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Recent trends in employment and wages in New York City's finance and insurance sector

The finance and insurance sector has traditionally been considered as one of the most important sectors in New York City's economy. While employment in the sector remains below pre-9/11 levels, it has gradually recovered since 2010. The sector continues to play an important role in the city's economy, particularly in terms of wages and its contributions to output and tax revenues. However, wages in the sector remain disproportionately concentrated at the top of the earnings distribution, resulting in above-average wage differentials and higher levels of labor income inequality.

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According to the U.S. Bureau of Labor Statistics (BLS), "the financial and insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions."[1] The three principal activities performed by firms in the finance and insurance sector include (1) providing financial intermediation (i.e., raising financial capital by issuing securities, making loans, purchasing financial assets, and transferring or repackaging securities, etc.), (2) pooling risk by underwriting insurance and annuities, and (3) offering specialized services to facilitate financial intermediation, insurance services, and employee benefit programs.[2]

The finance and insurance sector (North American Industry Classification System [NAICS] 52) includes the following subsectors: (1) monetary authorities—central bank (NAICS 521), (2) credit intermediation and related activities (NAICS 522), (3) securities, commodity contracts, and other financial investments and related activities (NAICS 523), (4) insurance carriers and related activities (NAICS 524), and (5) funds, trusts, and other financial vehicles (NAICS 525).[3]

The finance and insurance sector is an important source of employment at the national level. In 2016, it employed a total of 6,161,000 full-time and part-time workers in the United States, representing 4.1 percent of the country's total full-time and part-time workers and 4.9 percent of all U.S. private sector workers. (See table 1.)

Table 1. Full-time and part-time employment in U.S. finance and insurance sector, 2016 (in thousands)

Industry	Level
Total full-time and part-time employment	148,658
Domestic industries	150,263
Private industries	125,682
Finance and insurance (NAICS 52)	6,161
Federal Reserve banks, credit intermediation, and related activities (NAICS 521 and 522)	2,629
Securities, commodity contracts, and other financial investments and related activities (NAICS 523)	922
Insurance carriers and related activities (NAICS 524)	2,599
Funds, trusts, and other financial vehicles (NAICS 525)	10

Note: NAICS = North American Industry Classification System.

Source: U.S. Bureau of Economic Analysis.

The subsectors accounting for the largest shares of total U.S. finance and insurance sector employment in 2016 were (1) Federal Reserve banks, credit intermediation, and related activities (2,629,000 employees, or 42.7 percent), (2) insurance carriers and related activities (2,599,000 employees, or 42.2 percent), (3) securities, commodity contracts, and other financial investments and related activities (922,000 employees, or 15 percent), and (4) funds, trusts, and other financial vehicles (10,000 employees, or 0.2 percent).

The finance and insurance sector has a large value-added contribution to gross domestic product (GDP).[4] In 2016, this contribution reached 7.5 percent, 1.5 times greater than the 4.9 percent reached in 1980.[5] Although the sector's value-added contribution to GDP averaged 7.2 percent during 2000–16, it increased 46.6 percent over the same period, from $817.5 billion to $1.4 trillion.[6]

This article analyzes the evolution of employment and wages in New York City's finance and insurance sector since 2000. The remainder of the article is organized as follows. The next section briefly discusses the importance of the finance and insurance sector in New York City's economy. The section that follows examines employment trends in the city's finance and insurance sector during the 2000–17 period, with an emphasis on the impacts of the September 11, 2001, terrorist attacks and the 2008 financial crisis. The section after that analyzes the evolution of wages in the sector during 2000–16. The next section compares wages across selected finance and insurance occupations and examines wage differentials within those occupations. The section also briefly discusses the principal causes of labor income inequality in New York City's finance and insurance sector. The final section concludes.

The importance of the finance and insurance sector in New York City's economy

Although the finance and insurance sector was severely affected by the 9/11 terrorist attacks and the 2008 financial crisis, it continues to play an important role in New York City's economy.[7] Accounting for approximately 8 percent of the city's nonfarm employment, the sector generates about 20 percent of its gross city product—a contribution twice that of the real estate (10 percent), information technology (10 percent), and government (9 percent) sectors and 5 times that of the education sector (2 percent).[8]

The finance and insurance sector makes valuable contributions to New York City's economy through its relatively high employment multiplier effect. Most subsectors within finance and insurance have a multiplier effect ranging from 2.0 to 4.0, and an estimated 700,000 nonfinancial jobs depend on this sector.[9] Finance and insurance generates more than 60 percent of New York City's total private sector wages and is a major contributor to the city's tax base.[10] In 2015, the sector contributed $2.5 billion in personal income taxes, accounting for 25 percent of the total personal and income taxes collected by the city in that year.[11] Similarly, the sector contributed an estimated $3 billion in business taxes in 2015, representing close to 50 percent of the city's tax revenues in this category.[12]

Employment in New York City's finance and insurance sector since 2000

In this section, we use Current Employment Statistics (CES) survey data, by industry, to examine the evolution of employment in New York City's finance and insurance sector during the 2000–17 period.[13] The CES data, compiled by the New York State Department of Labor in collaboration with BLS, provide monthly employment, hours of work, and earnings information based on a sample of approximately 18,000 New York State employers.[14] The CES employment figures capture employed full-time and part-time workers in nonagricultural establishments during the payroll period that includes the 12th of the month.[15] The CES survey excludes self-employed workers, unpaid family members, and private household employees.[16] It provides employment estimates for a given county or metropolitan area, regardless of the place of residence of the workers included in the survey.[17] Since the CES monthly job estimates for areas below the state level (i.e., counties and metropolitan areas) are not seasonally adjusted—and monthly variations in employment, hours worked, and earnings reflect economic cycles—using average annual data over longer periods provides a more accurate indicator of employment trends.[18]

