

Occupational safety and health

Fatal occupational injuries among Asian workers

During the 5-year period between 1999 and 2003, 775 people of Asian descent suffered a fatal work injury; this is equal to 3 percent of all fatal work injuries during this period; more than half of the fatalities resulted from an assault or violent act

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According to Census 2000, Asian-Americans accounted for 3.6 percent of the U.S. population; this percentage is likely to rise as more Asians continue to immigrate. In 2000, 76 percent of the foreign-born Asian population had immigrated to the United States in the past two decades.¹ Part of this increase was because of the growth of the foreign-born Asian population from 1990 to 2000. In 2000, 43 percent of the foreign-born Asian population had just immigrated into the United States within the past 10 years.

As the Asian-American population continues to grow, so does the need to understand the distinct societal and economic issues this group faces, especially in the workplace. Worker safety is one area that can be studied. Understanding the dangers that threaten their safety in the workplace and how the Asian labor force experience differs from other workers is an important beginning.

This article examines trends in fatal work injuries to Asian workers. Data are from the Bureau of Labor Statistics Census of Fatal Occupational Injuries (CFOI) and the Current Population Survey (CPS). CPS employment data for Asians as a distinct group is only available since 2000; data for prior years reflect Asians and Pacific Islanders together. The President's Office of Management and Budget defines "Asian" as "A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine

Islands, Thailand, and Vietnam."²

The Census of Fatal Occupational Injuries recorded 775 fatal work injuries to Asian workers over the 1999–2003 period.³ These fatal work injuries represent 3 percent of the total fatal workplace injuries occurring over those 5 years. (See table 1.)

How data were collected

Census of Fatal Occupational Injuries. The Bureau of Labor Statistics conducts the CFOI program, which collects detailed information on all work-related fatal injuries in the United States. It includes private wage and salary workers, public sector employees—civilian and resident military—and self-employed workers. To ensure a complete count and to collect the required data for each case, the CFOI uses a multiple source document collection system. To document work-relatedness, each fatality is normally verified using at least two source documents, such as death certificates, medical examiner or coroner reports, news media accounts, Occupational Safety and Health Administration (OSHA) reports, or other sources. Historically, each fatality has averaged nearly four source documents. CFOI collects more than 30 data elements on each case, including the work status of the decedent (wage or salary worker or self-employed), gender, age, race or ethnic origin, occupation, and industry. Other data elements include the event or exposure that led to the injury, the

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Table 1. Fatal occupational injuries to civilian workers by race and ethnic origin, 1999–2003

Origin	Total
Fatalities (number)	28,571
Race or ethnic origin (percent): ¹	
White	71.5
Hispanic or Latino	14.1
Black or African American	9.6
Asian	2.7
American Indian or Alaskan Native .....	.7
Native Hawaiian or Pacific Islander .....	.2
Other races or not reported	1.1

¹ Persons identified as Hispanic may be of any race. The individual race categories shown exclude data for Hispanics.

NOTE: Totals exclude fatalities resulting from the September 11, 2001 terrorist attacks. Percentages may not add to totals because of rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

source of the injury, and the activity and location of the worker at the time of the incident.

For this article, Asian workers do not include Asian workers of Hispanic origin.⁴ Data from Census 2000 show that approximately 1.0 percent of the Asian population in the United States is of Hispanic origin.⁵ Fatalities to foreign-born workers include all fatal occupational injuries recorded by CFOI for which the element “foreign birth place” was positively coded by the entry of the name of the country of birth into the field. In order to make it possible to compare CFOI data with employment data, fatal work injuries to the resident military have been excluded from this article.

Current Population Survey. All fatality rates are expressed as the number of fatalities per 100,000 employed persons.⁶ Because the fatality census does not collect employment data, fatality rates were calculated using estimates of employed civilian workers (aged 16 and older) from the Current Population Survey annual foreign-born supplement.⁷ There are some limitations to the calculated fatality rates: 1) the rates are based on employment regardless of hours worked; 2) the CPS classifies occupation based on the primary job worked, which may not be the job the decedent was performing when fatally injured; and 3) because the CPS is a survey rather than a census, data from the CPS are subject to sampling error.

