

# Tobacco Expenditures by Education, Occupation, and Age

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**D**espite the heightened awareness of health problems associated with using tobacco products, Americans continue to spend large amounts of money on these items. Data from the U.S. Bureau of Labor Statistics (BLS or the Bureau) Consumer Expenditure Survey (CE) show that, in 2002, the average annual expenditure per consumer unit (CU)<sup>1</sup> for tobacco products and smoking supplies was \$320. This is more than a 25 percent increase over 1996, when the average annual expenditure per CU on the same items was \$255. (While the increase in expenditures was more than 25 percent, it did not match the 106-percent rise in the price of tobacco products and smoking supplies, as measured by the Bureau's Consumer Price Index (CPI) during the same time period.)

## Methodology

This article looks at the amount spent on tobacco products and smoking supplies by CUs, as classified according to education, occupation, and age of the reference person. Tobacco prod-

ucts and smoking supplies consist of the following expenditure items: Cigarettes, other tobacco products, and smoking accessories. In 2002, spending on cigarettes accounted for 91 percent of expenditures on tobacco and smoking supplies. Published expenditure estimates for cigarettes and other tobacco products are derived from data collected in the CE's Interview Survey, while estimates for smoking accessories are derived from the Diary Survey. Because the expenditures collected from the Diary Survey represent less than 1 percent of total tobacco spending, percent reporting (the percent of CUs who report purchasing an item) is based on the Interview Survey only. In the Interview Survey, the mean expenditures are annualized figures, whereas the percent reportings are average quarterly figures. Published CE expenditure estimates for a particular item are averages for all CUs in each class, including both those who purchase the item and those who do not. The mean for those who actually purchase the item is higher than the mean averaged across purchasers and non-purchasers. For example, in 2002, the average expenditure for tobacco products per CU was \$320, while the average for those who actually purchased tobacco products was \$1,321. This article looks at mean expenditures for all CUs (purchasers and non-purchasers) and for CUs who reported purchasing

<sup>1</sup> A consumer unit is defined as members of a household related by blood, marriage, adoption, or other legal arrangement; a single person living alone or sharing a household with others but who is financially independent; or two or more persons living together who share responsibility for at least two out of three major types of expenses—food, housing, and other expenses.

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tobacco. This paper focuses on the ratios of spending on tobacco, rather than the aggregate dollar amounts, because of suspected underreporting for this type of expenditure. For CUs who report tobacco expenditures, this analysis assumes consistent reporting (and underreporting) levels across three demographic groups—education, occupation, and age.

### Spending and share data

This section examines tobacco expenditures, share allocation, and percent reporting, and compares tobacco expenditures with other selected expenditure items classified by education, occupation, and age of the CU. Tobacco expenditures are compared with expenditures for food and alcoholic beverages to examine consumer spending on necessary items, such as food, and on elective items, such as alcoholic beverages. These ratios are based on average annual tobacco expenditures, as compared with average annual food expenditures and with average annual alcoholic beverage expenditures for all CUs within each group.

**Education.** In the CE Survey, education levels are divided into two major categories—less than college graduate and college graduate. Less than college graduate is further subdivided into four groups: Less than high school graduate, high school graduate, high school graduate with some college, and associate degree. College graduate is subdivided into two groups: bachelor's degrees and master's, professional, or doctoral degrees. For those CUs whose reference persons had less than a college degree, the average annual expenditure for tobacco was \$375 in 2002. (See table 1.) In contrast, the average annual tobacco expenditure for those CUs whose reference person had a college degree was nearly half at \$167. High school graduates had the highest average annual tobacco expenditure at \$441, while those with a master's, professional, or doctoral degree had the lowest at \$130—a difference of 239 percent.

When comparing all CUs (both households that do and do not report

tobacco expenditures), there is less variation in the average annual tobacco expenditures among the different education levels when the analysis is restricted to those consumers who actually reported tobacco expenditures. The average annual tobacco expenditure for those who reported such expenditures was \$1,321 per year, with the highest average for the high school group at \$1,453 and the lowest average for the bachelor's degree group at \$1,161—a 25-percent difference.

