

Although the unemployment rate among young people has declined since the recession, their earnings have continued to lag. Compared to their counterparts in the previous generation, employed millennials in New York City in 2014 earned about 20 percent less in real terms. For example, the average real wage incomes of employed 29-year olds decreased from about \$56,000 in 2000 to \$50,300 in 2014. Although millennials entered the labor market at various stages of the recession and the recovery, the decline in average real earnings held for every age between 18 and 29, suggesting a fundamental deterioration of the earnings opportunities available to young workers in New York City. Given the lower earnings of millennials today will influence what they earn later in life and the types of opportunities they can access, this trend is particularly concerning.

More young workers in low-wage industries.

The erosion in the earnings of young workers in the city is due to a disproportionate increase in the number of jobs in low-wage industries and to a significant decline in the wages paid to them in many industries. Arts and entertainment has been the fastest-growing sector of employment for young people in New York City, but the real wages of young workers in the sector fell nearly 26 percent between 2000 and 2014. Hospitality and food service and retail trade were the second- and third-fastest growing sectors of employment, but real wages in both of those sectors fell by about 16 percent. Conversely, the real wages of young people in the finance sector rose 14 percent between 2000 and 2014, but the number of young people in that sector fell by almost 11,000.

With such a dramatic decline in real earnings, it is small comfort that wages in the city have actually slumped less than for young people in the rest of the country. Additionally, as many millennials are still struggling, others have fared well in the New York City labor market. While financial and law firms are not hiring as many young people as they did 15 years ago, there were over 100,000 millennials employed in those sectors in 2014, and the city was home to over 12 percent of all millennials in the country earning \$100,000 or more.

NYC millennials are well-educated but under-employed.

The millennial generation is the most educated group of young workers in the city's history. The share of young people ages 23 to 29 with at least some college education has increased from 61 percent in 2000 to 72 percent in 2014. The city is also increasingly a magnet for the well-educated; fully four-fifths of 23- to 29-year olds residing in the city but born outside New York State had a bachelor's degree or higher.

Due to a greater number of young people earning a college degree and the increasing educational demands for entry-level jobs, the linkage between higher education and employment has weakened. Many millennials are working in jobs below their level of educational attainment,

leading the share of young workers in low-wage industries who had at least some college education to grow from 52 percent in 2000 to 63 percent in 2014. About one-third of young New York City workers in low-wage industries have a bachelor's degree.

Despite these economic challenges, New York City's millennials have adjusted in many sensible, and even admirable, ways, including more housing independence, less "idleness," and lower incarceration rates.

More NYC millennials are living independently.

Contrary to national trends, more New York City millennials are living independently and a smaller share is living with their parents. Continuing a trend that was in motion even prior to the recession, by 2014 only 45 percent of young Americans lived independently (not with their parents, other relatives, or in college housing), compared to 51 percent in 2007. In New York City, where young people have always tended to stay in their parents' homes longer, different adjustments have been made. Since 2007 the number of the city's young people living independently has actually risen from 39 percent to 41 percent.

Fewer NYC millennials are disengaged from the workforce and school, and incarceration rates have fallen.

Although the millennial population is greater than previous young generations, 15,000 fewer young people in 2014 were disengaged from the labor force or from formal education, known as "idleness," compared to fourteen years earlier. Crime rates, historically highest among young people, have continued to fall and so has the incarceration rate among the city's youth, from an estimated 2.1 percent in 2008 to an estimated 1.3 percent in 2015. Childbirths to 18- and 19-year old mothers in the city plunged 31 percent from 2007 to 2013, and birthrates among women in their young twenties have also declined.

Many of the challenges faced by young people in the city are beyond the means of local government to resolve. The macroeconomic environment will largely determine the lifetime career opportunities and earnings growth available to young workers, but whether the nation chooses macroeconomic policies favorable to the millennial generation or favorable to vested interests will be determined in the national political arena.

Nevertheless, maintenance of a healthy business climate in the state and city is fundamentally important for promoting career opportunities for young people, while maintaining a city that is hospitable to young people is, in turn, a critical ingredient of a healthy business climate. State and city policies could ameliorate some of the most distinctive problems faced by the millennial generation. In particular, young people would benefit disproportionately from policies aimed at raising minimum wages and paying workers fairly for overtime hours, from policies aimed at keeping public universities affordable and reducing the burdens of student debt, from programs aimed at creating more affordable housing and encouraging new housing models, from more effective workforce training programs and more summer employment opportunities, and from new approaches to criminal justice and rehabilitation.

II. INTRODUCTION

Usually the first steps on the career ladder are the hardest ones, and the transition from school to work is a time of great anxiety and doubt for young people. The current cohort of young workers—sometimes referred to as the “millennial” generation—has faced an especially difficult challenge as their early work lives have been impeded by a persistently weak labor market.¹

College graduates from the Class of 2008 and after have experienced only a severe recession and a tepid recovery during their working lives. With intensified competition for entry-level work opportunities, their counterparts who did not attend or finish college have faced even greater obstacles to finding suitable employment, and for those who didn’t finish high school, the employment opportunities have turned even bleaker. Moreover, recent economic research has found that for young people who enter recessionary labor markets, the market effects can slow down their career advancement and earnings for years or even decades afterward.²

In cities like New York, which historically has had a large population of young people who have been marginalized in the formal job market, the slack economic conditions of recent years may also have undermined efforts to integrate them into the workforce.

The purpose of this report is to evaluate how young people entering New York City’s job market have fared in the years since the Great Recession and to identify particular problems they may face now and into the future. The city’s experience is also compared to the national picture and to the experience of young workers in other large cities.

III. THE DEMOGRAPHIC CONTEXT

People born from 1985 to 1996, who were thus 18- to 29-years old as of 2014, are referred to in this report as the “millennial” cohort. That terminology is generally in keeping with colloquial usage, albeit with a meaning somewhat more specific to this report. At the time of the release of the report, in early 2016, nearly all of the millennial cohort will be 19 to 30 years of age. Since most of our data runs through 2014, their circumstances will have changed somewhat with the passage of a year, but the fundamental problems and challenges they face will be much the same.³

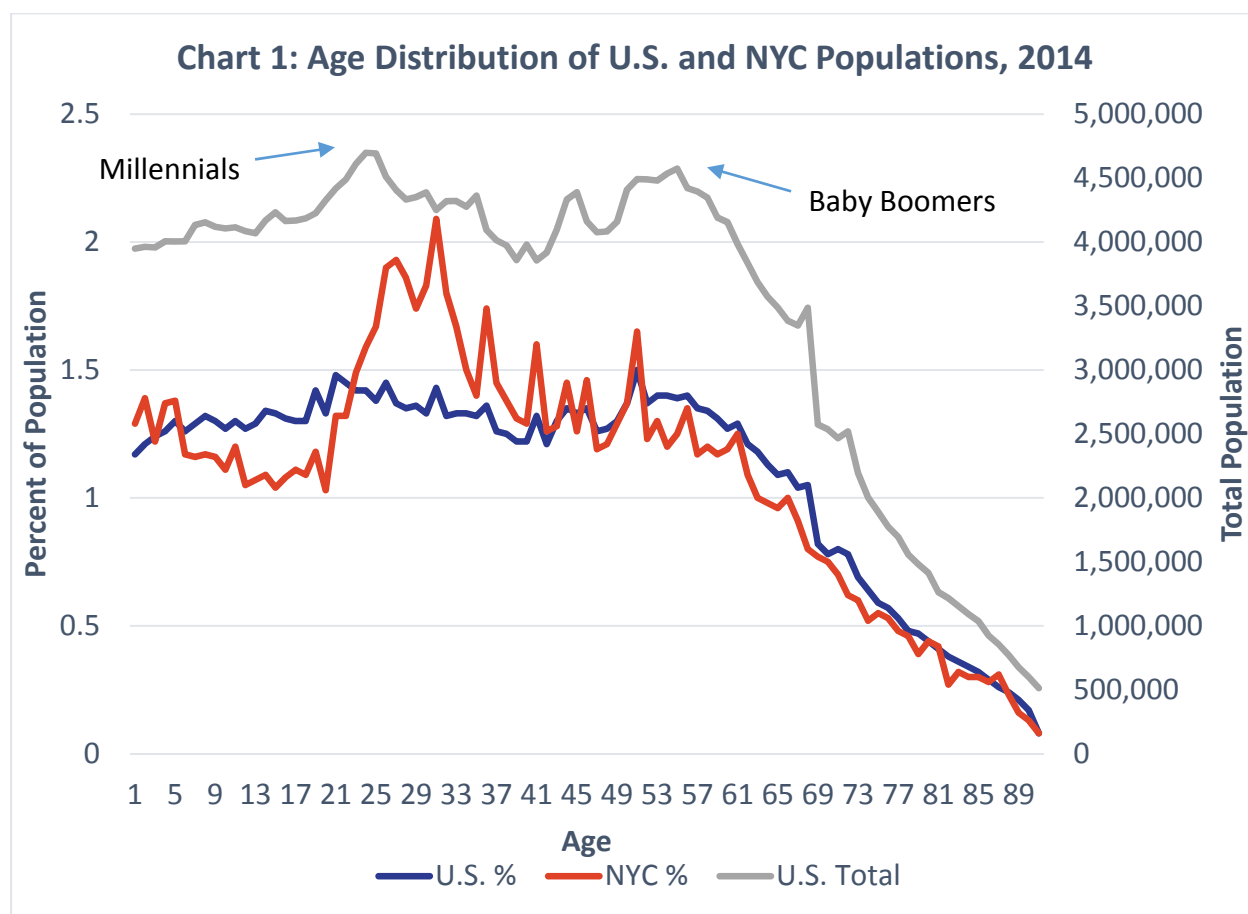
¹ Although the term “millennial” has been applied to different age groupings, in this report it refers specifically to people born from 1985 to 1996.

² Philip Oeropoulos, Till von Wachter and Andrew Heisz (2006): *The Short- and Long-Term Career Effects of Graduating in a Recession: Hysteresis and Heterogeneity in the Market for College Graduates*. National Bureau of Economic Research, Working Paper 12159. Lisa B. Kahn (2010): “The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy.” *Labour Economics* 17.

³ In order to understand the circumstances of the millennial age group in New York it is useful to evaluate the economic trends that have prevailed during the past decade, especially as they relate to younger workers. The reader should recognize that, as a result, data that tracks the condition of young workers over time does not relate to the same birth cohort at each point. For example, young people who were 18- to 29-years old in 2005 were 28- to 39-years old in 2015. Millennials as defined in this report only began entering the full-time labor market in 2003.

Complicating the labor market entry of young workers during the past decade is that there were many of them. Chart 1 shows the number of U.S. residents by age for 2014, as well as the age distribution for the U.S. and New York City. Two distinct bumps can be seen in the total population curve. The two peaks represent the millennial age cohort and the post-WWII “baby boom” cohort. There is a 31-year difference between the two peaks, which underscores the demographic link between the two population peaks: most millennials are children of baby boomers (some are also immigrants or children of immigrants from countries which did not have similar demographic patterns). The millennial cohort as defined in this report is actually slightly larger in numbers than the baby boom cohort, and about 4 million larger than the 12-year age cohorts that preceded and followed them.

The millennial cohort is slightly larger than the baby boom cohort.



Despite their numbers, in recent years young adults actually had demographics on their side when they entered the job market. That is because the baby boomers began to reach retirement age just as the millennials were entering the full-time workforce. The residual effects of the low birth rates during WWII and the oldest baby boomers reaching 65 resulted in a dramatic slowing of the country’s working-age population beginning in 2008. The number of U.S. residents ages 18 to 64 grew by close to 2 million per year between 1990 and 2007, but by just over 1 million per year from 2008 to 2015. That should have given members of the millennial cohort an advantage, compared to the young workers who preceded them when they started their working lives, but of course the recession and financial crisis changed the picture dramatically.

Chart 1 also shows the percentage of Americans and of New Yorkers of each age. A comparison of the curves reveals the distinctive demographics of New York City—far fewer school-age children than might be expected and far more young adults. Based on its total population and the age distribution of the rest of the country, the city has about 200,000 fewer children ages 5 to 17 than might be expected but about 175,000 more young adults ages 18 to 29 than might be expected. Those patterns reflect some of the conventional truisms about migration in New York—that families with children move out seeking larger homes and better schools while young adults move in seeking career opportunities and an active social life.