The CPS is a monthly random sample of 60,000 households that represents the entire noninstitutionalized civilian population of the United States. In response to the increased demand for statistical information about the foreign born, questions on nativity, citizenship, year of entry into the United States, and the parental nativity of respondents were added

to the CPS beginning in January 1994.⁸

However, not until January 2003 did the CPS begin identifying Asians as a separate race category. The response category of Asian and Pacific Islanders was split into two categories: a) Asian and b) Native Hawaiian or Other Pacific Islanders. CPS data for the years 2000–02 have been revised to reflect this change and are directly comparable with data from 2003 and forward.

In addition, the CPS uses the Census Bureau definition of “foreign-born” and “native-born,” which has a slightly different meaning than the definition employed by the CFOI. The Census Bureau defines foreign-born persons as those who were not U.S. citizens at birth, and native-born persons as those who were U.S. citizens at time of birth. The Census-defined native-born population includes persons who were born in 1 of the 50 States or in the District of Columbia, persons born in 1 of the U.S. island territories, and persons born abroad to a U.S. citizen. According to the Census in 2000, 0.7 percent of the U.S. population can be classified in the latter category of the native-born population, and as such, there might be slight inconsistencies in the nativity classification assigned to a fatally-injured worker by the CFOI and by the CPS.⁹ Some error may be introduced in the calculation of fatality rates because of this difference.

Standard Industrial Classification system. The 1987 Standard Industrial Classification (SIC) system was the basis for industry classification for the CPS and the CFOI during the 1999–2002 period. Occupations were classified according to the Bureau of the Census’ 1990 Occupational Classifica-

Table 2. Fatal occupational injuries of foreign-born civilian workers, 1997–2003

Origin	Fatalities
All workers (number)	4,426
Asian workers ¹	
Number	640
Percent	100.0
Country of origin (percent):	
India	21.6
Korea	18.1
Vietnam	13.6
China	10.3
Philippines	10.3
Pakistan	6.6
Japan	4.1
All others	15.4

¹ Individual race category shown excludes data for Hispanics.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Percentages may not add to totals due to rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

tion system. Beginning with the 2003 reference year, the CPS and the CFOI began using the 2002 North American Industry Classification System (NAICS) to define industry and the Standard Occupational Classification (SOC) system to define occupation. Because of the substantial differences between the current and previous systems, the industry and occupation data in 2003 constitute a break in series, and users are advised against making comparisons between the 2003 industry and occupation categories and the results for previous years. As a result, the industry and occupation analysis in this article focuses primarily on the years 1999–2002.

All injury characteristics (type of event, source of injury, and worker activity and location) were classified using the 1992 Occupational Injury and Illness Classification structure developed by BLS.¹⁰

Nativity and demographics

The CFOI can identify fatal work injuries suffered by foreign-born Asian workers and fatal work injuries suffered by native-born Asian workers. In 2000, foreign-born Asian workers accounted for 86 percent of all workplace fatalities incurred by Asians. From 2001 to 2003, this percentage remained close to that number, fluctuating between 83 percent and 87 percent. Over the 2000–03 period, foreign-born Asians accounted for 77 percent of Asian employment while

accounting for 85 percent of the fatal work injuries.

Over the entire 5-year study period, 22 percent of all foreign-born Asians fatally injured in the workplace were born in India. (See table 2, page 50.) Another 18 percent were born in Korea. Asian workers born in Vietnam, China, and the Philippines accounted for more than a third of the fatalities to foreign-born Asians during this period. Of all the foreign-born workers fatally injured from 1999 to 2003, Asian workers accounted for 14 percent.