As table 2 shows, between 2000 and 2017, total nonfarm employment in New York City increased 18.3 percent, from 3,732,300 to 4,413,900. By contrast, over the same period, employment in the city's finance and insurance sector declined 8.4 percent, from 369,700 to 338,600. In 2000, the sector employed 9.9 percent of New York City's total nonfarm workers, 11.3 percent of its private sector workers, 13 percent of its private service-providing workers, and 75.7 percent of all workers engaged in the financial activities supersector. By 2017, the finance and insurance sector's share of the city's total nonfarm employment had declined to 7.9 percent, and the sector employed 9.9 percent of all private sector workers and 10.6 percent of private service-providing workers. However, the sector's share of employment in financial activities rose to 79.4 percent in 2017, compared with 75.7 percent in 2000.

Table 2. Employment in New York City's finance and insurance sector, by selected industry, 2000–17 (in thousands)

Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total nonfarm	3,732.3	3,704.5	3,596.8	3,546.9	3,565.5	3,618.8	3,683.5	3,761.2	3,811.8	3,711.7	3,730.5	3,818.1	3,904.6	3,998.9	4,130.1	4,255.1	4,341.2	4,413.9
Total private	3,163.4	3,142.1	3,030.6	2,990.3	3,011.1	3,063.2	3,128.3	3,202.2	3,247.7	3,144.7	3,172.5	3,267.5	3,358.5	3,454.5	3,584.7	3,705.2	3,788.8	3,860.2
Service providing	3,435.0	3,426.9	3,341.6	3,307.7	3,332.8	3,391.6	3,459.0	3,532.9	3,583.5	3,509.3	3,541.7	3,630.2	3,712.2	3,800.3	3,924.3	4,038.0	4,118.7	4,187.5
Private service providing	2,866.1	2,864.5	2,775.4	2,751.1	2,778.5	2,836.0	2,903.8	2,973.9	3,019.4	2,942.3	2,983.6	3,079.6	3,166.0	3,255.9	3,378.9	3,488.1	3,566.3	3,633.8
Financial activities	488.6	473.4	444.9	433.4	435.0	444.4	457.8	467.2	464.6	433.9	428.3	439.1	438.8	437.5	449.2	459.3	465.8	472.5
Finance and insurance	369.7	356.5	330.7	318.6	319.0	326.4	338.8	346.6	342.9	315.7	311.0	321.4	320.1	316.9	325.2	332.1	336.5	338.6
Credit intermediation and related activities	105.1	100.8	94.9	92.2	91.1	94.2	97.9	97.7	94.6	88.5	87.6	90.9	92.7	92.6	96.3	98.4	99.0	99.2
Depository credit intermediation	64.4	63.9	61.4	57.7	56.5	58.6	60.5	60.8	58.9	55.7	56.6	59.8	59.9	57.8	61.1	62.3	61.9	62.3
Commercial banking	—	—	—	46.4	44.7	46.9	48.8	49.2	47.4	44.6	45.9	49.1	49.5	48.4	52.1	54.2	54.1	54.2
Nondepository credit intermediation	31.4	28.4	26.1	25.1	24.5	23.9	24.8	24.0	23.2	21.0	19.9	20.3	21.7	23.5	23.5	24.0	24.7	24.0
Securities, commodity contracts, and other financial investments and related activities	201.1	193.7	175.2	165.9	168.5	172.8	181.5	188.9	188.4	169.6	166.3	172.2	169.3	165.9	168.7	173.2	177.0	179.2

See footnotes at end of table.

Table 2. Employment in New York City's finance and insurance sector, by selected industry, 2000–17 (in thousands)

Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Securities and commodity contracts intermediation and brokerage	148.6	141.0	123.1	115.3	117.0	121.5	127.3	130.9	126.3	109.8	106.8	109.7	106.0	102.1	100.9	102.2	102.9	102.7
Investment banking and securities dealing	—	—	—	38.0	39.9	43.0	47.5	50.8	49.2	42.8	42.5	43.1	42.2	41.6	42.9	44.5	44.4	44.5
Securities brokerage	—	—	—	73.3	73.1	74.4	75.8	76.5	73.9	63.8	60.9	62.9	60.5	57.4	55.4	55.4	56.4	55.0
Insurance carriers and related activities	63.6	62.0	60.6	60.4	59.4	59.4	59.4	60.0	60.0	57.6	57.1	58.3	58.1	58.4	60.2	60.5	60.6	60.2
Insurance carriers	36.3	35.9	34.9	33.6	33.4	33.6	33.8	33.9	33.5	32.1	32.2	34.0	34.1	34.1	35.2	34.7	34.6	34.3
Agencies, brokerages, and other insurance-related activities	27.3	26.1	25.7	26.8	26.0	25.7	25.6	26.1	26.5	25.5	24.9	24.3	24.0	24.3	25.0	25.8	26.0	25.9

Source: New York State Department of Labor.

While employment declined in most subsectors of New York City's finance and insurance sector during the 2000–17 period, the largest job losses occurred in the securities and commodities trading subsectors, which lost a total of 67,800 jobs. Of these, 21,900 jobs were lost in securities, commodity contracts, and other financial investments and related activities, and 45,900 jobs were lost in securities and commodity contracts intermediation and brokerage, representing decreases of 10.9 percent and 30.9 percent, respectively. These declines, shown in table 2, reflect recent trends in the industry and the impact of increased global competition and other economic forces.