MILLENNIAL MIGRATION

Young people are particularly mobile. Overall, about 15 percent of adult Americans change their residence each year and about half of those move between counties. For young adults ages 18 to 29, the migration rate is more than twice as high—about 30 percent move each year.

From 2010 through 2014, about 88,000 young adults migrated to the city each year from elsewhere in the United States and about 85,000 left the city annually for other parts of the country, producing a small positive net domestic migration of young people.⁴ White millennials have moved into and out of the city in far greater numbers than have Black and Hispanic young people. From 2000 through 2014, about 61 percent of 18- to 29-year olds migrating to the city from other parts of the country were White, but about 43 percent of those leaving were also White, resulting in a net in migration of about 83,000 in those five years. About 25 percent of young people migrating to the city from elsewhere in the United States were Asian, leading to a net in migration of 58,000 Asian young people from 2000 to 2014. In contrast, Blacks comprised nearly 20 percent of young domestic out-migrants from the city during that period but only 9 percent of in migrants, producing a 5-year net out migration total of almost 42,000. Hispanic young people left to and arrived from other parts of the United States in nearly equal numbers.

While tracking domestic migration can be done with relative ease, tracking overall migration flows into and out of the city is extremely difficult, primarily because there is no reliable way to count emigrants. About 35,000 young people per year arrive from abroad, but the number who leaves for foreign destinations is unknown.

Particularly difficult to track are foreign students and those on temporary work visas. There are about 50,000 international students enrolled in the city's institutions of higher education, most of them on temporary student visas (F-1 visas).⁵ Students on F-1 visas are required to leave the country within 60 days of the completion of their studies, although their stays can be extended through programs such as the Optional Practical Training (OPT) program, which allows F-1 visa holders to work full-time for up to 29 months after graduation. According to the Brookings

⁴ The age demographics of the country as a whole are relatively straight-forward because births and immigration are easily tracked, aging is inevitable, and emigration is a small factor. Tracking demographics at the local level, however, is much more complicated and subject to estimation error because residents are constantly moving across jurisdictional boundaries and, in cities with very large foreign-born populations, emigration can be a significant factor.

⁵ New York City Comptroller estimates from the U.S. Census Bureau's American Community Survey (ACS) data and other sources. NYU, Columbia, St. Johns, Fordham and CUNY report having a combined 40,000 international students enrolled in the Fall 2014 semester.

Institution, about three-quarters of international students in the New York metropolitan area work for some period of time after graduation through the OPT.⁶ Foreign nationals who are not students can work in the U.S. through a variety of temporary work visa programs, the most important of which is the H-1B program. Like students, they can extend their stay and many ultimately apply for permanent residence.

SIZE AND COMPOSITION OF MILLENNIAL POPULATION

While tracking the net migration, immigration and emigration flows on an annual basis is extremely difficult, the end result of those flows on the composition of the city's young population is easy to establish. Table 1 shows the size and composition of the city's 18- to 29-year old population in 2000 and 2014, by place of birth and race or ethnicity.

Table 1: Composition of 18- to 29-Year Old Population in NYC by Place of Birth, Race or Ethnicity				
	2000		2014	
By Nativity:	Number	Percentage	Number	Percentage
NYS born	694,448	47.3	836,210	52.2
Other US born	195,757	13.3	255,033	15.9
Foreign born	579,387	39.4	511,197	31.9
By Race or Ethnicity:	Number	Percentage	Number	Percentage
White, non-Hispanic	469,124	31.9	490,287	30.6
Black, non-Hispanic	331,485	22.6	347,070	21.7
Hispanic, all races	443,896	30.2	497,997	31.1
Asian, non-Hispanic	161,312	11.0	222,968	13.9
Other or Mixed	63,775	4.3	44,118	2.8
Total 18-29 Yrs Old	1,469,592	100.0	1,602,440	100.0

Source: New York City Comptroller's Office from Census microdata

From the beginning of the century to 2014, the 18- to 29-year old population of the city expanded by about 132,000, topping 1.6 million by the later year. Over that time, those born in New York State increased by the greatest number, but those born elsewhere in the United States grew at the fastest rate. The biggest sources of young migrants from the elsewhere in the U.S. were New Jersey, California and Pennsylvania. The biggest decrease was in young people born in Puerto Rico, as families migrating from the island are increasingly settling in Florida and Texas rather than in New York.

The growth in the number of young New Yorkers who were born in New York State was driven by second-generation immigrants who have not, or not yet, dispersed into other parts of the country. Among New Yorkers born in New York State, Asians were the fastest growing group and Hispanics were the second-fastest.

⁶ The Brookings Institution (2014): The Geography of Foreign Students in U.S. Higher Education: Origins and Destinations. <http://www.brookings.edu/research/interactives/2014/geography-of-foreign-students#/M35620>

The racial and ethnic composition of young New Yorkers changed along with the generational effects of earlier immigration patterns and shifts in current immigration flows. Of the four largest racial/ethnic groupings, the number of young Asian New Yorkers grew most rapidly and the number of young White New Yorkers grew most slowly. By 2014, Hispanics were the largest racial/ethnic group among New York City's millennials.

IV. EMPLOYMENT AND UNEMPLOYMENT

From 1992 to 2007, the American economy created more than 1.9 million new jobs per year, but it lost over 8.7 million jobs between January 2008 and February 2010. Although national job creation has been strong and steady since 2011, it took until early 2014 for the nation to regain all of the jobs it lost to the Great Recession. During the six years with no net job creation, over 22 million young people entered their working years.

Chart 2 shows the quarterly national and New York City unemployment rates for the overall workforce and for the workforce ages 18 to 29, computed from the Current Population Survey (CPS). The overall national unemployment rate soared from 4.6 percent in late 2007 to 10.4 percent in early 2010, before drifting down to 4.8 percent in the fourth quarter of 2015. New York City's overall unemployment rate experienced a more gradual descent, as large increases to the city's labor force offset its strong job creation.

Historically, the national unemployment rate for young workers ages 18 to 29 hovers about 60 percent higher than the rate for the population as a whole. That unemployment ratio held

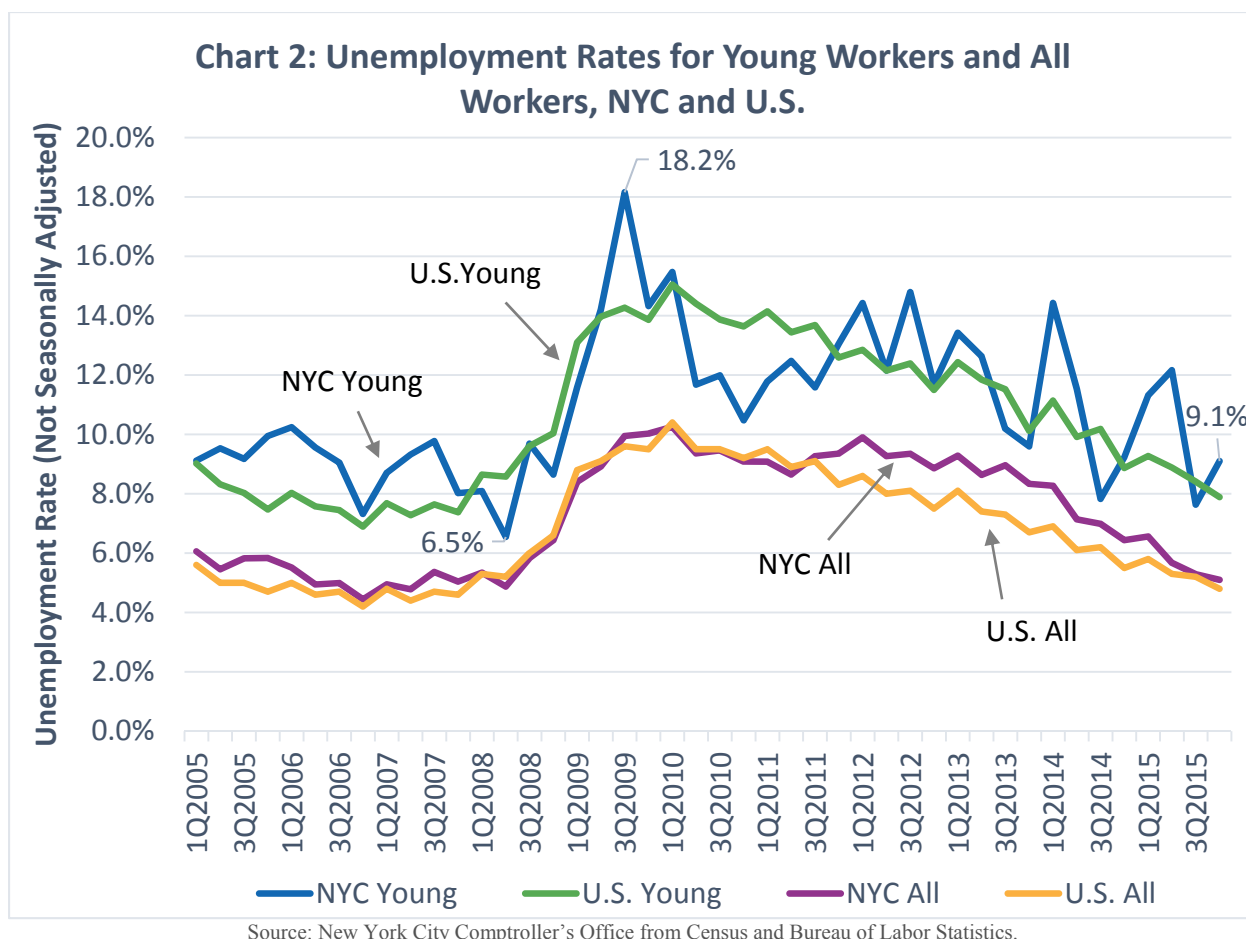
historically in the city as well, and has held largely throughout the recent recession and recovery, except for a period between 2009 and 2011 during which the unemployment rate for younger workers in the city fell relative to the all-worker rate.

Of the four largest racial/ethnic groupings, the number of young Asian New Yorkers grew most rapidly, but by 2014 Hispanics were the largest racial/ethnic group among New York City's millennials.

As a result of the Great Recession, the number of unemployed young people between the ages of 18 and 29 nationwide more than doubled, from 2.6 million in the second quarter of 2007 to 5.3 million

in the first quarter of 2010. By the fourth quarter of 2015 the number was still nearly 2.9 million.

Not surprisingly, a similar trend was experienced in New York City. The number of unemployed young workers hit a low of 62,000 in the second quarter of 2008. By the third quarter of 2009, unemployment among young people soared to over 18 percent in New York City – more than doubling in the space of one year during the depths of the Great Recession. That 18 percent high-point was nearly 4 percentage points above young people nationally and more than 8 percentage points above the city's overall workforce. As of the fourth quarter of 2015, there were still an estimated 99,900 young people unemployed in the city.



LONG-TERM UNEMPLOYMENT

One of the hallmarks of the Great Recession of 2007-2009 was the increase in long-term unemployment, which hit levels the nation had not seen since the 1930's Great Depression.⁷ Long-term unemployment is usually defined as an individual's spell of unemployment that lasts for more than six months. Nationally, the number of long-term unemployed reached an all-time high of 6.7 million people in the second quarter of 2010, and gradually declined to 2.8 million by the fourth quarter of 2014.⁸ In New York City, the number of long-term unemployed rose from 55,000 in the final quarter of 2007 to 192,000 in the last quarter of 2012, then subsided to 77,000 by the fourth quarter of 2015.