During the study period, the highest number of fatal injuries to Asian workers (172) was recorded in 2001. (See table 3.) The number had risen slightly each year since 1999 when Asians were first identified as a separate race category in CFOI.¹¹

Of the 775 Asian workers who were fatally injured on the job from 1999 to 2003, 12 percent were women. This percentage is significantly greater than the 8 percent of worker fatalities occurring to non-Asian women during these years.

In terms of age, almost three-fourths of the fatal injuries from 1999 to 2003 involved workers between the ages of 25 and 54. Another 18 percent were incurred by older Asian workers, aged 55 and older. Employment data from 2000 to 2003 show that older Asian workers accounted for only 11 percent of employment during this period, suggesting that they are more likely to be fatally injured on the job than Asian workers aged 54 years and younger. This is similar to the experience of non-Asian older workers.

Table 3. Fatal occupational injuries to civilian workers by selected characteristics, 1999–2003

Characteristic	Total	1999	2000	2001	2002	2003
Total, all workers	28,571	5,973	5,833	5,804	5,448	5,513
Asian ¹	775	164	169	172	126	144
Nativity:						
Native born	135	44	24	28	16	23
Foreign born	640	120	145	144	110	121
Gender:						
Men	685	147	153	151	113	121
Women	90	17	16	21	13	23
Age:						
Under 16 years	—	—	—	—	—	—
16 to 24 years	66	15	15	15	5	16
25 to 34 years	158	30	33	33	30	32
35 to 44 years	197	43	48	41	31	34
45 to 54 years	215	49	41	50	31	44
55 to 64 years	109	24	26	26	22	11
65 years and older	28	3	6	6	7	6
Employee status:						
Wage and salary workers ²	534	126	108	113	91	96
Self-employed ³	241	38	61	59	35	48

¹ Individual race category shown excludes data for Hispanics.

² May include volunteers.

³ Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11

terrorist attacks. Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

Younger workers, younger than 24 years, accounted for the remaining 9 percent of Asian fatal injuries from 1999 to 2003. Younger non-Asian workers accounted for 10 percent of the fatal injuries to non-Asian workers over this same period.

Fatalities to the self employed accounted for almost one-third of all Asian worker fatalities. This is notably different than the proportions for non-Asian workers, where one in five fatal injuries was incurred by the self employed. This difference is not explained by employment. In 2003, 7.1 percent of Asian workers and 7.6 percent of non-Asian workers were self employed. This article does not examine differences in the occupations of the self employed that may, at least in part, explain this difference.

Event or exposure causing fatalities

For Asian workers, the leading type of fatal event in the workplace, accounting for more than half of all fatal work injuries from 1999 to 2003, was an assault or violent act.¹² (See table 4.)

The fatal work injuries suffered by Asians were atypical when compared with the rest of the population. Only 15 percent of the fatal work injuries to non-Asian workers were the result of an assault or violent act. The most common event causing a fatal workplace injury among non-Asian workers was a transportation event. Transportation incidents accounted for only 24 percent of Asian workplace fatal injuries during the 1999–2003 period, compared with 43 percent of all fatal workplace injuries to non-Asian workers.

Table 4. Fatal occupational injuries to civilian workers by event or exposure, 1999–2003

Event or exposure	Asian	Non-Asian
Total fatalities (number)	775	27,796
All events and exposures (percent) ¹	100.0	100.0
Transportation incidents	23.9	43.1
Assaults and violent acts	52.1	14.5
Homicides	46.1	10.2
Contact with objects and equipment	7.2	16.9
Falls	9.4	12.9
Exposure to harmful substances or environments	5.3	8.9
Fires and explosions	1.8	3.3
Other events or exposures ² .....	.3	.3

¹ Based on the 1992 BLS Occupational Injury and Illness Classification Manual.
² Includes the category "Bodily reaction and exertion."
 NOTE: Totals exclude fatalities resulting from the September 11, 2001 terrorist attacks. Percentages may not add to totals because of rounding.
 SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

Table 5. Workplace homicide rate, 2000–03
 [Rate per 100,000 civilian workers]