Other subsectors of New York City's finance and insurance sector that have suffered notable job losses since 2000 include credit intermediation and related activities (−5,900 jobs, or −5.6 percent), depository credit intermediation (−2,100 jobs, or −3.3 percent), nondepository credit intermediation (−7,400 jobs, or −23.6 percent), insurance carriers and related activities (−3,400 jobs, or −5.3 percent), insurance carriers (−2,000 jobs, or −5.5 percent), and agencies, brokerages, and other insurance-related activities (−1,400 jobs, or −5.1 percent). (See table 2.)

In addition to their devastating human impact, the terrorist attacks of September 11, 2001, negatively affected New York City's economy, particularly its finance and insurance sector.[19] The loss of the World Trade Center (WTC) complex dislocated more than 50,000 financial sector workers, most of whom were relocated to Midtown Manhattan and northern New Jersey.[20] Of the jobs that were relocated from Downtown Manhattan after 9/11, an estimated 62 percent went to Midtown Manhattan and 25 percent to northern New Jersey.[21]

An estimated 13.4 million square feet of class-A office space were completely lost with the destruction of the WTC complex, and an additional 14.3 million square feet of class-A office space were partially damaged in nearby buildings (8.4 million of these were in the partially destroyed World Financial Center complex).[22] The 9/11 terrorist attacks also affected the office vacancy rates in Downtown Manhattan, where New York City's finance and insurance sector had been historically clustered. In the second quarter of 2001, the office vacancy rate in Downtown Manhattan was 7.6 percent, but after 9/11 it increased to 12 percent, as the exodus of financial services firms intensified.[23]

Between 2001 and 2002, employment in New York City's finance and insurance sector declined 7.2 percent, from 356,500 to 330,700, a loss of 25,800 jobs. (See table 3.) Over the same period, the securities industry sustained the greatest job losses, shedding a total of 36,400 jobs. Of these, 18,500 jobs (50.8 percent) were lost in securities, commodity contracts, and other financial investments and related activities, and 17,900 jobs (49.2 percent) were lost in securities and commodity contracts intermediation and brokerage.

Table 3. Employment in New York City's finance and insurance sector, by selected industry, 2001–02 (in thousands)

Industry	2001	2002	Change, 2001–02	Percent change, 2001–02
Total nonfarm	3,704.5	3,596.8	-107.7	-2.9
Total private	3,142.1	3,030.6	-111.5	-3.5
Service providing	3,426.9	3,341.6	-85.3	-2.5
Private service providing	2,864.5	2,775.4	-89.1	-3.1
Financial activities	473.4	444.9	-28.5	-6.0
Finance and insurance	356.5	330.7	-25.8	-7.2
Credit intermediation and related activities	100.8	94.9	-5.9	-5.9
Depository credit intermediation	63.9	61.4	-2.5	-3.9

See footnotes at end of table.

Table 3. Employment in New York City's finance and insurance sector, by selected industry, 2001–02 (in thousands)

Industry	2001	2002	Change, 2001–02	Percent change, 2001–02
Commercial banking	—	—	—	—
Nondepository credit intermediation	28.4	26.1	-2.3	-8.1
Securities, commodity contracts, and other financial investments and related activities	193.7	175.2	-18.5	-9.6
Securities and commodity contracts intermediation and brokerage	141.0	123.1	-17.9	-12.7
Investment banking and securities dealing	—	—	—	—
Securities brokerage	—	—	—	—
Insurance carriers and related activities	62.0	60.6	-1.4	-2.3
Insurance carriers	35.9	34.9	-1.0	-2.8
Agencies, brokerages, and other insurance-related activities	26.1	25.7	-0.4	-1.5

Source: New York State Department of Labor and authors' calculations.

Employment in New York City's finance and insurance sector started to recover gradually after 2003. This recovery lasted until the 2008 financial crisis. Between 2003 and 2008, employment in the sector grew by 24,300, from 318,600 to 342,900, an increase of 7.6 percent. Over the same period, employment increased in all of the city's finance and insurance subsectors, except nondepository credit intermediation (−1,900 jobs), insurance carriers and related activities (−400 jobs), insurance carriers (−100 jobs), and agencies, brokerages, and other insurance-related activities (−300 jobs). (See table 4.)

Table 4. Employment in New York City's finance and insurance sector, by selected industry, 2003–08 (in thousands)

Industry	2003	2004	2005	2006	2007	2008	Change, 2003–08	Percent change, 2003–08
Total nonfarm	3,546.9	3,565.5	3,618.8	3,683.5	3,761.2	3,811.8	264.9	7.5
Total private	2,990.3	3,011.1	3,063.2	3,128.3	3,202.2	3,247.7	257.4	8.6
Service providing	3,307.7	3,332.8	3,391.6	3,459.0	3,532.9	3,583.5	275.8	8.3
Private service providing	2,751.1	2,778.5	2,836.0	2,903.8	2,973.9	3,019.4	268.3	9.8
Financial activities	433.4	435.0	444.4	457.8	467.2	464.6	31.2	7.2
Finance and insurance	318.6	319.0	326.4	338.8	346.6	342.9	24.3	7.6
Credit intermediation and related activities	92.2	91.1	94.2	97.9	97.7	94.6	2.4	2.6
Depository credit intermediation	57.7	56.5	58.6	60.5	60.8	58.9	1.2	2.1
Commercial banking	46.4	44.7	46.9	48.8	49.2	47.4	1.0	2.2
Nondepository credit intermediation	25.1	24.5	23.9	24.8	24.0	23.2	-1.9	-7.6
Securities, commodity contracts, and other financial investments and related activities	165.9	168.5	172.8	181.5	188.9	188.4	22.5	13.6

See footnotes at end of table.