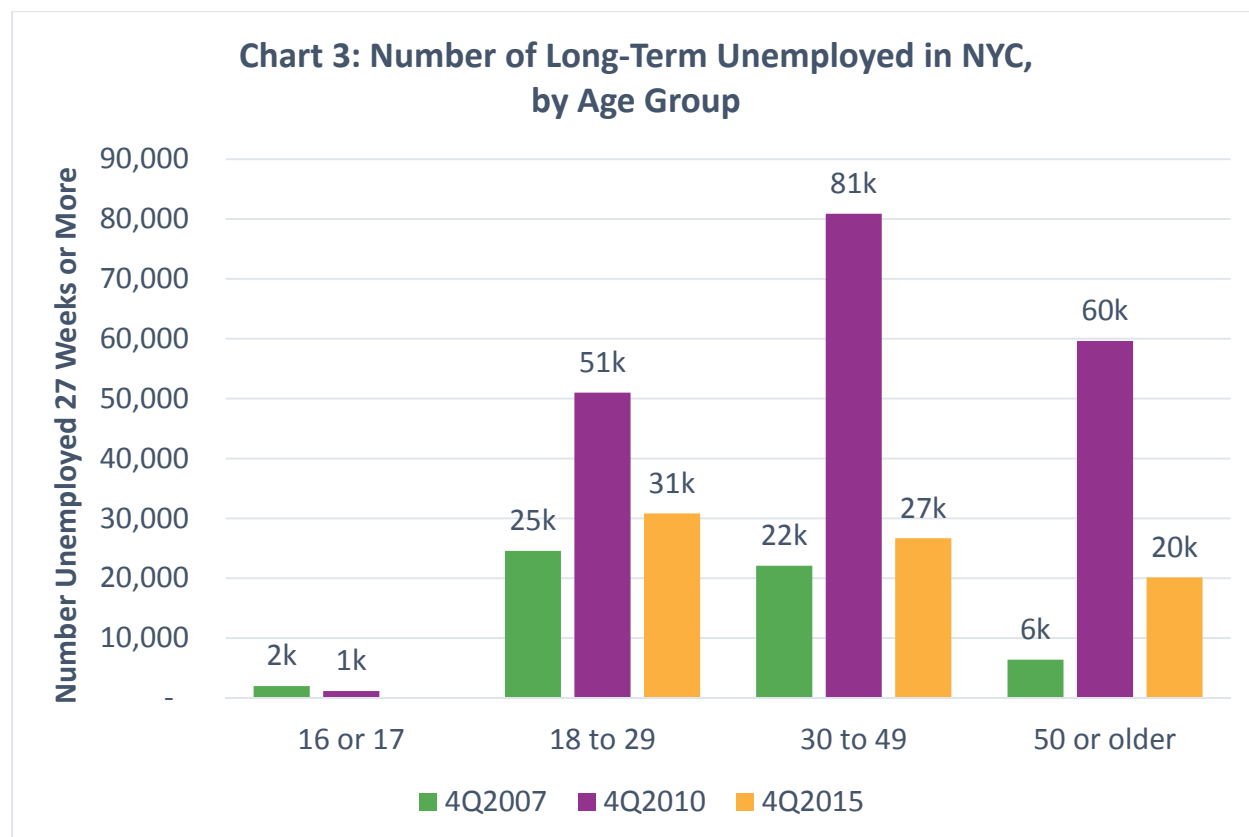
Chart 3 shows the number of long-term unemployed in the city in the fourth quarter of 2007, the fourth quarter of 2010, and in the fourth quarter of 2015, by age group.

The chart shows that, although the number of long-term unemployed in the city more than tripled from 4Q2007 to 4Q2010, the increase was largest among its older workers. The number of long-

⁷ Andreas Hornstein and Thomas A. Lubik (2010): "The Rise in Long-Term Unemployment: Potential Causes and Implications." *Annual Report 2010*. Federal Reserve Bank of Richmond.

⁸ Karen Kosanovich and Eleni Theodossiou Sherman (2015): "Trends in Long-term Unemployment." *Spotlight on Statistics*. US Bureau of Labor Statistics, March 2015.

term unemployed who were 18- to 29-years old increased by about 26,000, or 108 percent, while the number who were 50 or over increased by about 53,000, or over 800 percent. By the end of 2015, while the number of long-term unemployed in each age category had dropped significantly, among young workers it had dropped the least. However, compared to pre-recession levels, long-term unemployment has continued to remain unusually high among older workers. That may be because, during the recovery, the city's economy added a disproportionate number of low-wage jobs which young people were more willing to accept, while many older workers continued to seek, some vainly, jobs with similar responsibilities and pay to those they had lost.



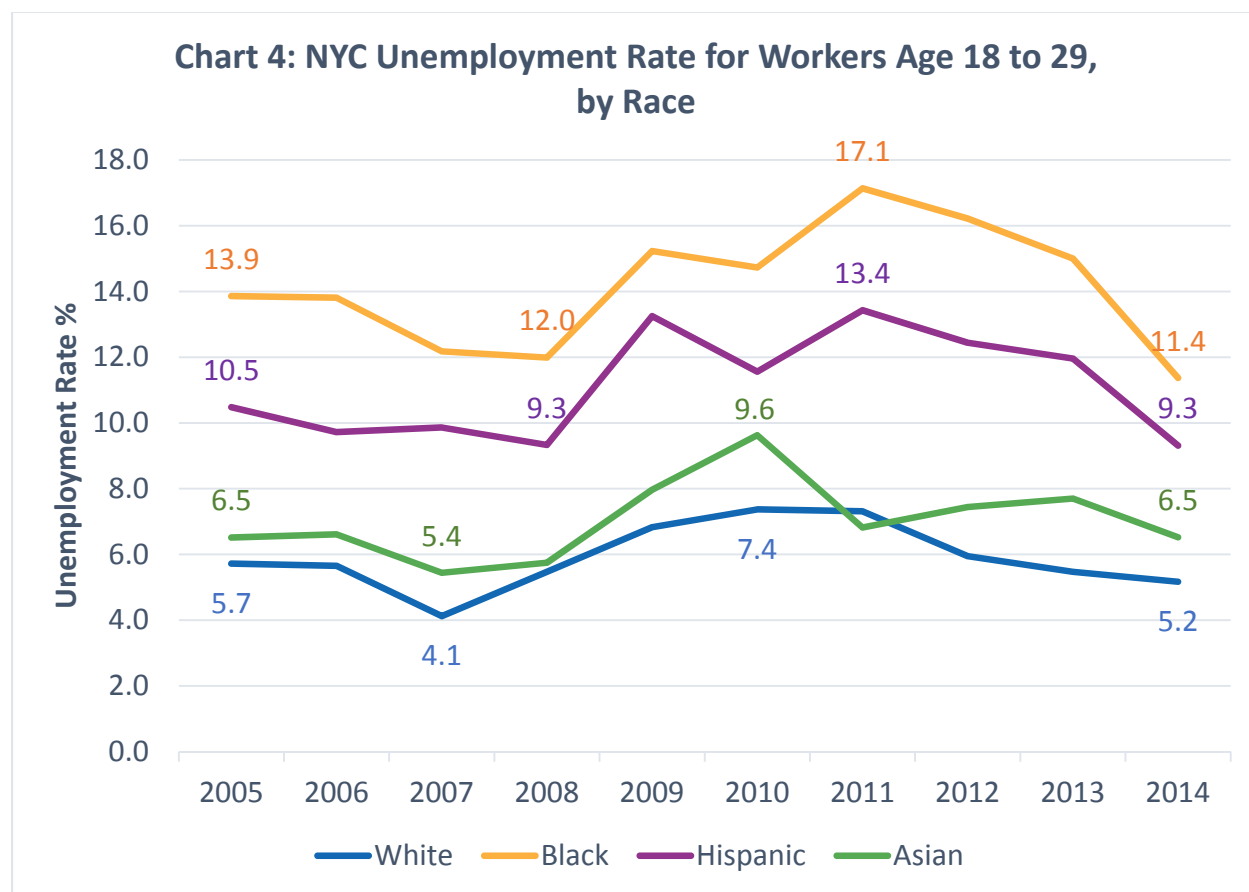
Source: New York City Comptroller's Office from Census microdata.

UNEMPLOYMENT DISPARITIES BY RACE AND ETHNICITY

As is true for people of all ages, unemployment affects young workers differently depending on their race or ethnicity. Chart 4 shows the unemployment rate among young people in New York City (ages 18 to 29) for the years 2007 to 2014, disaggregated to White, Black, Hispanic and Asian.

When the unemployment rate of young White adults in the city fell to a low of 4.1 percent in 2007, the unemployment rate among similarly-aged Black young people was nearly three times as high, at 12.2 percent. The rate among Hispanic youth was, at that time, 9.9 percent. After the recession hit, the unemployment rate of White young people in the city climbed to a high of 7.4 percent in 2010, but the unemployment rate among Black and Hispanic young people continued to rise through 2011, when it reached 17.1 percent and 13.4 percent, respectively. Although it took seven years for the overall unemployment rate among the city's young people to fall back to

the level that prevailed prior to the Great Recession, there is some indication that racial disparities are narrowing. While the unemployment rate among young White workers was still a full percentage point higher in 2014 than it was in 2007, the unemployment rate among Black and Hispanic young people reached decade-long lows in 2014.



Source: New York City Comptroller's Office from Census microdata.

“IDLENESS”

Of course, unemployment rates tell only part of the story. The conventional measure of unemployment categorizes as unemployed only jobless individuals who are willing to work and are actively searching for work. However, at any given time working-age people must decide whether holding a job would be more beneficial to them than engaging in other pursuits, such as attending school, caring for children or family, developing their creative talents, or simply enjoying leisure time. Those calculations are constantly changing with, among other things, conditions in the labor market that determine how remunerative working may be. Moreover, at any given time a portion of working-age adults are discouraged about finding suitable employment and stop actively searching for work; they are no longer considered part of the labor force. That proportion also varies with conditions in the labor market. In the most acute cases, young people may become alienated from mainstream society entirely and are at higher risk of becoming enmeshed in criminal activities or other anti-social behavior.

Young people are somewhat less likely to participate in the labor force than the other age groups that comprise the working-age population, primarily because they are more likely to be enrolled

in school. When young people are neither in school nor in the labor force they are referred to as “idle” by labor economists and statisticians.⁹ The proportion of young people who are idle is thus an alternative measure of a region or municipality’s success in providing young people with adequate opportunity, whether that opportunity is for employment or education.

Table 2 shows the number and percent of idle young people for the 30 largest cities in the United States. Since some young people may be occupied with raising children rather than working for wages or studying in school, Table 2 adjusts the traditional measure of idleness to exclude those who have one or more children of their own living with them.

After the recession hit, the unemployment rate of Black and Hispanic young people continued to rise through 2011, when it reached 17.1 percent and 13.4 percent, respectively.

The table shows that the percentage of young people nationwide ages 18 to 29 who were idle was at an identical 8.3 percent in 2000 and in 2014. That stability somewhat understates the improved rates of labor force and educational activity of young people, because the declining birth rates of young women means that fewer young people were engaged solely in child care. Even more impressively, the percentage of young people who were idle fell in 24 of the 28 major cities for which 2000 versus 2014 comparisons can be made. Conversely, idleness increased among young people outside of those 30 major cities, from 8.0 percent in

2000 to 8.4 percent in 2014.

More troubling is that in 2014 New York City had about 162,000 young adults who were neither in school, in the labor force, or caring for children. Although as a percentage of the city’s young people the number had dropped, the city was still near the top among large cities in the percentage of young people who were idle, with a rate 1.4 percentage points above the national average. Much lower rates in Boston, Pittsburgh and Minneapolis show that even older Eastern and Midwestern cities can have more success than New York at absorbing young people into the mainstream labor market and higher educational system.

The incidence of idleness does not seem to vary a great deal with age. While idleness peaks at around age 22, there is not a steep drop off after that age and a 28-year old in New York City is not significantly less likely to be idle than a 19-year old. There is some difference among the sexes, with young women in the city about 2.5 percentage points less likely to be idle than young men.