Origin	All workers	Wage and salary ¹	Self employed ²
Total	0.47	0.36	1.75
Asian ³	1.18	.62	8.83
Native born .....	.49	.25	5.07
Foreign born	1.38	.73	9.61
Non-Asian .....	.43	.37	1.45
Native born .....	.37	.32	.99
Foreign born .....	.94	.63	5.37

¹ Data may include volunteers.
² Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.
³ Individual race category shown excludes data for Hispanics.
 NOTE: The rate represents the number of homicides per 100,000 employed civilian workers and was calculated as follows: (N/W) x 100,000, where N = the number of homicides, and W = the number of employed workers based on the foreign-born supplement to the Current Population Survey (CPS). Homicides to workers under the age of 16 years were not included in the rate calculations to maintain consistency with CPS employment figures. Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.
 SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

Homicides. Even though Asian workers were the victims in only 3 percent of the total workplace fatalities from 1999 to 2003, they incurred 11 percent of the workplace homicides during this period. Of all the Asian worker fatalities during this period, 46 percent were homicides. Shootings accounted for 80 percent of workplace homicides involving Asians, stabbings accounted for 10 percent, and hittings, kickings, or beatings accounted for 7 percent.

The victims in these cases, generally, were not known to be acquainted with their assailant. In 61 percent of the homicides to Asian workers, a robber was the assailant. The corresponding figure for non-Asian workers was 37 percent.¹³ Asian workers were much less likely than non-Asian workers to be killed in the workplace by a work associate or relative. These cases accounted for approximately 12 percent of Asian workplace homicide cases from 1999 to 2003, while accounting for 21 percent of non-Asian homicide cases during the same period.¹⁴

Homicide rates can be used to compare the risk of homicide faced by different worker groups. The homicide rate for a worker group is equal to the number of homicides recorded for a worker group divided by the employment level for that group. If all workers are disaggregated into Asians and non-Asians, self-employed and wage and salary workers, and native-born and foreign-born workers, homicide rates can be calculated to show that certain worker groups were much more likely to be the victim of a homicide in the workplace.

From 2000 to 2003, the homicide rate for all worker groups was 0.47 homicides per 100,000 workers. (See table 5.) Self-

employed Asian workers experienced a homicide rate more than 18 times that rate, 8.83 homicides per 100,000 workers. When this group is disaggregated into native-born and foreign-born self-employed Asian workers, it is evident that although both worker groups experienced high homicide rates over this period, foreign-born self-employed Asian workers were at a greater risk of being the victim in a workplace homicide. Foreign-born self-employed Asian workers experienced a homicide rate of 9.61 homicides per 100,000 workers, while their native-born counterparts had a homicide rate of 5.07 homicides per 100,000 workers.

A similar disparity in risk of workplace homicide is seen when looking at the homicide rates for native-born and foreign-born self-employed non-Asian workers, who experienced homicide rates of 0.99 homicides per 100,000 workers and 5.37 homicides per 100,000 workers, respectively. Less variation is seen among all worker groups when homicide rates are compared for wage and salary workers.

Other risks. Although homicide rates can be helpful in illustrating the potential dangers a worker faces while on the job, not all workplace fatalities are the result of a homicide. Workplace fatality rates are one way to quantify the overall risk of a worker group of incurring a fatal injury in the workplace. A related statistic, relative risk, is also useful for gauging the risk of fatal work injury a particular group faces.

The relative risk for a group of workers is calculated as the fatality rate for that group divided by the fatality rate for all workers.¹⁵ Relative risk measures how much the work-

place fatality rate of a specific worker group differs from the workplace fatality rate of all workers.

While Asian workers experienced a homicide rate that was much higher than non-Asian workers from 2000 to 2003, Asian workers overall had less risk of incurring a fatal injury than non-Asian workers during that same period. (See table 6.) Asian workers experienced a relative risk of 0.63 while non-Asian workers' relative risk was 1.02. In terms of employee status, self-employed Asians had a slightly higher fatality rate than self-employed non-Asians. For wage and salary workers, however, it is reversed; non-Asians working for a wage or salary were more than twice as likely to be fatally injured than Asians working for a wage or salary.