Table 4. Employment in New York City's finance and insurance sector, by selected industry, 2003–08 (in thousands)

Industry	2003	2004	2005	2006	2007	2008	Change, 2003–08	Percent change, 2003–08
Securities and commodity contracts intermediation and brokerage	115.3	117.0	121.5	127.3	130.9	126.3	11.0	9.5
Investment banking and securities dealing	38.0	39.9	43.0	47.5	50.8	49.2	11.2	29.5
Securities brokerage	73.3	73.1	74.4	75.8	76.5	73.9	0.6	0.8
Insurance carriers and related activities	60.4	59.4	59.4	59.4	60.0	60.0	-0.4	-0.7
Insurance carriers	33.6	33.4	33.6	33.8	33.9	33.5	-0.1	-0.3
Agencies, brokerages, and other insurance-related activities	26.8	26.0	25.7	25.6	26.1	26.5	-0.3	-1.1

Source: New York State Department of Labor and authors' calculations.

The post-9/11 recovery of New York City's finance and insurance sector was abruptly interrupted by the 2008 financial crisis, the worst suffered by the U.S. financial sector since the 1930s. This crisis was primarily caused by a steep housing-price decline, which, combined with dubious lending practices, contributed to large losses on mortgages and mortgage-backed securities held by a wide range of depository and nondepository institutions.[24] From July 2007, when the crisis began, to October 2008, the nine largest banks in the United States marked down their valuations on loans and other troubled assets by an estimated $323 billion.[25] In the fourth quarter of 2008, Wall Street giants Goldman Sachs and Morgan Stanley reported losses of $2.12 billion and $2.37 billion, respectively, and close to $7 trillion of shareholder wealth evaporated as a result of the crisis.[26]

As table 5 indicates, New York City's finance and insurance sector lost 31,900 jobs between 2008 and 2010, a decrease of 9.3 percent. As in the aftermath of 9/11, the securities subsectors experienced the largest reductions in employment as a consequence of the 2008 financial crisis. Over the 2008–10 period, 22,100 jobs (−11.7 percent) were lost in securities, commodities contracts, and other financial investments and related activities; 19,500 jobs (−15.4 percent) were lost in securities and commodity contracts intermediation and brokerage; and 13,000 jobs (−17.6 percent) were lost in securities brokerage.

Table 5. Employment in New York City's finance and insurance sector, by selected industry, 2008–10 (in thousands)

Industry	2008	2009	2010	Change, 2008–10	Percent change, 2008–10
Total nonfarm	3,811.8	3,711.7	3,730.5	-81.3	-2.1
Total private	3,247.7	3,144.7	3,172.5	-75.2	-2.3
Service providing	3,583.5	3,509.3	3,541.7	-41.8	-1.2
Private service providing	3,019.4	2,942.3	2,983.6	-35.8	-1.2
Financial activities	464.6	433.9	428.3	-36.3	-7.8
Finance and insurance	342.9	315.7	311.0	-31.9	-9.3
Credit intermediation and related activities	94.6	88.5	87.6	-7.0	-7.4

See footnotes at end of table.

Table 5. Employment in New York City's finance and insurance sector, by selected industry, 2008–10 (in thousands)

Industry	2008	2009	2010	Change, 2008–10	Percent change, 2008–10
Depository credit intermediation	58.9	55.7	56.6	-2.3	-3.9
Commercial banking	47.4	44.6	45.9	-1.5	-3.2
Nondepository credit intermediation	23.2	21.0	19.9	-3.3	-14.2
Securities, commodity contracts, and other financial investments and related activities	188.4	169.6	166.3	-22.1	-11.7
Securities and commodity contracts intermediation and brokerage	126.3	109.8	106.8	-19.5	-15.4
Investment banking and securities dealing	49.2	42.8	42.5	-6.7	-13.6
Securities brokerage	73.9	63.8	60.9	-13.0	-17.6
Insurance carriers and related activities	60.0	57.6	57.1	-2.9	-4.8
Insurance carriers	33.5	32.1	32.2	-1.3	-3.9
Agencies, brokerages, and other insurance-related activities	26.5	25.5	24.9	-1.6	-6.0

Source: New York State Department of Labor and authors' calculations.

Other subsectors of New York City's finance and insurance sector that experienced substantial job losses after the 2008 financial crisis (between 2008 and 2010) include credit intermediation and related activities (−7,000 jobs, or −7.4 percent), depository credit intermediation (−2,300 jobs, or −3.9 percent), commercial banking (−1,500 jobs, or −3.2 percent), nondepository credit intermediation (−3,300 jobs, or −14.2 percent), investment banking and securities dealing (−6,700 jobs, or −13.6 percent), insurance carriers and related activities (−2,900 jobs, or −4.8 percent), insurance carriers (−1,300 jobs, or −3.9 percent), and agencies, brokerages, and other insurance-related activities (−1,600 jobs, or −6.0 percent). (See table 5.)