⁹ Ana J. Montalvo and Amy O’Hara (2008): *A Profile of the Idle Youth in the U.S.* U.S. Census Bureau. <https://www.census.gov/people/io/files/Profile-Idle-Youth-PAA08.ppt>

**Table 2: Number of Idle Young People Ages 18 to 29
by Major City**

City	2000		2014	
	Number	% Idle	Number	% Idle
Detroit MI	24,387	14.8	18,491	14.7
Miami FL	9,585	16.1	9,268	13.3
Phoenix AZ	29,476	11.2	29,913	11.4
Philadelphia PA	31,924	11.3	37,405	11.3
Cleveland OH	9,329	11.5	7,970	10.7
Baltimore MD	16,190	13.7	13,278	10.1
New York City	176,867	12.0	161,828	10.1
Oakland CA	10,076	12.9	7,100	9.5
Jacksonville FL	NA	NA	15,218	9.4
El Paso TX	NA	NA	10,982	8.8
Kansas City MO	5,703	7.2	9,825	8.7
Chicago IL	70,655	11.9	47,894	8.6
Indianapolis IN	11,981	7.6	14,103	8.2
San Antonio TX¹	18,198	8.3	27,757	8.0
New Orleans LA	11,830	13.2	6,008	7.8
Los Angeles CA	87,266	11.8	60,344	7.7
Dallas TX²	47,149	10.5	33,652	7.5
Milwaukee WI	10,540	8.7	7,889	7.2
Washington DC	10,331	8.3	10,692	6.7
Houston TX³	45,424	12.1	52,521	6.6
Austin TX⁴	13,130	7.2	15,292	6.6
Nashville-Davidson TN	10,555	8.8	8,151	5.9
Denver CO	10,204	8.1	7,821	5.6
Columbus OH⁵	11,907	5.5	13,440	5.5
Pittsburgh PA	5,729	7.6	4,951	5.5
Boston MA	11,622	7.2	10,244	5.3
Portland OR	6,594	6.6	5,138	4.7
San Francisco CA	11,987	7.3	7,728	4.7
Seattle WA	6,824	5.4	6,319	4.2
Lexington-Fayette KY	3,288	5.4	2,811	4.0
Minneapolis MN	6,137	6.5	3,475	3.2
Total U.S.	3,849,091	8.3	4,453,816	8.3

1 Bexar County

2 Dallas County

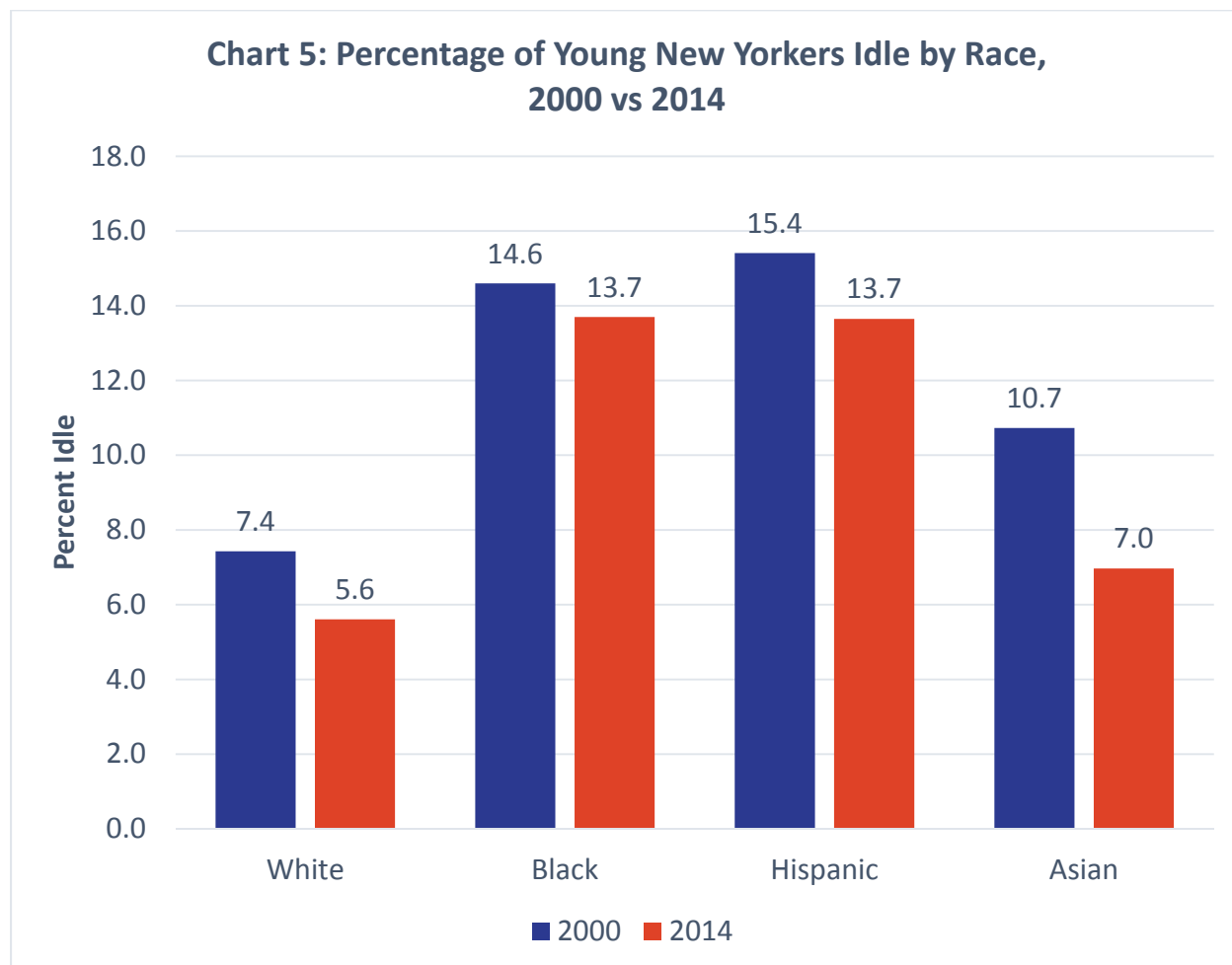
3 Harris County

4 Travis County

5 Franklin County

Source: New York City Comptroller's Office from Census microdata.

There are, however, considerable differences in the prevalence of idleness according to race and ethnicity and according to educational level. As Chart 5 indicates, the prevalence of idleness is far higher among young African American New Yorkers, and among young Hispanic New Yorkers, than it is among White and Asian young people. Although the prevalence of idleness dropped among each race/ethnicity group between 2000 and 2014, among the city's Black and Hispanic millennials the rate was still 13.7 percent in 2014, compared to 5.6 percent among Whites and 7.0 among Asians.



Source: New York City Comptroller's Office from Census microdata.

There are also dramatic differences in idleness among New Yorkers according to their level of educational attainment. Among the city's young people ages 23 to 29 who had attained no more than a high school diploma in 2014, the rate of idleness was 21 percent. Among those who attended college, whether or not they obtained any degree, the rate was less than 5 percent. Statistical models constructed by the Comptroller's Office indicate that the likelihood of idleness among 23- to 29-year olds drops by about 10 percentage points if the person attended college but did not obtain a degree, and by about 15 percentage points if the person obtained a bachelor's degree or more.

The problem with attributing idleness to a lack of education is that those who have attended

In 2000, the average employed 29-year old in the city earned \$56,000 in 2014 dollars, but their 29-year old counterparts in 2014 earned only about \$50,300.

college or obtained a degree were not idle when they were younger, which is why they have educational attainment in the first place. So idleness in a person's late twenties is dependent on their activities earlier in life, when they were deciding to attend college, work or do neither.

Statistical models constructed by the Comptroller's Office indicate that, among the city's 18- to 22-year olds who live as dependents in their parents' or another relative's household, each additional \$10,000 in household income reduces the likelihood of idleness by about 4 percentage points. Living in a 2-parent household reduces the chance of idleness by about 3 percentage points. Borough of residence and immigrant status do not seem to matter, but females are about 4 percentage points less likely to be idle than males. When all other identified factors are controlled for, Black young people are about 4 percentage points more likely to be idle and Hispanic young people are about 3 percentage points more likely to be idle than White non-Hispanic young people. Consequently, offsetting the effects of low household incomes, and improving the access of Black and Hispanic young people to mainstream work and educational opportunities appear to be key to reducing idleness in later life.

V. JOBS AND EARNINGS

As discussed above, unemployment among the city's young workers soared during the recession and its aftermath, but by 2015 had returned to approximately its precession levels. However, employment is only part of the equation, as young people in their late teens and twenties are not only working for immediate pay, but are also laying the foundations for their future careers and their family's prosperity. What they are earning when they are young will influence what they earn later in life, and the types of jobs they hold will also influence the types of opportunities they can access later on.

REAL WAGES COMPARED TO PREVIOUS GENERATION

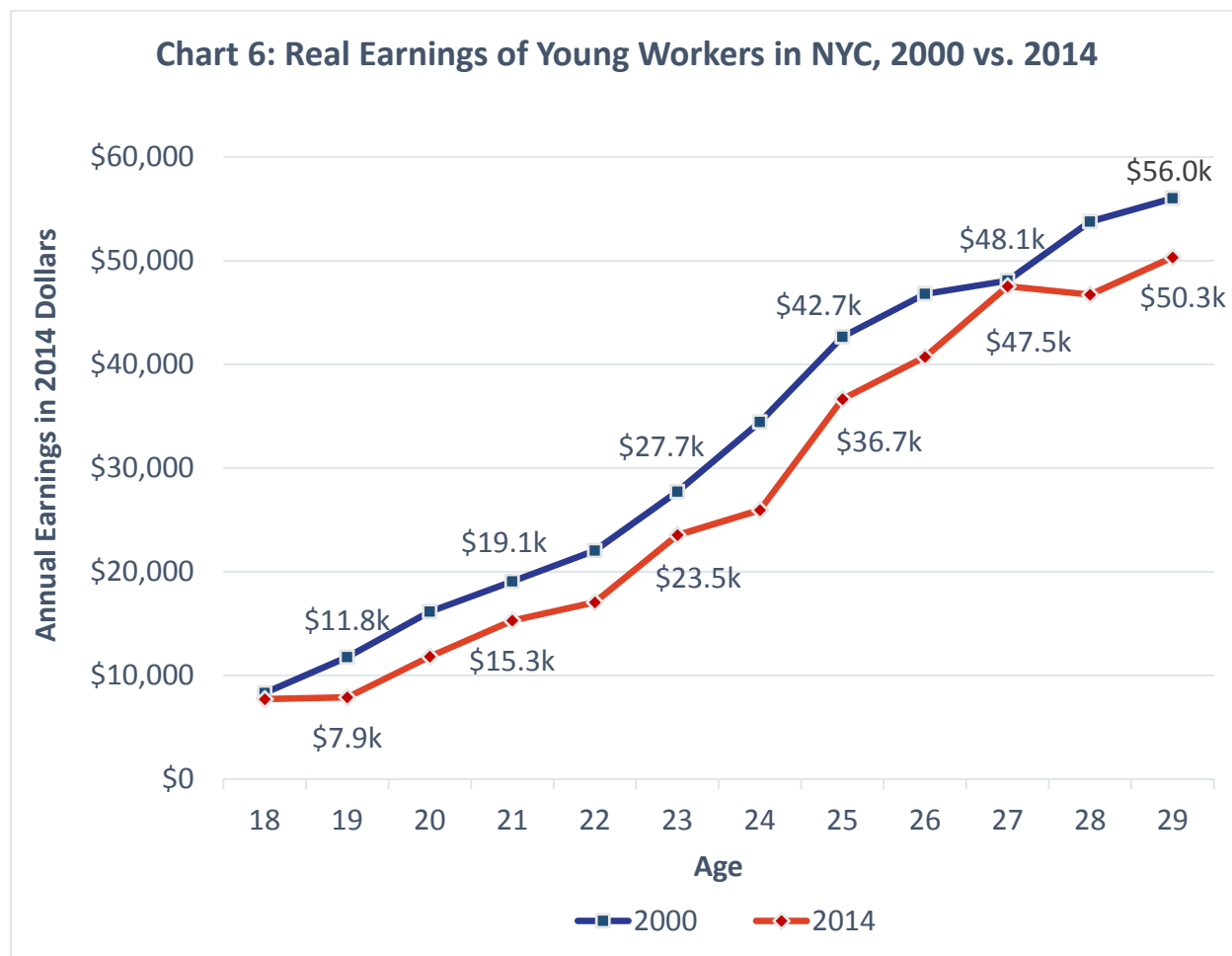
Chart 6 shows the average income from wages and salaries for the millennials in NYC who had jobs in 2014, for each age from 18 to 29, compared to the earnings of their counterparts in 2000, with the earnings of the 2000 cohort expressed in 2014 dollars.¹⁰

The chart shows a dramatic and disturbing reduction in New York City millennials' real earnings at every age, when the group is compared to the earlier cohort. In percentage terms the gap is widest at ages 19 to 22, when it averages nearly 35 percent, and smallest at ages 26 to 29, when it averages about 11 percent. For example, the average employed 23-year old in New York City in 2000 earned about \$27,700 in 2014 dollars, whereas the average employed 23-year old in 2014 earned about \$23,500 annually. Among older workers, the gap is smaller in percentage terms but larger in actual dollars. In 2000, the average employed 29-year old in the city earned \$56,000 in 2014 dollars, but their 29-year old counterparts in 2014 earned only about \$50,300.