Disaggregating the self employed by separating foreign-born workers from native-born workers provides more insight into the relative risk faced by these workers and shows that whether Asian workers were foreign born or native born influenced their risk of fatal injury. The worker group that recorded the highest fatality rate from 2000 to 2003 was the group comprised of foreign-born self-employed Asians; they experienced a relative risk of 3.31. From 2000 to 2003, native-born self-employed Asian workers experienced the lowest fatality rate of the self-employed worker groups examined here, but still experienced a relatively high risk of a fatal work injury, 1.94.

Geography and industry

During the study period, 55 percent of the fatal injuries to

Table 6. Rate of fatal occupational injuries and relative risk, by selected characteristics, 2000-03

Origin	All workers		Wage and salary workers ¹		Self-employed workers ²	
	Fatality rate (per 100,000 workers) ³	Relative risk ⁴	Fatality rate (per 100,000 workers) ³	Relative risk ⁴	Fatality rate (per 100,000 workers) ³	Relative risk ⁴
Total	4.11	1.00	3.68	0.89	11.24	2.74
Asian ⁵	2.57	.63	1.85	.45	12.66	3.08
Native born	1.65	.40	1.31	.32	7.97	1.94
Foreign born	2.85	.69	2.01	.49	13.62	3.31
Non-Asian	4.18	1.02	3.76	.92	11.19	2.72
Native born	4.03	.98	3.48	.85	10.71	2.61
Foreign born	5.38	1.31	4.86	1.18	12.75	3.10

¹ May include volunteers.

² Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.

³ The rate represents the number of fatal occupational injuries per 100,000 employed civilian workers and was calculated as follows: $(N/W) \times 100,000$, where N = number of fatal work injuries, and W = the number of employed workers based on the foreign-born supplement to the Current Population Survey (CPS). Fatalities to workers under the age of 16 years were not included in the rate calculations to maintain consistency with CPS employment figures.

⁴ The relative risk is calculated by dividing the fatality rate for a particular

group by the fatality rate for all workers. Workers with a relative risk more than one are at a greater risk of suffering a fatal work injury than the average civilian worker, and workers with a relative risk below one are at a lesser risk of suffering a fatal work injury than the average civilian worker.

⁵ The individual race category shown here excludes data for Hispanics.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

Asian workers occurred in just four States: California (194 fatalities), Texas (102 fatalities), New York (71 fatalities, with 62 occurring in New York City), and Hawaii (56 fatalities). These States accounted for just 21 percent of workplace fatalities incurred by non-Asian workers. In 1997, the Census Bureau issued a special report entitled *Asian- and Pacific Islander-Owned Businesses: 1997*.¹⁶ The report states that in 1997, there were approximately 913,000 Asian- and Pacific Islander-owned small businesses in the United States employing more than 2.2 million people. Sixty percent of these small businesses were located in the four States mentioned above.

Workers in certain industries may be exposed to more dangerous working conditions or may be less protected from violent crime. Looking at the industries that contribute to the fatal work injuries of Asian workers and non-Asian workers, it is obvious that not all industries contribute equally to the overall number of fatal work injuries to these populations of workers. (See table 7.)

Asians were much less likely than non-Asians to be injured while working in agriculture, forestry, and fishing; construction; manufacturing; mining; and government. Asian workers were more than four times more likely to be fatally injured in retail trade and slightly more likely to be injured in services. In fact, Asian decedents in these two industries ac-

count for 52 percent of all Asians who died at work. The comparable figure for non-Asians is 21 percent.

The grocery store industry, a subindustry of retail trade, accounted for 16 percent of the fatal workplace injuries to Asians from 1999 to 2002.¹⁷ Although Asian workers incurred only 3 percent of the total fatal injuries during this 4-year period, 23 percent of the fatal workplace injuries in this industry were incurred by Asian workers.