Although employment in New York City's finance and insurance sector saw its share of the city's total nonfarm employment decline from 8.3 percent in 2010 to 7.7 percent in 2017, it has gradually recovered since 2010. An exception to this trend were activities related to securities and commodity contracts and securities brokerage. As table 6 illustrates, employment in the city's finance and insurance sector grew from 311,000 in 2010 to 338,600 in 2017, an increase of 8.9 percent. The top five finance and insurance subsectors with the largest employment increases (in absolute terms) during the 2010–17 period were (1) securities, commodity contracts, and other financial investments and related activities (12,900), (2) credit intermediation and related activities (11,600), (3) commercial banking (8,300), (4) depository credit intermediation (5,700), and (5) nondepository credit intermediation (4,100). By contrast, the finance and insurance subsectors with the most notable declines in employment (in absolute terms) during the 2010–17 period were (1) securities brokerage (−5,900) and (2) securities and commodity contracts intermediation and brokerage (−4,100).

Table 6. Employment in New York City's finance and insurance sector, by selected industry, 2010–17 (in thousands)

Industry	2010	2011	2012	2013	2014	2015	2016	2017	Change, 2010–17	Percent change, 2010–17

See footnotes at end of table.

Table 6. Employment in New York City's finance and insurance sector, by selected industry, 2010–17 (in thousands)

Industry	2010	2011	2012	2013	2014	2015	2016	2017	Change, 2010–17	Percent change, 2010–17
Total nonfarm	3,730.5	3,818.1	3,904.6	3,998.9	4,130.1	4,255.1	4,341.2	4,413.9	683.4	18.3
Total private	3,172.5	3,267.5	3,358.5	3,454.5	3,584.7	3,705.2	3,788.8	3,860.2	687.7	21.7
Service providing	3,541.7	3,630.2	3,712.2	3,800.3	3,924.3	4,038.0	4,118.7	4,187.5	645.8	18.2
Private service providing	2,983.6	3,079.6	3,166.0	3,255.9	3,378.9	3,488.1	3,566.3	3,633.8	650.2	21.8
Financial activities	428.3	439.1	438.8	437.5	449.2	459.3	465.8	472.5	44.2	10.3
Finance and insurance	311.0	321.4	320.1	316.9	325.2	332.1	336.5	338.6	27.6	8.9
Credit intermediation and related activities	87.6	90.9	92.7	92.6	96.3	98.4	99.0	99.2	11.6	13.2
Depository credit intermediation	56.6	59.8	59.9	57.8	61.1	62.3	61.9	62.3	5.7	10.1
Commercial banking	45.9	49.1	49.5	48.4	52.1	54.2	54.1	54.2	8.3	18.1
Nondepository credit intermediation	19.9	20.3	21.7	23.5	23.5	24.0	24.7	24.0	4.1	20.6
Securities, commodity contracts, and other financial investments and related activities	166.3	172.2	169.3	165.9	168.7	173.2	177.0	179.2	12.9	7.8
Securities and commodity contracts intermediation and brokerage	106.8	109.7	106.0	102.1	100.9	102.2	102.9	102.7	-4.1	-3.8
Investment banking and securities dealing	42.5	43.1	42.2	41.6	42.9	44.5	44.4	44.5	2.0	4.7
Securities brokerage	60.9	62.9	60.5	57.4	55.4	55.4	56.4	55.0	-5.9	-9.7
Insurance carriers and related activities	57.1	58.3	58.1	58.4	60.2	60.5	60.6	60.2	3.1	5.4
Insurance carriers	32.2	34.0	34.1	34.1	35.2	34.7	34.6	34.3	2.1	6.5
Agencies, brokerages, and other insurance-related activities	24.9	24.3	24.0	24.3	25.0	25.8	26.0	25.9	1.0	4.0

Source: New York State Department of Labor and authors' calculations.

Although employment in New York City's finance and insurance sector has gradually recovered since the 2008 financial crisis—and remains considerably larger than financial sector employment in other parts of the United States—the city's leading position as the country's "financial capital" has been challenged by other cities and states in recent years.[27] This trend has been primarily driven by cost reduction efforts by financial services firms, advances in financial technology and innovation, increased decentralization of back-office and middle-office operations, financial disintermediation, and the cost and tax advantages of competing cities and states.[28]

Wages in New York City's finance and insurance sector since 2000

This section analyzes trends in earnings and wages in New York City's finance and insurance sector since 2000. Compared with other sectors of New York City's economy, finance and insurance has seen a substantial wage growth since 2000. This trend corresponds with the expansion of the financial sector (as a share of GDP) in recent decades. In 1950, the U.S. financial sector accounted for approximately 2.8 percent of GDP; this figure increased to 4.9 percent in 1980 and 8.3 percent in 2006.[29] In 2016, the U.S. financial sector's value added accounted for 7.5 percent of GDP.[30] The growth rate of the financial sector's contribution to GDP since 1980 has notably exceeded the growth rate reported during the 1950–80 period,[31] and the financial sector has accounted for more than 25 percent of the growth of the U.S. service sector since 1980.[32]

Table 7 presents the number of reporting units (i.e., business entities), average annual employment, total average annual wages, and average annual wages (per worker) in New York City's finance and insurance sector during the 2000–16 period. As the table indicates, the number of reporting units increased from 9,796 in 2000 to 12,158 in 2016, an increase of 24.1 percent. By contrast, average annual employment declined 9.1 percent (−32,777) over the same period. Total annual wages for the city's finance and insurance sector increased 46.9 percent, from $62.8 billion in 2000 to $92.0 billion in 2016. Average annual wages (per worker) increased 61.1 percent, from $174,355 in 2000 to $280,824 in 2016, reflecting productivity improvements associated with reductions in labor input (employment), capital investments, technological innovations, and industry consolidation.[33]

Table 7. Employment and wages in New York City's finance and insurance sector, 2000–16