¹⁰ Unlike the ACS, which is a rolling survey in which respondents are asked to report their income during the past 12 months, 2000 Census forms were mailed in March 2000 and respondents were asked to report their incomes for calendar 1999.

If the lower real earnings of millennials were only a transitory effect of the Great Recession, we would expect to see little or no earnings gap among the youngest workers, who entered the labor market after several years of economic recovery, and the greatest gap among workers in their late twenties, who entered the job market at the worst time and whose wages would have been expected to lag the most. In fact, the exact opposite pattern is evident, strongly suggesting that there has been a fundamental, and perhaps quickening, deterioration of the earnings opportunities available to young workers in New York City.

The severity of the apparent wage decline among young workers immediately raises the question of whether this is a localized phenomenon; the data suggest it is not. An even more severe decline in the real earnings of young workers in the rest of the country is found from 2000 to 2014. For example, while employed 29-year olds in the city in 2014 earned about 10 percent less than their counterparts in 2000 in real terms, in the rest of the country that earnings deterioration amounted to 13 percent. The earnings differential between young workers in New York City and those in the rest of the country increased for workers at every age between 25 and 29 from 2000 to 2014.



Source: New York City Comptroller's Office from Census microdata.

EMPLOYMENT BY INDUSTRY

New York City's economy has changed rapidly in the years since the financial crisis. The traditional "white-shoe" industries of finance and legal services represent a smaller portion of the city's economy than they did less than a decade ago, while the city has established itself as a center of innovation at the nexus of technology, media and advertising. However, the diversification of the economy away from finance and legal services has also entailed a disproportionate creation of relatively low-wage jobs, many of which also offer poor prospects for career advancement. The millennial generation's low earnings relative to earlier cohorts of young workers in the city reflect those trends in the structure of the local economy.

Table 3 shows the industry of employment for workers in the city ages 18 to 29 in 2000 and 2014, and the average wages of young workers in each industry in 2014 dollars. The industries are grouped as "high-wage," "mid-wage," and "low-wage" according to the average real wage income of young workers in them in 2000. In 2000, about 14 percent of 18- to 29-year olds in the city worked in finance (including insurance and real estate) and legal services, and they earned about 77 percent more than the average of all workers in their age cohort. Fourteen years later, under-30 workers in those industries earned about 115 percent of the average for their age cohort, but those industries employed only about 10 percent of millennials.

Two of the brighter areas of opportunity for millennials in post-recession New York City have been in technology and advertising. The number of 18-to 29-year old New Yorkers employed in firms providing computer systems design, or providing scientific and technical research, increased from about 13,300 in 2000 to 16,600 in 2014. In advertising, the number of young workers rose from 15,900 to 21,300 over that time. The earnings of young workers in both of those industries are more than 50 percent above the average for all young workers.

Not all computer-related jobs are in "tech" companies, however. Many are in finance, management, and other traditional industries with large data-processing operations and a corresponding need for information systems professionals. In that broader sense, tech fields were not a growth area for the employment of young workers in the city. In 2000, about 30,500 New Yorkers under 30 years old were employed in computer-related occupations. By 2014, the number had declined to 26,600. Rapid growth in employment of young software and web developers was offset by an even more rapid decline in the number of computer programmers and network architects and analysts.

The sector that has provided the most jobs for New York City's young people since the turn of the century has been retail trade. In 2014, over 156,000 millennials were employed in retail trade, a 39 percent increase over the number of young workers employed in that sector in 2000. Unfortunately, that sector offers relatively low wages, with the annual earnings of millennials in retail trade in 2014 averaging only 63 percent of the average earnings of

all millennials. Even faster growing, and even lower paying, was hospitality and food service. In 2000, 8.4 percent of workers 18- to 29-years old worked in hospitality and food service, but that

From 2000 to 2014, young worker employment in the high-wage industries decreased by about 4,900 while increasing in the mid-wage industries by only 16,300.

Employment in the low-wage industries expanded by 83,100.

share rose to 12.1 percent by 2014. The average annual earnings of young workers in hospitality and food service in 2014 was about \$19,000.

Table 3: Major Industries of Employment of Workers 18- to 29- Years Old, New York City, 2000 vs. 2014						
	2000			2014		
	Total Workers (Number)	Percent of Total (Percent)	Average Wage* (Dollars)	Total Workers (Number)	Percent of Total (Percent)	Average Wage (Dollars)
High-wage:						
Finance	94,479	11.4	67,136	83,605	8.7	76,586
Legal Services	21,867	2.6	66,149	15,943	1.7	63,877
Technology	13,281	1.6	54,774	16,587	1.7	55,658
Advertising	15,903	1.9	52,463	21,317	2.2	53,052
Accounting Services	8,993	1.1	52,342	12,178	1.3	53,676
Mid-wage:						
Media	59,281	7.2	48,275	43,265	4.5	48,565
Public sector	24,496	3.0	42,251	17,013	1.8	26,084
Health Care	67,726	8.2	34,864	92,096	9.6	36,265
Arts & Entertainment	21,732	2.6	34,396	37,542	3.9	25,508
Wholesaling	24,372	2.9	32,111	14,526	1.5	31,533
Low-wage:						
Transpt & Warehousing	33,632	4.1	30,795	33,263	3.5	23,834
Construction & Mfg	73,212	8.8	30,631	53,711	5.6	31,757
Education	66,334	8.0	27,761	87,443	9.1	28,808
Retail	112,234	13.5	25,868	156,488	16.3	21,848
Hospitality & Foodservice	69,409	8.4	22,579	116,490	12.1	18,989
Total 18- 29-Years Old	828,414	100.0	37,480	962,144	100.0	34,367

*Expressed in 2014 dollars

Source: New York City Comptroller's Office from Census microdata.

The changing composition of industry employment contributed to the comparatively poor earnings of the millennial cohort of workers. From 2000 to 2014, young worker employment in the high-wage industries decreased by about 4,900 while increasing in the mid-wage industries by only 16,300. Employment in the low-wage industries expanded by 83,100.

The changing composition of industry employment also contributed to rising inequality of income among young workers in the city, which was exacerbated by dramatically different wage growth by industry. From 2000 to 2014, average real wages in the five high-wage industries increased by 6 percent, compared to an 8.3 percent decline in the mid-wage industries and an 11.6 percent decline in the low-wage industries.

Widening income inequality among young workers is confirmed by measures of earnings dispersion among individual workers. Among workers ages 26 to 29,¹¹ the ratio of earnings of those at the 75th percentile of earnings relative to those at the 25th percentile of earnings increased from 2.8 in 2000 to 3.4 in 2014. The ratio of earnings at the 90th percentile to earnings at the 50th percentile increased from 2.3 to 2.6, and the ratio of earnings at the 95th percentile to the 50th percentile increased from 3.1 to 3.4. From 2000 to 2014, the earnings of 26- to 29-year old workers at the 25th percentile increased from \$14,800 to \$17,500, whereas the earnings of workers at the 90th percentile increased from \$69,000 to \$90,000. In fact, whereas the city is home to only 3 percent of the nation's millennials, more than 12 percent of those earning \$100,000 or more in 2014 lived here.

In 2000, 52 percent of young workers employed in the top five low-wage industries had at least some college education and 23 percent possessed a bachelor's or higher degree. By 2014, those percentages grew to 63 percent and 33 percent, respectively.

It might be surmised that the growth of low-wage employment among young New York City workers is related to the skill levels the city's millennials offer, but that is not supported by the educational evidence. In 2000, 52 percent of young workers employed in the five low-wage industries listed in Table 3 had at least some college education and 23 percent possessed a bachelor's or higher degree. By 2014, those percentages grew to 63 percent and 33 percent, respectively.

VI. SCHOOL ENROLLMENT

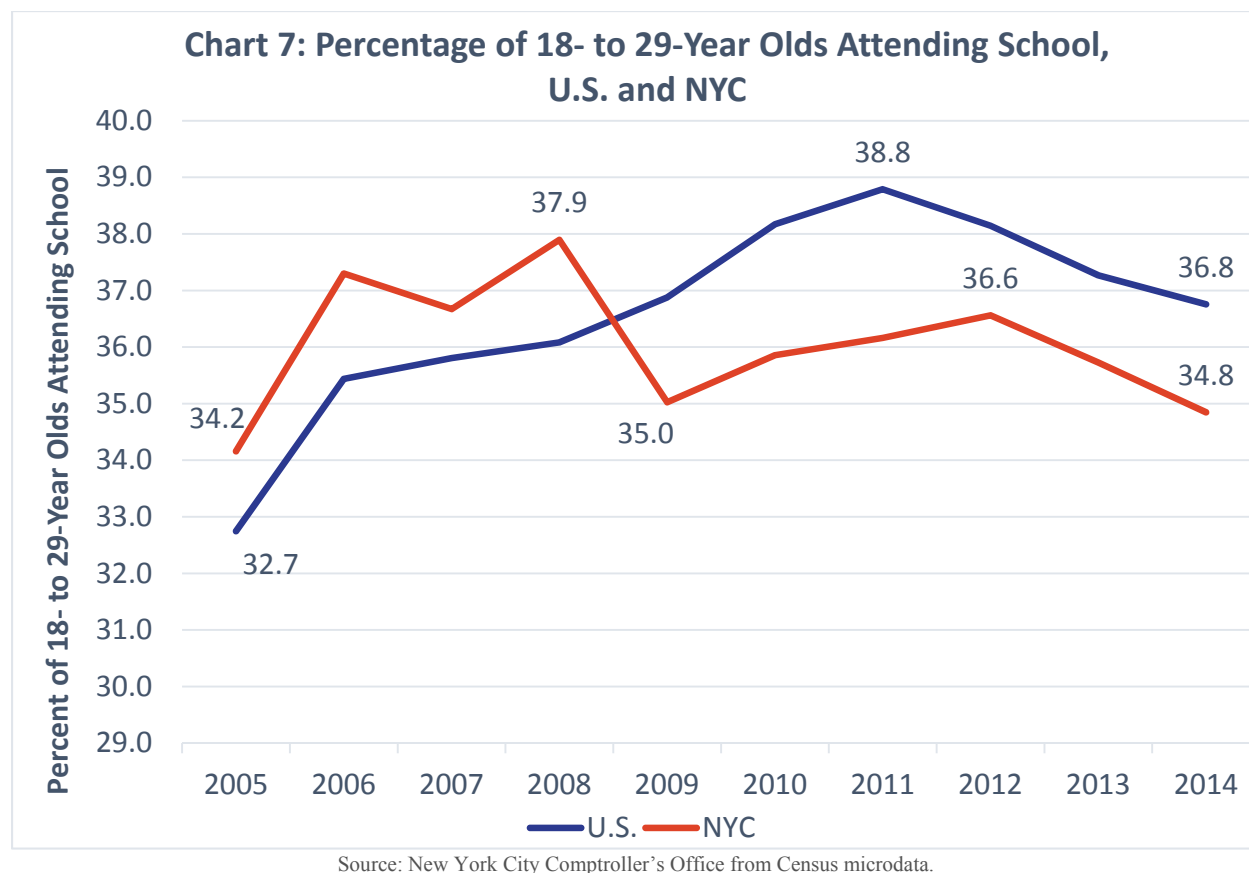
For young workers a major factor determining their employment status is their decision to attend school. In the United States, over 80 percent of 18-year olds, and about half of 19- to 22-year olds, are in school. As the educational requirements of the economy have increased and post-graduate education has become more common, the number of 23- to 29-year olds enrolled in school has also increased. Although nearly half of adult students work, many chose to concentrate solely on their studies; more than one-third of adult students are not in the labor force.

The decision to enroll in school, go to work, do both or do neither is influenced by economic conditions. When economic conditions are good, many young people may be tempted to forego higher education because attractive work opportunities are available without it. When economic conditions are slack, more young people may conclude that the "opportunity cost" of attending college is low. However, for those from the lower levels of the family income distribution, the financial pressures discouraging college attendance may also intensify when the economy is in recession.

Chart 7 shows the percentage of the population ages 18 to 29 who reported they were attending school, for the nation and for the city, during the years 2005 to 2014.

¹¹ Evaluating the earnings for that age group reduces potential noise from changes in the number of young workers who work part time relative to those who work full time.