While the large proportion of Asian worker fatalities in retail trade and services may be because of their employment patterns, it is impossible to calculate rates for Asian workers at this time because of the lack of employment data and changes to the industry and occupational classification systems. However, in 2003, the Asian fatality rate under the new industry classification system, NAICS, was 7.6 fatalities per 100,000 workers in retail trade, while the fatality rate of non-Asian workers in this industry was 1.8 fatalities per 100,000 workers. In terms of the overall fatality rate for Asians, the increased risk in retail trade is likely offset by their disproportionately low employment in the relatively high-risk construction industry. In 2003, 1.6 percent of Asian workers were employed in construction, compared with 6.2 percent of non-Asian workers.

Nativity also affects the fatalities to Asian workers by industry. From 1999 to 2002 more than four out five fatal injuries among Asian workers were to foreign-born Asian workers. (See table 8.) When compared with all industries, a greater proportion of workers fatally injured in retail trade; finance, insurance, and real estate; construction; and services were foreign born.

In the retail trade industry from 1999 to 2002, a disproportionately high percentage of the fatalities were to foreign-born workers. An almost equal percentage of these fatalities were to self-employed workers and wage and salary earners. Of the fatalities to foreign-born workers in this industry from 1999 to 2002, regardless of employee status, 85 percent were homicides. More victimization of foreign-born Asian workers occurred in the retail trade than in any other industry over this 4-year period: 68 percent of all homicides to foreign-born Asian workers were in retail trade.¹⁸

Areas for further research

From 1999 to 2003, almost half of all Asian workers fatally injured in the workplace were the victim of a homicide, and Asian workers were more likely than non-Asian workers to be the victim of a workplace homicide. Asian workers who were foreign born or self employed were at a greater risk of suffering a fatal injury, especially a homicide, than Asian workers who were native born or working for a wage or salary. Asian workers who worked in the retail trade were also at a greater risk than non-Asian workers of suffering a fatal

Table 7. Percent distribution of fatal occupational injuries to civilian workers, by industry, 1999–2002

Industry	Asians ¹	Non-Asians
All industries ²	100.0	100.0
Private industry	95.7	91.4
Agriculture, forestry, and fishing	5.9	13.5
Mining .....	.5	2.5
Construction	7.6	20.7
Manufacturing	7.0	11.2
Transportation and public utilities	15.4	16.5
Wholesale trade	4.8	3.8
Retail trade	35.7	8.5
Finance, insurance, and real estate	2.2	1.5
Services	16.5	12.7
Government ³	4.3	8.6
Federal .....	.8	1.1
State	1.0	1.9
Local	1.9	5.6

¹ Individual race category shown excludes data for Hispanics.

² Classified according to the *Standard Industrial Classification Manual, 1987*.

³ Includes fatalities to workers employed by governmental organizations regardless of industry.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Percentages may not add to totals because of rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

Table 8. Fatal occupational injuries to civilian Asian workers by industry, 1999–2002

Industry	Number of fatalities	Percent distribution	
		Native born	Foreign born
All industries ¹	631	17.7	82.3
Private industry	604	17.2	82.8
Agriculture, forestry, and fishing	37	29.7	70.3
Mining	—	—	—
Construction	48	14.6	85.4
Manufacturing	44	25.0	75.0
Transportation and public utilities	97	17.5	82.5
Wholesale trade	30	43.3	56.7
Retail trade	225	11.1	88.9
Finance, insurance, and real estate	14	—	100.0
Services	104	16.3	83.7
Government ²	27	29.6	70.4
Federal	5	—	—
State	6	—	—
Local	12	41.7	58.3

¹ Classified according to the *Standard Industrial Classification Manual, 1987*. Not all cases could be classified by industry sector but were identified as government or private industry.

² Includes fatalities to workers employed by governmental organizations regardless of industry.