Year	Reporting units	Average annual employment	Total average annual wages	Average annual wages per worker
2000	9,796	360,365	$62,831,513,362	$174,355
2001	9,908	356,838	64,770,785,924	181,513
2002	10,000	325,166	53,914,471,858	165,806
2003	9,751	311,818	52,099,479,539	167,083
2004	10,009	312,992	61,266,235,710	195,744
2005	10,686	321,753	67,216,296,354	208,907
2006	11,045	331,667	80,918,081,955	243,974
2007	11,681	341,430	97,712,757,426	286,187
2008	12,093	337,774	94,857,601,284	280,832
2009	11,825	310,287	71,748,443,699	231,233
2010	11,937	305,822	79,815,300,409	260,986
2011	11,935	315,728	84,717,073,233	268,323
2012	11,992	313,361	83,559,822,506	266,657
2013	11,925	310,208	82,513,359,068	265,994
2014	11,928	317,980	93,567,181,847	294,255
2015	11,976	324,514	92,973,503,880	286,501
2016	12,158	327,588	91,994,435,650	280,824

Source: New York State Department of Labor and authors' calculations.

After 9/11, the number of business entities in New York City's finance and insurance sector remained relatively unchanged (increasing a mere 0.9 percent). However, as table 7 shows, average annual employment fell 8.9 percent between 2001 and 2002, recording a loss of 31,672 jobs. Similarly, over the same period, total annual wages in the sector decreased by $10.9 billion (−16.8 percent), and average annual wages fell by $15,707 (−8.7 percent), from $181,513 in 2001 to $165,806 in 2002.

Table 7 also illustrates the impact of the 2008 financial crisis on the number of reporting units, average employment, total sector wages, and average annual wages in New York City's finance and insurance sector. Between 2008 and 2009, the number of finance and insurance reporting units declined 2.2 percent, from 12,093 to 11,825. Annual employment fell 8.1 percent, from 337,774 in 2008 to 310,287 in 2009, a loss of 27,487 jobs. Over the same period, total wages in the city's finance and insurance sector fell 24.9 percent, from approximately $95 billion to $71.7 billion, and average annual wages decreased 17.7 percent, from $280,832 to $231,233.

Wages by occupation and wage differentials in selected occupations of New York City's finance and insurance sector

In this section, we analyze and compare wages in selected occupations in New York City's finance and insurance sector. In addition, we briefly discuss wage differentials in these occupations, using Occupational Employment Statistics (OES) survey data compiled by the New York State Department of Labor in collaboration with BLS. The OES survey collects earnings (or wage) information from approximately 51,000 sampled nonagricultural establishments.[34]

In the OES survey, an establishment is defined as a goods- or service-producing unit that normally participates in a single economic activity.[35] The OES employment data include full-time and part-time workers; workers on temporary leave, paid vacations, unpaid short-term absences, and temporary job reassignments; and salaried officers, executives, and staff members of incorporated firms.[36] Self-employed workers, owners or partners of unincorporated firms, and unpaid family members are not included in the OES survey.[37]

The wage data in the OES survey include straight-time gross pay, excluding premium compensation.[38] OES wage figures also include base-rate pay; cost-of-living allowances; guaranteed pay; hazardous-duty compensation; and commissions, bonuses, tips, and other forms of incentive pay.[39] Backpay, nonproduction bonuses, overtime pay, severance pay, shift differentials, and tuition reimbursement are excluded from the OES survey.[40]

The OES survey provides information about mean (average) and median wages in an occupation. The mean wage is calculated by dividing total wages for an occupation by its weighted survey employment.[41] The median wage represents the estimated 50th percentile of the wage distribution in the occupation. This means that 50 percent of workers in the occupation earn less than the reported median wage, and 50 percent earn more.[42] The "entry" wage reported in the OES survey is the mean wage of the bottom third of wages in a given occupation. The "experienced" wage is the mean wage of the top two-thirds of wages in an occupation.[43]

Table 8 uses OES data to present detailed employment and wage information for selected occupations in two of the principal occupational categories directly related to New York City's finance and insurance sector: (1) business and financial operations occupations and (2) sales and related occupations.

Table 8. Employment and wages in New York City's finance and insurance sector, by selected occupation, 2017

Occupation	Employment		Annual wages				
	Total	Percent of total	Mean	Ratio of mean annual wages in occupation to mean annual wages in occupational category	Median	Entry[1]	Experienced[2]
Business and financial operations occupations	101,070	100.0	$105,550	1.0	$87,390	$54,680	$130,990
Compliance officers	10,170	10.1	88,190	0.8	81,990	52,160	106,210
Compensation, benefits, and job analysis specialists	5,500	5.4	80,210	0.8	76,090	58,360	91,140
Credit analysts	5,340	5.3	137,130	1.3	119,180	73,430	168,980
Financial analysts	41,790	41.3	138,900	1.3	111,980	72,640	172,030
Personal financial advisors	20,490	20.3	170,100	1.6	151,120	67,350	221,480
Insurance underwriters	4,180	4.1	109,000	1.0	92,500	57,990	134,500
Financial examiners	4,300	4.3	119,910	1.1	106,100	70,680	144,530
Credit counselors	980	1.0	59,410	0.6	51,700	39,970	69,130
Loan officers	5,250	5.2	127,970	1.2	104,360	56,660	163,630
Financial specialists, all other	3,070	3.0	113,000	1.1	97,340	59,110	139,940
Sales and related occupations	89,350	100.0	64,270	1.0	34,770	21,840	86,280
Insurance sales agents	6,560	7.3	107,940	1.7	80,620	44,170	139,820
Securities, commodities, and financial services sales agents	46,330	51.9	179,610	2.8	163,240	75,520	231,660
Sales representatives, services, all other	36,460	40.8	81,740	1.3	68,650	38,730	103,250

Notes:

(1) Entry wage = mean (average) wage of the bottom third of wages in an occupation.