As the chart shows, there was a very distinct increase in school enrollment among young people nationally, with attendance rates rising from 32.7 percent in 2005 to 38.8 percent in 2011. Although school attendance rates were already increasing before the recession, the economic downturn which began in late 2007 clearly convinced many young people to stay in school or to return to school. However, the same pattern did not hold in New York City. School attendance trended up before the recession, but plunged nearly 3 percentage points in 2009 before turning up again through 2012. Both nationally and locally, the improved job market after 2011 contributed to a decrease in attendance rates.



The drop in the school enrollment rate among the city's young adults appears to be the result of a number of interacting factors. The school enrollment rate among 18- to 23-year olds tends to be about three times as high as that for 24- to 29-year olds, and the city had a relatively larger increase in the latter group. Those older twentysomethings increased by about 8 percent nationally between 2005 and 2011, but by 22 percent in the city. The larger population of the city's older twentysomethings probably reflects changing rates of net migration.

Even adjusting for the different demographic patterns, however, school enrollment rates in New York City did not spike during and after the Great Recession as they did in the nation as a whole. In 2005, the school attendance rate of the city's 18- to 23-year olds was 53.7 percent, and by 2011 it had risen to 57.2 percent. For all 18- to 23-year olds in the U.S., however, the spike was much more dramatic—the school attendance rate rose from 49.0 percent to 56.2 percent. A different response to the Great Recession is also evident among those in the 24- to 29-year old age group; in the U.S., the school attendance rate increased by about two percentage points, whereas in New York City it declined by 0.2 percentage points.

The decline in school attendance among 24- to 29-year olds in the city during and after the Great Recession is somewhat perplexing. Tuitions at CUNY's community colleges, which are higher than the national average for 2-year public institutions, may have played a role, insofar as community colleges are often the point of educational re-entry for workers who have been out of school for some time. Moreover, tuitions system-wide were increased each year after the 2008-2009 academic year. The relatively rapid recovery of the city's labor market may also have encouraged jobless young people to continue to seek employment rather than to make alternative career plans.

A possibly fortuitous aspect of the school enrollment decline is that for-profit college enrollment did not boom in New York City as it did nationwide. Between 2005 and 2011, for-profit college enrollment nationally increased by about 95 percent, compared to only 20 percent in the city. A number of for-profit colleges were found to have engaged in fraudulent and deceptive practices¹² while their educational effectiveness has also been questioned.¹³ Moreover, studies have found that the rise of student loan delinquency and default rates between 2000 and 2011 was driven by the rising number of borrowers at for-profit schools.¹⁴ The comparatively slow growth of for-profit college enrollments in the city may be at least partially due to New York State's relatively strict licensing requirements, which kept some of the less reputable operators out of the state.

STUDENT DEBT

Whether they attended a for-profit college or a traditional not-for-profit or public institution, the burden of student debt repayment is a reality for millennials. According to the Federal Reserve Bank of New York, total student loan balances held by borrowers under 30 years old increased at nearly a 10 percent annual rate between 2005 and 2014, reaching \$369 billion.¹⁵ The U.S. Department of Education also estimates that the total outstanding balance of student loan borrowers in New York State was \$77.5 billion as of January 2015,¹⁶ the third highest of any state, while The Institute for College Access and Success estimates that the average debt of student loan borrowers graduating from college in the state in 2014 was \$27,822.¹⁷ Those estimates, along

¹² Government Accounting Office (2010): *For-Profit Colleges: Undercover Testing Finds Colleges Encouraged Fraud and Engaged in Deceptive and Questionable Marketing Practices*. GAO-10-948T

¹³ United States Senate, Committee on Health, Education, Labor, and Pensions (2012): *For Profit Higher Education: The Failure to Safeguard the Federal Investment and Ensure Student Success*. <https://www.gpo.gov/fdsys/pkg/CPRT-112SPRT74931/pdf/CPRT-112SPRT74931.pdf>

¹⁴ Adam Looney and Constantine Yannelis (2015): "A crisis in student loans? How changes in the characteristics of borrowers and in the institutions they attended contributed to rising loan defaults." Brookings Papers on Economic Activity. http://www.brookings.edu/~media/projects/bpea/fall-2015_embargoed/conferencedraft_looneyyannelis_studentloandefaults.pdf

¹⁵ Meta Brown, Andrew Haughwout, Donghoon Lee, Joelle Scally and Wilbert van der Klaauw (2015): *The Student Loan Landscape*. Federal Reserve Bank of New York. http://libertystreeteconomics.newyorkfed.org/2015/02/the_student_loan-landscape.html#_VpAgk_krKUUm

¹⁶ The White House: Estimated Outstanding Balance and Number of Borrowers with Outstanding Direct Loan or FFEL Loan as of Jan. 2015, by State. https://www.whitehouse.gov/sites/default/files/docs/state_by_state_number_of_borrowers_and_outstanding_balance_final.pdf

¹⁷ The Institute for College Access and Success (2015): *Student Debt and the Class of 2014*.

with data on the distribution of educational attainment around the state, point to approximately \$14 billion of student loan balances owed by under-30 year old residents of the city in 2014.

EDUCATIONAL ATTAINMENT

Despite the muted reaction of school enrollments to the deterioration in the labor market, the millennial cohort is the most educated group of young workers in the city's history. Table 4 shows the educational attainment of New York City residents, ages 23 to 29, by place of birth.

Table 4: Educational Attainment of 23- to 29-Year Olds by Place of Birth, New York City, 2000 vs 2014						
	2000			2014		
Education & Place of Birth	Total NYC (Number)	With Degree (Number)	% With Degree (Percent)	NYC (Number)	With Degree (Number)	% With Degree (Percent)
No HS diploma:						
Total	918,131	170,298	18.6	1,063,262	111,909	10.5
Born in NYS	401,264	61,982	15.5	492,349	50,669	10.3
Born other US	138,895	12,057	8.7	199,695	4,987	2.5
Foreign born	377,972	96,259	25.5	371,218	562,533	15.2
HS diploma:						
Total	918,131	186,816	20.4	1,063,262	184,480	17.4
Born in NYS	401,264	85,784	21.4	492,349	95,008	19.3
Born other US	138,895	13,749	9.9	199,695	13,598	6.8
Foreign born	377,972	87,283	23.1	371,218	75,874	20.4
Some college:						
Total	918,131	229,589	25.0	1,063,262	264,954	24.9
Born in NYS	401,264	115,884	28.9	492,349	148,336	30.1
Born other US	138,895	22,729	16.4	199,695	21,445	10.7
Foreign born	377,972	90,976	24.1	371,218	95,173	25.6
BA or higher:						
Total	918,131	331,428	36.1	1,063,262	501,919	47.2
Born in NYS	401,264	137,614	34.3	492,349	198,336	40.3
Born other US	138,895	90,360	65.1	199,695	159,665	80.0
Foreign born	377,972	103,454	27.4	371,218	143,918	38.8

Source: New York City Comptroller's Office from Census microdata.

Educational attainment among the city's young people has risen dramatically regardless of where they were born. In 2014, 72 percent of the city's 23- to 29-year olds had at least some college education, compared to 61 percent in 2000. Over 50 percent of the city's 27- to 29-year olds had a bachelor's degree or more in 2014, compared to 39 percent in 2000. Among those born in New York State, the number without a high school diploma dropped from 62,000 in 2000 to 50,700 in 2014, while the number with a bachelor's degree or higher increased from 134,600 to 198,300.

The percentage of foreign-born young people with a 4-year college degree or more increased from 27 to percent to 39 percent during that time. Perhaps even more impressive is the city's ability to attract educated young people born elsewhere in the United States; by 2014, four-fifths of 23- to 29-year olds residing in the city but born outside of New York State had a bachelor's or higher degree.

VII. FAMILY FORMATION AND FERTILITY

Whether to form a household and have children are other important decisions affecting the labor force participation of young people. Traditionally, most new families were husband-wife couples who married in their twenties or even earlier and began having children well before the age of 30. Nearly all husbands participated in the labor force and many wives did not. With changing social norms, including later marriages and more divorces, less social stigma towards single parenting, more females in the workforce and more stay-at-home fathers, and a greater recognition of the civil rights of same-sex couples, the effect of marriage and fertility on labor force participation has become less direct but remains important.

One trend that has received particular attention in recent years is that of young people living with their parents later into life.¹⁸ Table 5 shows the living arrangements of people ages 18 to 29 in the United States and New York City for 2000, 2007 and 2014.

As the table shows, the proportion of young adults in the United States who maintain their own households, either as a single-person household or with a spouse, unmarried partner, roommates, or boarders has declined considerably since the beginning of the century, while the proportion living with their parents has grown by almost 10 percentage points. The increase in the proportion of young people still "living at home" preceded the recession and the trend was similar before and after the economy soured.

By 2014, four-fifths of 23- to 29-year olds residing in the city but born outside of New York State had a bachelor's or higher degree.

The proportion of young adults in New York City who live with their parents has long been higher than in the rest of the country. Surprisingly, however, that proportion decreased between 2007 and 2014. That occurred partially because the twentysomething group got relatively older in the city as more college graduates migrated here after their schooling was completed, and people in their mid- to late 20s are more likely to live on their own than those in their early twenties. In fact, migration itself generally implies an act of independence from one's parents.¹⁹

¹⁸ Adam Davidson (2014): "It's Official: The Boomerang Kids Won't Leave." *New York Times Magazine*, June 20, 2014. Richard A. Settersten (2014): "Everyone's freaking out about Millennials living at home. They shouldn't." *Washington Post*, July 22, 2014. Richard Fry (2015): *More Millennials Living With Family Despite Improved Job Market*. Pew Research Center. <http://www.pewsocialtrends.org/2015/07/29/more-millennials-living-with-family-despite-improved-job-market/>

¹⁹ But not in all cases. A graduating college student living away could, for example, migrate back to her parents' home upon graduation.

Table 5: Living Arrangements of 18- to 29-Year Olds, United States and New York City						
	2000		2007		2014	
	Number	%	Number	%	Number	%
US						
Own Household	25,881,851	56.9	24,901,294	50.8	23,881,107	45.4
With Parents	14,321,437	31.5	18,042,332	36.8	21,788,600	41.4
With Other Relatives	2,730,873	6.0	3,331,437	6.8	3,834,211	7.3
Group Quarters	2,556,519	5.6	2,780,340	5.7	3,131,818	5.9
Total	45,490,680	100.0	49,055,403	100.0	52,635,736	100.0
NYC						
Own Household	680,613	46.6	540,136	39.0	662,608	41.4
With Parents	586,932	40.2	641,929	46.3	721,397	45.1
With Other Relatives	144,293	9.9	155,493	11.2	155,188	9.7
Group Quarters	49,131	3.4	48,937	3.5	60,137	3.8
Total	1,460,969	100.0	1,386,495	100.0	1,599,330	100.0

Source: New York City Comptroller's Office from Census microdata.

However, the divergent trend after 2007 is also apparent for people of specific ages, indicating that it is not an artifact of the city's demographic. For example, in 2007, 81.1 percent of 29-year olds nationally lived in their own households (not in the home of their parents or another relative, or in a college dormitory), but that proportion plunged to 74.7 percent by 2014. In New York City, the trend was the opposite, with more 29-year olds living in their own households than did in 2007. Although 29-year olds in New York City are still more likely to live in their parents' home than are 29-year olds in the rest of the country, the gap has closed considerably during the past decade.

The increase in the percentage of New York City's young people living independently is especially impressive considering that the housing costs they face are higher than elsewhere, and are rising faster. In 2007, the median rent paid by a renter under 30 years old in New York City was \$1,012, compared to \$627 in the rest of the country. By 2014, the median rent paid by young renters in New York City has risen 38 percent to \$1,400 per month, compared to the 18 percent increase, to \$740, among under-30 renters in the rest of the county. One way young people in the city have been adjusting for the higher housing costs is by sharing housing to a greater extent. The number of the city's 18- to 29-year olds who shared a housing unit with an unrelated individual who is not their partner increased from an estimated 143,000 in 2007 to an estimated 211,000 in 2014, or from 10.3 percent of all young people in the city to 13.1 percent.

Trends in family formation parallel the trends in young people living independently. Nationwide, the percentage of young people, ages 18 to 29, living in their own household with a spouse or unmarried partner dropped from 32.6 percent in 2007 to 24.6 in 2014, a rather remarkable decrease in just seven years. The drop in New York City, in which singles have always had a large representation, was less precipitous, with the proportion of young people living with a spouse or unmarried partner dropped from 20.7 percent to 17.5 percent. Interestingly, the percentage of 29-

year olds living with a spouse or partner increased in the city between 2007 and 2014, but decreased in the rest of the country.