NOTE: Totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Percentages may not add to totals because of rounding. Individual race category shown excludes data for Hispanics.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State, New York City, District of Columbia, and Federal agencies, Census of Fatal Occupational Injuries.

workplace injury, and this industry recorded the highest number of fatal injuries to Asian workers from 1999 to 2002. Foreign-born workers in this industry were most frequently killed as the result of a homicide. Preliminary data for 2004 show an increase in the number of fatalities to Asian workers for the second year in a row.

Areas for further research on this topic include a more indepth analysis of the fatal workplace injuries to self-employed Asian workers and of fatalities by occupation and detailed industry. As more data become available in the coming years, analysis incorporating NAICS- and SOC-based employment data will provide more insight into the industries and occupations where Asian workers are at the greatest risk of a workplace fatal injury. Analysis can also be focused on the foreign-born Asian workers in particular, as this group continues to grow in size. Additionally, disaggregating the non-Asian workforce further would provide a more comprehensive comparison of Asian workers to different racial and ethnic worker groups. Another area for research would be an analysis of the fatal injuries occurring to female Asian workers. □

Notes

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¹ See *We the People: Asians in the United States, Census 2000 Special Reports* (U.S. Census Bureau, 2000) on the Internet at <http://www.census.gov/prod/2004pubs/censr-17.pdf>.

² See www.whitehouse.gov/omb/fedreg/1997standards.html for more information.

³ See <http://www.bls.gov/iif/oshcfoi1.htm> for more information.

⁴ Hispanic Asian workers are those workers whose foreign birthplace is an Asian country, but whose ethnic origin is Hispanic.

⁵ *We the People: Asians in the United States*, U.S. Census Bureau.

⁶ The equation for calculating the fatality rate for a group is $(n/w) \times 100,000$ where n is the number of fatal work injuries in that group and w is the number of workers employed in that group.

⁷ See <http://www.bls.gov/cps> for more information.

⁸ For the latest cps release on the employment of foreign-born workers, see <http://www.bls.gov/news.release/pdf/forbrn.pdf>.

⁹ See <http://www.census.gov/population/socdemo/foreign/ppl-145/tab01-1.pdf> for more information.

¹⁰ The source category “Robber” was introduced in 1997.

¹¹ Prior to 1999, Asians were included in a race category with Native Hawaiians and Pacific Islanders. See www.whitehouse.gov/omb/fedreg/1997standards.html for more information.

¹² The event category assaults and violent acts is comprised of homicides, self-inflicted injuries, and assaults by animals. See <http://www.bls.gov/iif/oshsec2.htm#aava> for more information.

¹³ Data are from BLS perpetrator analysis that included a source or secondary source of robber as well as narrative analysis where a reasonable inference could be made.

¹⁴ As with the robbery association above, in addition to narrative analysis, a coworker or former coworker was signified as the assailant when the source or secondary source in a homicide was coded as coworker, while a relative was signified as the assailant when the source or secondary source in a homicide was coded as relative using the 1992 Occupational Injury and Illness Classification structure developed by BLS.

¹⁵ For instance, say the fatality rate for Group A is 6, and the fatality rate for Group B is 2. If the overall fatality rate is 3, the relative risk for Group A is $6/3$ or 2. That is, members of Group A are twice as likely to incur a fatal work injury than workers in general. For Group B, the relative risk is $(2/3)$ or 0.67. That is, members of Group B are $2/3$ as likely to incur a fatal work injury than workers in general.

¹⁶ See <http://www.census.gov/prod/2001pubs/cenbr01-7.pdf>.

¹⁷ For more information on this industry, see http://www.osha.gov/pls/imis/sic_manual.display?id=19&tab=description.

¹⁸ C.N. Le, a Ph.D. in Philosophy, a professor of Sociology and Asian American studies, and the voice behind the website Asian-Nation: The Landscape of Asian America, conducted research on the topic of Asian-owned small business, with a focus on businesses owned by foreign-born Asians. In his discussion, Le briefly touches upon the topic of issues facing small business owners and cites violence against owners of small retail establishments as a continuing source of hardship for Asian immigrant business-owners. See <http://www.asian-nation.org/small-business.shtml>.