(2) Experienced wage = mean (average) wage of the top two-thirds of wages in an occupation.

Source: New York State Department of Labor and authors' calculations.

A total of 101,070 people were employed in New York City's business and financial operations occupations shown in table 8. In terms of employment, the top five occupations in this category in 2017 were (1) financial analysts (41,790, or 41.3 percent), (2) personal financial advisors (20,490, or 20.3 percent), (3) compliance officers (10,170, or 10.1 percent), (4) compensation, benefits, and job analysis specialists (5,500, or 5.4 percent), and (5) credit analysts (5,340, or 5.3 percent). In the sales and related occupations category, securities, commodities, and financial services sales agents (46,330) accounted for 51.9 percent of total employment in 2017; sales

representatives, services, all other (36,460) accounted for 40.8 percent; and insurance sales agents (6,560) accounted for 7.3 percent.

In terms of average annual wages, the top five occupations in business and financial operations in 2017 were (1) personal financial advisors ($170,100), (2) financial analysts ($138,900), (3) credit analysts ($137,130), (4) loan officers ($127,970), and (5) financial examiners ($119,910). In the case of sales and related occupations, securities, commodities, and financial services sales agents earned an average annual wage of $179, 610 (the highest for all finance and insurance sector occupations listed in table 8), and insurance sales agents earned an average annual wage of $107,490.

Table 8 also shows the ratio of mean annual wages in an occupation to the mean annual wage in the occupation's respective major category. In 2017, the top five business and financial operations occupations with above-average annual earnings (measured by a ratio greater than 1.0) were (1) personal financial advisors (1.6), (2) financial analysts (1.3), (3) credit analysts (1.3), (4) loan officers (1.2), and (5) financial examiners (1.1). In the case of sales and related occupations, the occupations with the highest ratio of mean wages were (1) securities, commodities, and financial services sales agents (2.8), and (2) insurance sales agents (1.7).

The mean annual wage ratios shown in table 8 reveal that, compared with business and financial operations occupations, sales and related (front-office) occupations (e.g., insurance sales agents; securities, commodities, and financial services sales agents) offer notable wage premiums. In addition, within the business and financial operations category, occupations directly related to sales (e.g., financial advisors, financial analysts, credit analysts, and loan officers) offer higher wage premiums than do occupations generally associated with middle-office and back-office operations (e.g., compliance officers, compensation and benefits specialists, insurance underwriters, and credit counselors).

While a detailed analysis of wage dispersion in New York City's finance and insurance sector is beyond the scope of this article, the data presented in table 8 reveal several interesting findings. In New York City in 2017, the median annual wage for *all* business and financial operations occupations was $87,390, compared with $34,770 for *all* sales and related occupations. As expected, given the large disparities in median annual wages between these two occupational categories, the *range* (difference) between the highest and lowest median annual wage in the business and financial operations occupations was larger than the range in the sales and related occupations.[44] In 2017, among the business and financial operations occupations included in table 8, personal financial advisors had the highest median annual wage ($151,120), while credit counselors had the lowest ($51,700). In this case, the range of median annual wages was $99,420. Among the sales and related occupations in New York City's finance and insurance sector in 2017, securities, commodities, and financial services sales agents had the highest median annual wage ($163,240), while sales representatives had the lowest ($68,650). The range in this case was $94,590.

Several studies in the economics literature explore wage dispersion and wage differentials across industries and within the same occupations and establishments.[45] Classical economic theory suggests that, in a competitive labor market, wages should be equal to a worker's marginal value of labor.[46] If wage differentials account for differences in labor productivity, they should be consistent across similar occupations in different sectors of the economy.[47] However, some studies have found notable residual wage differentials across different sectors of the economy.[48] Existing wage differentials across different sectors have been primarily attributed to differences in work

environment and unobserved worker characteristics.[49] However, even after these factors are taken into account, wage disparities persist across and within different sectors of the economy.[50]

According to Oliver Denk, the wage gap between workers at the top and bottom of the earnings distribution in the European financial sector is notably higher than that in other sectors of the European economy.[51] This difference is primarily due to the disproportionate concentration of financial sector workers at the upper end of the earnings distribution.[52] A similar situation exists for U.S. financial sector workers.[53] The disproportionate concentration of such workers at the top of the earnings distribution, along with their substantial wage premium, has contributed to higher levels of income inequality in developed economies with an advanced financial sector or high levels of "financialization."[54]

Consistent with general trends in the U.S. labor market, the wage differentials between workers in New York City's finance and insurance sector can be partially explained by increases in the return to schooling since the 1980s.[55] For example, in 1979, college graduates earned 47 percent more than did high school graduates; by 2001, this figure had increased to 90 percent.[56] Structural changes in the U.S. economy since the 1980s have contributed to historic increases in the return to schooling and to the widening of wage differentials between experienced workers and new labor market entrants.[57]

The wage differentials in New York City's finance and insurance sector shown in table 8 can also be explained by the increased internationalization (or globalization) of the U.S. economy since the 1980s. In 1970, the ratio of total trade (i.e., exports and imports) to GDP, which is normally used as an indicator of trade openness, was 8 percent in the United States; by 1996, this figure had risen to 19 percent and, two decades later, in 2016, reached approximately 25 percent.[58] Increases in the ratio, combined with cross-border financial integration and other forces of globalization, explain the relative increase in the demand for skilled workers in the U.S. economy and its financial sector since the 1980s.[59]