Also potentially affecting the work decisions and opportunities of young people is child-rearing. Women, and increasingly men, may choose to devote themselves to raising children rather than to paid work, or their work opportunities may be constrained by that responsibility. Consequently, the labor force participation rate and the unemployment rate of young people may be affected by birth rates and how the children are cared for. However, job market conditions can also, in turn, affect the decision to have children; strong labor markets provide the financial means and confidence for people to contemplate having children, but may also increase the financial sacrifice associated with doing so.

Birth rates in the United States have long been declining, with the rate for women 15 to 44 years old in 1970 only about one-third of what it was in 1800.²⁰ In recent decades birth rates have continued to decline among women of every age group, but the decrease accelerated after 2007. Between 2007 and 2014 the overall birth rate declined from 14.3 per 1,000 women to 12.5 per 1,000 women, about the same decrease that had occurred over the 16 years prior to 2007. The birth rate among women under 30 years old fell particularly fast, although it was partially offset by higher rates among women ages 30 and over. The birth rate among teenagers fell a remarkable 42 percent between 2007 and 2014.

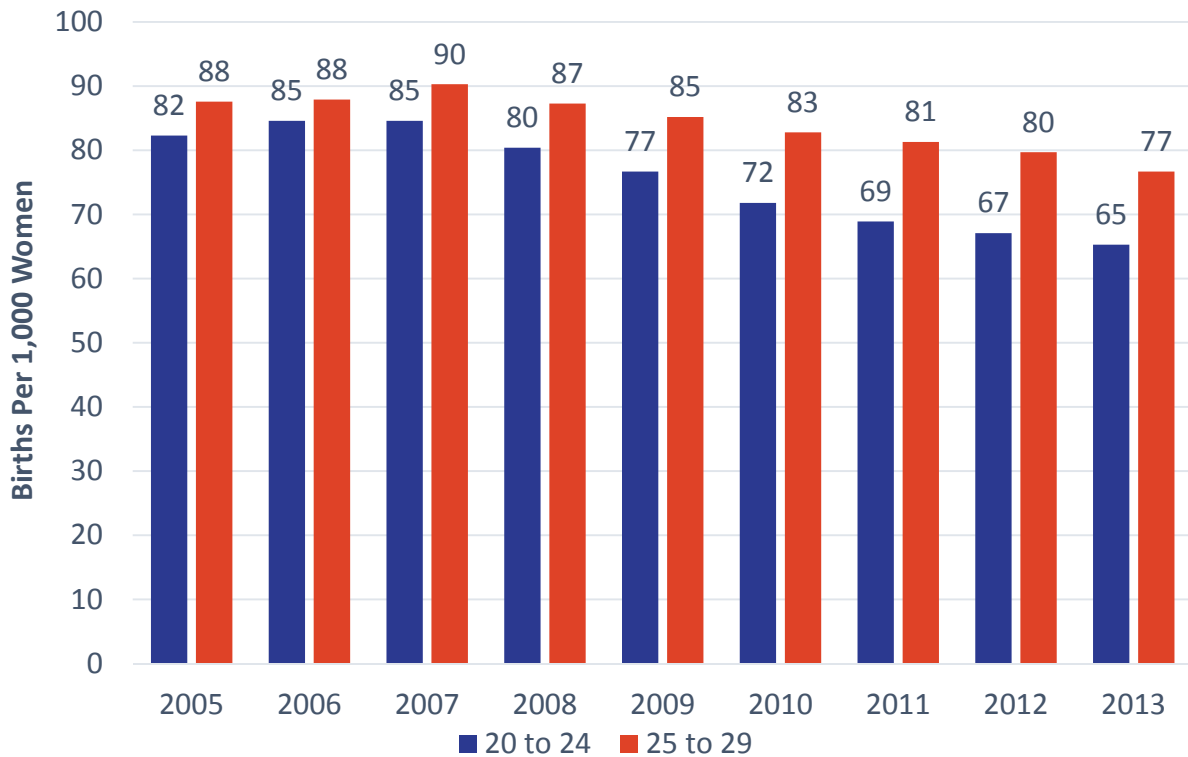
Birth rates in New York City have also fallen rapidly since the last recession. Chart 8 shows the number of births per 1,000 women in the city, for ages 20 to 24 and for 25 to 29.

Since the most recent peak in birth rates in 2007, the rate among New York City women ages 25 to 29 declined by 15 percent, to 76.7 per 1,000 women (in 2013, the last year for which data are available). The birth rate among women ages 20 to 24 dropped even more—by 23 percent. In fact, as happened in the country overall, the younger the women, the more the birth rate dropped. For women 18 and 19 years old in New York City, the birth rate dropped by 31 percent from 2007 to 2013, and for girls 15 to 17 years old, it dropped 42 percent.

The decline in the birth rate after 2007 resulted in a decline in the percentage of the city's young women who have children, from 18 percent in 2007 to 15 percent in 2014. Since the rate of labor force participation among women without children is about 9 percentage points higher than that of women with children at home, the decline in birth rates also contributed to an overall increase in the labor force participation rate of the city's young women of nearly 5 percentage points. However, the rate of labor force participation increased among both young women with children and those without.

²⁰ U.S. Census Bureau, Historical Statistics of the United States, Colonial Times to 1970.
http://www.census.gov/library/publications/1975/compendia/hist_stats_colonial-1970.html

Chart 8: Birth Rates in New York City, 2005-2013



Source: New York City Comptroller's Office from New York City Department of Health and Mental Hygiene data.

While about 123,000 women older than 17 and under 30 in New York City report that they live with children of their own, only 48,000 similarly-aged men in the city do. Some of that discrepancy is because the average age of New York City fathers at first birth is about two years older than mothers, but it also reflects the reality that many young fathers are not living with their children. Since the presence of a father in a family with children is an important predictor of the poverty status of that family, that is a matter of concern.

In both 2007 and 2014, slightly more than half of the young mothers in the city were married. It can be inferred from the household data that another 10 percent of young women with children are residing with the child's or children's father; the data suggest that the number of two-parent, unwed households has increased slightly. About 26 percent of the city's young mothers lived in the homes of their parents or grandparents in 2014, a slight increase from 2007.

VIII. MILITARY

When evaluating the economic experiences of young people, military service needs to be taken into account. Historically, military service has been seen as an alternative to civilian employment, especially in times when labor markets are slack and civilian work opportunities unappealing. Consequently, varying rates of enlistment by region tend to distort labor market indicators for young people, as areas with high enlistments may appear to provide more abundant civilian job opportunities than they actually do.

As of 2015, the base pay for a new enlistee in the U.S. armed forces was \$1,430 per month, escalating to about \$1,546, or \$18,650 per year, after four months. While those wages are far from generous, they were well above the annual income provided by the federal or New York State minimum wage in 2015 and more than the \$11,528 in wages the average 19-year old high school graduate earned in 2014. With a typical path of promotions, the enlistee could earn a base pay of between \$37,000 and \$40,000 annually (in 2015 dollars) after 10 years. In addition, active duty personnel receive a variety of other benefits and those who retire with 10 or more years of service are eligible for retirement pensions at age 62.²¹

The military's annual recruitment goals are determined by the Department of Defense's determination of its needs and Congress' willingness to fund it, the service's retention rates of existing personnel, and casualty rates during wartime. Since the end of the Cold War, the number of active-duty enlisted service members has declined from about 1.8 million to 1.1 million. New enlisted accessions to the Army, Marine Corps, Navy and Air Force averaged about 300,000 per year during the 1980's but have gradually fallen to a low of 138,902 in 2014, as the size of U.S. forces fell to the lowest level since before World War II.²²

It is not guaranteed that young people who seek to enlist in the armed forces will be accepted. The number of accepted enlistees from the pool of applicants has ranged from 38 percent in 1981 to 68 percent in 2013, with the average around 50 percent. However, those percentages can be deceptive—recruiting officers will often not submit formal applications if the applicant is not qualified due to lack of a high school diploma, is unlikely to pass a physical examination, is not a citizen or Permanent Resident Alien, has a history of drug use, fails to pass a criminal background check, has too many dependents, and miscellaneous other factors. Consequently, the enlistment acceptance rate usually goes up when the economy is weak and the recruiting environment is favorable.

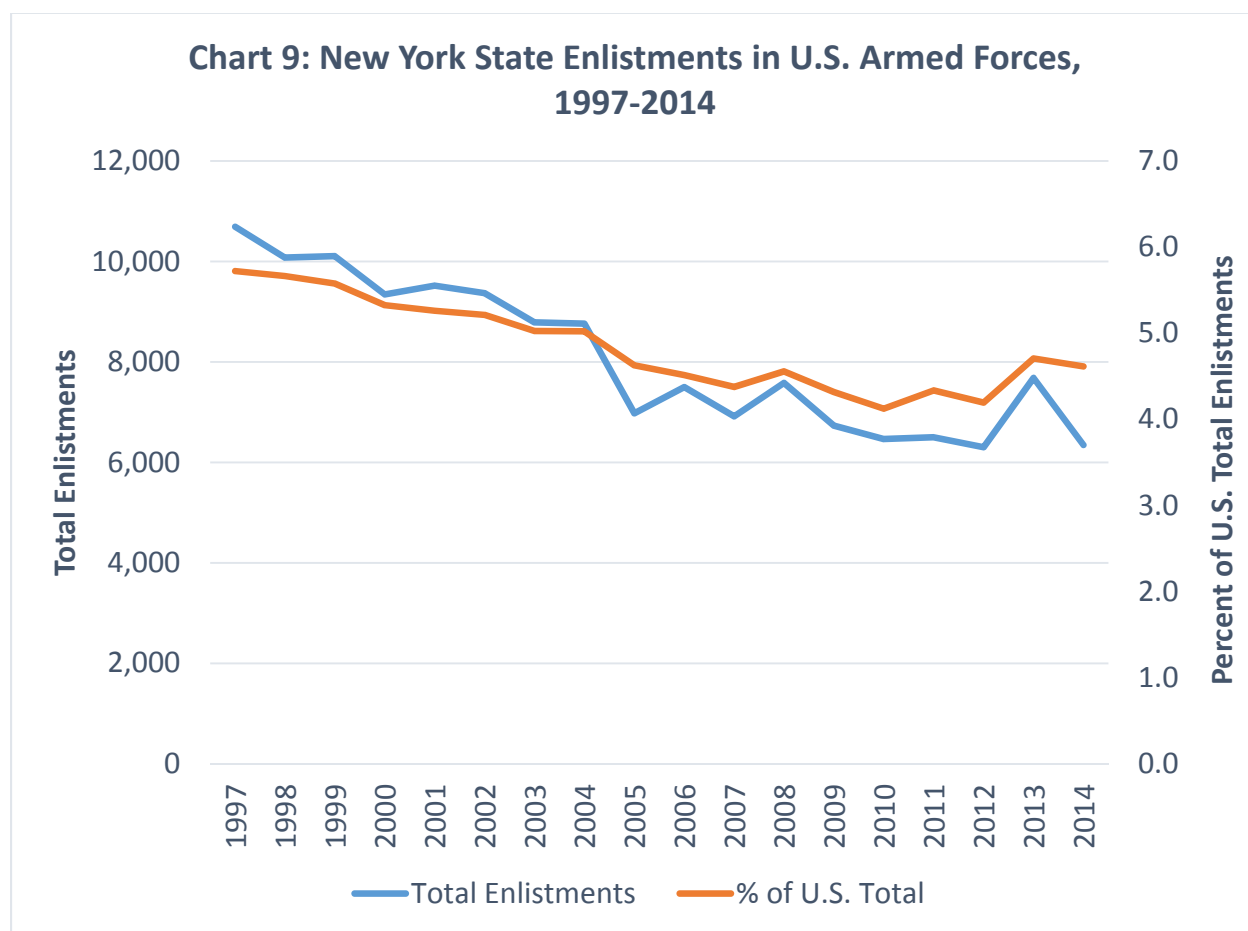
Chart 9 shows total enlistments in the U.S. Armed Forces from New York State, and the percentage of the national total originating in the state. The long-term trend is New York State providing fewer enlistments to the armed forces, both in aggregate numbers and as a percent of the national total. A small increase in total enlistments can be seen after 9/11, and a large decrease

²¹ *Military Pay Charts- 1949 to 2016*. Defense Finance and Accounting Service. <http://www.dfas.mil/militarymembers/payentitlements/military-pay-charts.html>

²² *Population Representation in the Military Services*, FY2014 and earlier years, Office of the Undersecretary of Defense, Personnel and Readiness. <https://www.cna.org/pop-rep/2014/index.html>

after the commencement of the war in Iraq, but there seems to have been little effect from the recession.

Although the Department of Defense does not release data on the origins of enlistments below the state level, from state data combined with ACS data the Comptroller's Office estimates that about 15,000 young New York City residents enlisted in the armed forces from 2005 to 2014. The enlistment number implies a rate of enlistment less than half the national average, suggesting that the city's civilian labor market has provided more opportunities than the raw comparisons show, resulting in fewer enlistments.



IX. CRIME AND INCARCERATION

Incarceration can also distort data on labor market performance. In 2014, there were an estimated 2.2 million adult Americans incarcerated in prisons and jails and another 4.7 million living under community supervision by correctional authorities.²³ For subpopulations, the rate of involvement with the criminal justice system is even higher: Bruce Western and Becky Pettit estimated that in

²³ Danielle Kaeble, Lauren Glaze, Anastasios Tsoutis and Todd Minton (2016): *Correctional Populations in the United States, 2014*. U.S. Department of Justice.

2008 over 12 percent of white male high school dropouts ages 20 to 34 were incarcerated and, among African American males of the same ages who lacked a high school diploma, the incarceration rate was 37 percent.²⁴ If all American men between the ages of 18 and 64 who were incarcerated were counted as unemployed, the national male unemployment rate in 2014 would have been 8.2 percent, as opposed to the 5.8 percent officially reported.²⁵

Social science evidence indicates that local economic conditions affect crime and incarceration rates, which in turn affect labor market outcomes. A new generation of economic and criminological research has established a strong link between unemployment and low wages and property crime rates,²⁶ while other research finds that a prison record or felony conviction greatly lowers ex-offenders' prospects in the labor market.²⁷

About 43 percent of all arrests in the United States, and about the same percentage of arrests for the seven major felony crimes, are of people 18 to 29 years old. It is reasonable to assume that the proportion of crimes committed by people in that age bracket is similar. Consequently, the rapid decrease of major crimes recorded in New York City during this century indicates that young people are also significantly reducing their involvement in criminal activity.

Crime rates in New York City have been falling for more than two decades. The number of reported violent crimes fell about 36 percent from 2000 to 2015, from about 61,000 to 39,000. The number of non-violent felonies fell about 39 percent over that same period. Overall misdemeanors fell 20 percent from 2000 to 2014, with the most common misdemeanor offense, possession or sale of dangerous drugs, falling much more rapidly than the other two most common offenses, assault and petit larceny, especially after 2011.²⁸

Over the past 10 years, the number of arrests has generally tracked the trend in serious crime rates, although there is significant year-to-year variation. In 2006, there were 97,000 felony arrests and 206,000 misdemeanor arrests in the city, which declined to 88,000 and 193,000, respectively, in 2015. Chart 10 shows the trend in violent felony, drug, and all other arrests since 2006.

From 2007 to 2015, drug arrests (both felony and misdemeanor) fell by almost half; arrests for violent felony offenses and for all other crimes declined less or even increased. The decline in drug arrests has been particularly steep since 2011.

With the long-term decline in crime and arrests, there has been also a decline, albeit slower, in the size of the jail and prison populations. The average daily population in the New York City

²⁴ Bruce Western and Becky Pettit (2010): "Incarceration and social inequality." *Daedalus, Journal of the American Academy of Arts and Sciences*, Summer 2010.

²⁵ NYC Comptroller estimates based on BLS and Department of Justice figures.

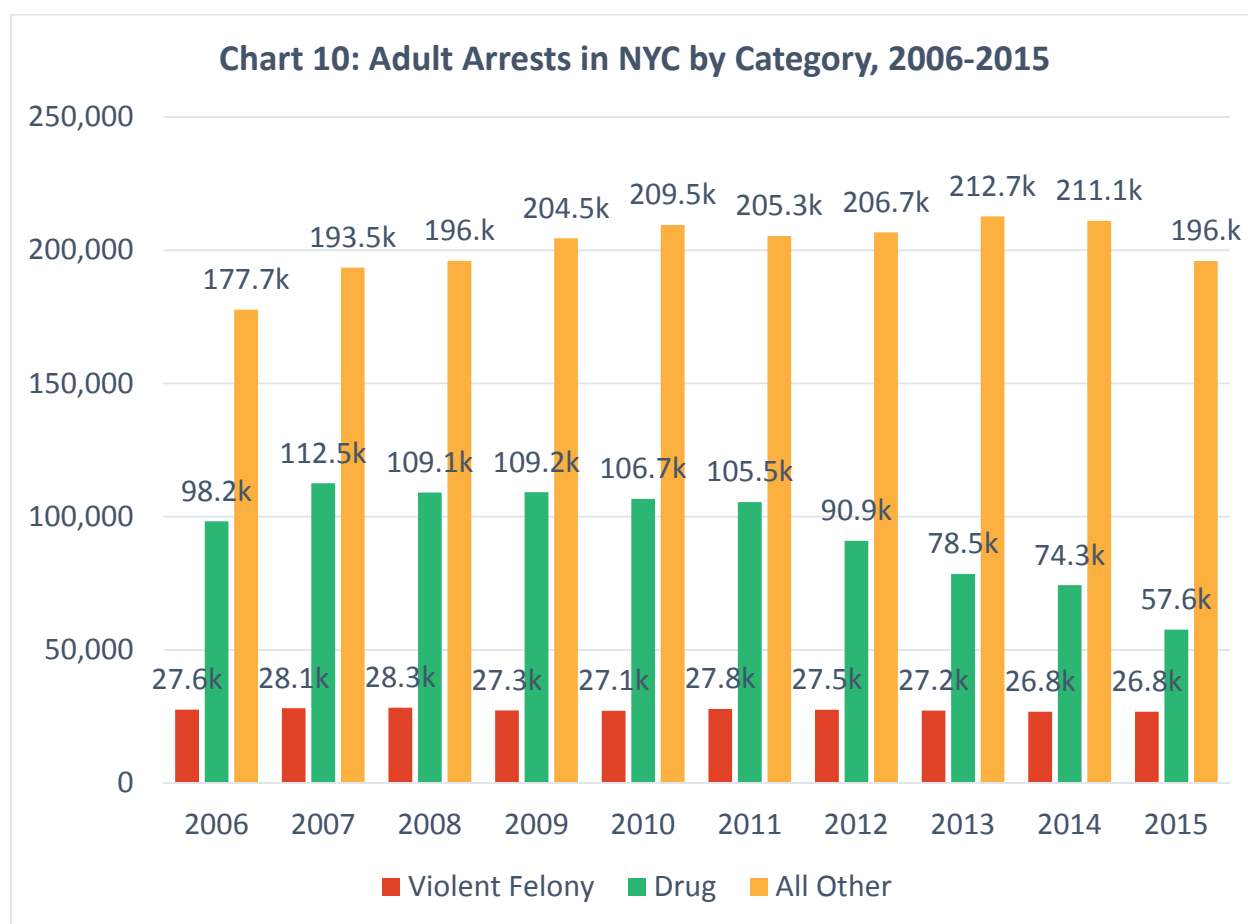
²⁶ Steven Raphael and Rudolph Winter-Ebmer (2001): "Identifying the Effect of Unemployment on Crime," *Journal of Law and Economics*, vol. XLIV (April 2001). Eric D. Gould, Bruce A. Weinberg and David B. Mustard (2002): "Crime Rates and Local Labor Market Opportunities in the United States: 1979-1997." *The Review of Economics and Statistics*, Vol. 84, No. 1 (February 2002).

²⁷ John Schmitt and Kris Warner (2010): *Ex-offenders and the Labor Market*. Center for Economic and Policy Research.

²⁸ New York City Police Department, *Historical New York City Crime Data*.
http://www.nyc.gov/html/nypd/html/analysis_and_planning/historical_nyc_crime_data.shtml

correctional system has dropped from 13,576 in fiscal 2005 to 10,240 in fiscal 2015,²⁹ while the population of the New York State prison system declined from 62,732 at the end of 2005 to 51,744 at the end of 2015.

The NYC Department of Corrections does not release demographic data on admittances to its jails or on its inmate population, but it can be assumed that the majority of its 67,672 admittances in 2015 were residents of the city. The New York State Department of Corrections and Community Supervision (DOCCS), in contrast, publishes an annual profile of its inmate population under custody, and makes other data available through its data.ny.gov portal. From those sources the Comptroller's Office estimates that about 6,350 New York City residents³⁰ ages 18 to 29 were inmates in New York State correctional facilities at year-end 2015, of which 97 percent were males. If the demographics of inmates in New York City correctional facilities are roughly similar to those in State facilities, it can be estimated that about 10,000 young adult males were incarcerated in State or City prisons and jails at any given time in 2015. That represents a decline in the incarceration rate of young New York City males to about 1.3 percent, compared to 2.1 percent in 2008.



Source: New York City Comptroller's Office from New York State Division of Criminal Justice Services data.

²⁹ New York City Mayor's Office of Operations, *Mayor's Management Report*, fiscal years 2006 through 2015.

³⁰ It is assumed that inmates were residents of the county in which they were indicted.

X. CONCLUSION

Regardless of whether the President and Congress cooperate on a macroeconomic plan or become bogged down in ideological discord, macroeconomic policy gets set. Since 2010 those two branches of national government have agreed on little, with the result that macroeconomic policy since the Great Recession has blended an emphasis on deficit containment and fiscal constraint with monetary ease. The product has been a steady but painfully slow recovery from the financial crisis and Great Recession. Whether history vindicates that policy combination or judges it short-sighted and foolish only time will tell, but this report documents how it was imposed at great cost to the generation entering adulthood in the early years of the 21st Century.

The national unemployment rate for the under 30-year old workforce soared from a pre-recession level of under 8 percent to a high of 15 percent at the end of 2010. It took five more years for the unemployment rate among young people to again dip below 8 percent, marking a period of eight consecutive years of elevated unemployment rates. During those eight years, close to 40 million young people entered the workforce.

In New York City economic conditions for young people were marginally better, with more rapid job growth helping to absorb an even more rapid expansion of the youth population. Nevertheless, the local unemployment rate among young workers has generally been higher than the national rate and on some measures, such as the number of young people who are disengaged from both work and school, the city fares poorly.

An optimistic view would hold that the adverse effects of eight years of elevated unemployment on the millennial generation will gradually dissipate over the coming decade or two, as young people who had difficulty establishing their careers during the Great Recession and its aftermath are able to make up for the lost time. Unfortunately, our analysis suggests that the economic injuries were not limited to unemployment and are not likely to disappear readily. In particular, many of the jobs available to young people in the city during the past decade paid less and offered fewer opportunities for career advancement than those available to earlier cohorts of young people. As a consequence, in coming years millennial workers may struggle to transition into more promising careers after spending their formative years in jobs that offered few opportunities for long-term career development.

While national economic policy has been relatively insensitive to their challenges, millennials in the city have adjusted to the adverse conditions, and in many aspects of their lives they have done so in sensible and even admirable ways. Despite a less appealing mix of job openings they have increased their rate of labor force participation, have obtained more education, have delayed household formations, reduced early childbearing, and become less involved in criminal activities.

There are many ways in which national policies could help to offset some of the disadvantages inflicted on the millennial cohort by the national economic disaster of the Great Recession and by the adverse structural changes that have become apparent since. However, with a national policy consensus looking ever less likely, state and city policies that can help ameliorate some of the millennials' most difficulties also need to be explored. Young people would benefit disproportionately, for example, from policies aimed at raising minimum wages and paying workers fairly for overtime hours, from policies aimed at keeping public universities affordable and reducing the burdens of student debt, from programs aimed at creating more affordable

housing and encouraging new housing models, from more effective workforce training programs and more summer employment opportunities, and from new approaches to criminal justice and rehabilitation.

While helping millennials overcome some of the unique challenges they face can be seen as a justified payback to a group that bore the brunt of a modern economic disaster, there may be an even more compelling reason for policy innovation. That is, the economic challenges they face may not turn out to be unique at all, just the first wrenching readjustment to a world in which a young person's path to career opportunity and financial security becomes more and more constricted.

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