Wage differentials between top earners in the finance sector and those at the bottom of the wage distribution also arise from substantial differences in labor productivity and from the widespread use of bonus payments as an important component of workers' compensation, particularly in the case of workers directly engaged in sales-oriented (front-office) activities.[60] In addition, wage differentials in the financial sector may result from the unequal distribution of economic rents by financial sector firms to workers in selected occupations—or what is known as "wage premium," whereby workers in selected occupations receive wages above their productivity. This wage premium has a disproportionate impact on the wages of workers at the top of the earnings distribution relative to workers at the bottom, contributing to greater levels of labor income inequality.[61] This effect is particularly pronounced in countries where the financial sector accounts for a large share of employment and GDP.[62]

Given the characteristics of financial sector workers and the importance of the financial sector in many of the European countries included in Denk's study,[63] it seems reasonable to assume that his findings can also explain the wage dispersion in the selected occupations in New York City's finance and insurance sector shown in table 8. Finally, regarding the relationship between the growth of finance and wage and income inequality, Denk's findings are consistent with those of a 2012 study by Thomas Phillipon and Ariell Reshef and a 2017 study by Phillipon, which demonstrate that in the case of developed national, regional, or local economies with advanced financial sectors that account for a significant share of output, the growth of the financial sector is likely to contribute to higher levels of wage and income inequality.[64] This phenomenon is mainly attributed to two related factors: (1) the

concentration of financial sector workers at the top of the earnings distribution and (2) the provision of specialized financial services to high-income households.[65]

Conclusions

Despite experiencing notable decreases in employment, particularly after 9/11 and the 2008 financial crisis, New York City's finance and insurance sector continues to play an important role in the city's economy. At present, the sector employs close to 8 percent of New York City's nonfarm workers, its total wages account for more than 60 percent of the city's private sector wages, and its relatively high employment multiplier indirectly supports an estimated 700,000 nonfinancial sector workers.[66] The finance and insurance sector also is a major contributor to New York City's tax base. In 2015, the sector's tax contributions accounted for approximately 25 percent of the personal income taxes and close to 50 percent of the business taxes collected by the city.[67]

Although the finance and insurance sector remains an important source of employment in New York City, it has seen its share of total nonfarm employment decline since 2000 and has suffered major job losses as a result of 9/11 and the 2008 financial crisis. Between 2000 and 2017, New York City's total nonfarm employment increased 18.3 percent, from 3,732,300 to 4,413,900. By contrast, over the same period, the city's employment in finance and insurance fell 8.4 percent, from 369,700 to 338,600, because of increased global competition, industry consolidation, technological innovation, and the long-lasting effects of 9/11 and the 2008 financial crisis.

The terrorist attacks of September 11, 2001, resulted in major reductions in employment in New York City's finance and insurance sector. They also contributed to higher office vacancy rates in the city's Financial District and to the permanent displacement of a significant number of financial sector jobs from the historical Downtown Manhattan cluster to more modern, state-of-the-art facilities in Midtown Manhattan.[68] The city's finance and insurance sector lost 25,800 jobs between 2001 and 2002, and most of these losses occurred in activities related to securities and commodities sales and trading.

Employment in New York City's finance and insurance sector began to gradually recover after 2003, as the sector emerged from the major shocks, losses, and disruptions caused by 9/11. Between 2003 and 2008, New York City's finance and insurance sector added 24,300 jobs, an increase of 7.3 percent. This short-lived recovery was drastically interrupted by the 2008 financial crisis, which led to the collapse of several major financial institutions and large job losses for the sector. Between 2008 and 2010, New York City's finance and insurance sector lost 22,100 jobs, a decline of 11.7 percent, and, as in the aftermath of 9/11, most of these losses took place in activities related to securities and commodities sales and trading.

Employment in New York City's finance and insurance sector has gradually recovered since 2010, rising from 311,000 in 2010 to 338,600 in 2017, an increase of 8.9 percent. Despite this impressive recovery, employment in the sector has failed to reach the levels reported in 2000 (369,700). This is due to several factors, the most important of which are the impact of labor-reducing technological innovation, increased business consolidation, and the cost and tax advantages offered by competing localities.[69]

Despite its shrinking employment and the impacts of 9/11 and the 2008 financial crisis, New York City's finance and insurance sector has seen substantial wage increases since 2000. Between 2000 and 2016, total annual wages in the sector increased 46.9 percent, from $62.8 billion to $92 billion, and average annual wages (per

worker) rose 61.1 percent, from $174,355 to $280,814. These trends reflect the effects of increased labor productivity, capital investment, and technological innovation.[70]

Although a detailed empirical analysis of wage dispersion is beyond the scope of this article, we found considerable variations in the distribution of median annual wages in selected occupations in New York City's finance and insurance sector. This wage dispersion can be explained by factors such as increases in the return to schooling, differences in labor productivity and work environment, the effects of unobserved worker characteristics, the "financialization" of the economy, the impact of globalization, the widespread use of bonuses to compensate top earners in the financial sector, and the distribution of economic rents by financial firms (in the form of a "wage premium") to employees at the upper level of the earnings distribution.[71]

The financial sector's growing share of the New York City's gross city product, combined with the aforementioned factors, has contributed to the concentration of income among financial sector workers at the top of the earnings distribution. This disproportionate concentration—and the financial sector's provision of specialized financial services to high-income households and high-net-worth individuals—has, in turn, contributed to one of the most resilient characteristics of New York City's economy: higher levels of labor income inequality among financial sector workers.

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