Less than 1 percent of total average annual CU expenditures was spent on tobacco in 2002. The percent share of the average annual amount spent on tobacco varies among those households with less than a college degree. For those households with less than a high school degree, the tobacco share of average annual expenditures was 1.4 percent, compared with 1.3 percent for those with a high school degree, 0.9 percent for high school graduates with some college, and 0.7 percent for those households with an associate degree. The share spent on tobacco was lower for those households with a college degree—0.4 percent for those with a bachelor's degree and 0.2 percent for those with a master's, professional, or doctoral degree. On average, when looking at all CUs, including those CUs not reporting tobacco expenditures, as CUs achieve higher levels of education, the share that they spend on tobacco becomes smaller. However, as noted in the previous paragraph, the differences in average annual tobacco expenditures by CUs who reported tobacco expenditures show less variation among education levels.

Twenty-four percent of CUs reported tobacco expenditures in 2002. Thirty percent of high school graduates with no college—the highest of all educational groups—reported making tobacco purchases, followed by the group with less than a high school degree and those high school graduates with some college, both at 27 percent, and the group with an associate degree at 24 percent. On the other hand, fewer college graduates reported tobacco purchases with 16 percent of

those CUs with a bachelor's degree and 10 percent of those with a master's, professional, or doctoral degree reporting such expenditures.

The amount spent on tobacco compared with the amount spent on food and alcohol is also interesting. Overall, for all CUs, the amount spent on tobacco averaged about 6 percent of that spent on food; but for those with a high school degree, the amount was 9 percent, whereas it was only 2 percent for those with a master's, professional, or doctoral degree. The amount spent on tobacco averaged about 85 percent of that spent on alcoholic beverages for all CUs. For those with less than a high school degree, the amount was 191 percent; for those with an associate degree, the amount was 67 percent; and for those with a master's, professional, or doctoral degree, the amount was only 22 percent. (See table 2.)

Households with less than a college degree made up 74 percent (this group's population share) of all CUs but accounted for 86 percent of total tobacco expenditures in 2002, while those with a college degree made up 26 percent of all CUs but accounted for only 14 percent of tobacco expenditures.

**Occupation.** CE Survey data are published for the following occupation groups: Self-employed workers; CUs with retired reference persons; wage and salary earners, which includes five occupation groups—managers and professionals; technical, sales, and clerical workers; service workers; construction workers and mechanics; and operators, fabricators and laborers—and all others, including those not reporting. CUs with retired reference persons had the lowest average annual tobacco expenditures at \$163. The two more traditional blue-collar occupation groups, construction workers and mechanics, and operators, fabricators, and laborers, had the highest average annual tobacco expenditures at \$582 and \$482, respectively. In comparison, managers and professionals spent \$251, and self-employed workers spent \$315.

There is less variation in average annual tobacco expenditures among occupation groups for those CUs who reported tobacco expenditures, when compared with the average for all CUs in the demographic group. The average annual tobacco expenditure for those who reported tobacco expenditures was \$1,321 per year, with the highest average expenditure for the construction workers and mechanics group at \$1,464 and the lowest for the retired group at \$1,189.

The percent share of the average annual amount spent on tobacco also varies greatly among occupation groups. Managers' and professionals' share of average annual tobacco expenditures was 0.4 percent, compared with 0.6 percent for CUs with retired reference persons, and 0.7 percent for self-employed workers. The share was higher for the more traditional blue-collar households, with a share of 1.1 percent for service workers, and 1.4 percent for both construction workers and mechanics, and operators, fabricators, and laborers.

Forty percent of the construction workers and mechanics group—the highest of all occupational groups—reported tobacco expenditures in 2002, followed closely by operators, fabricators, and laborers at 35 percent, and service workers at 30 percent. In contrast, 19 percent of managers and professionals and 14 percent of the retired group reported tobacco expenditures.

As noted above, for all CUs, the amount spent on tobacco averaged 6 percent of that spent on food; but for construction workers and mechanics, the amount was 11 percent, compared with only 4 percent for managers and professionals, as well as CUs with retired reference persons. The amount spent on tobacco averaged 137 percent of that spent on alcoholic beverages for operators, fabricators, and laborers, compared with 117 percent for service workers, 63 percent for self-employed workers, and only 45 percent for managers and professionals.

In 2002, the households of managers and professionals made up 24 percent of CUs but accounted for 19 per-

cent of total tobacco expenditures. The households with retired reference persons made up 17 percent of all CUs and accounted for 9 percent of tobacco expenditures. In contrast, the households of construction workers and mechanics, and operators, fabricators, and laborers made up 4 percent and 10 percent of all CUs, respectively, but accounted for 8 percent and 15 percent of tobacco expenditures.

**Age.** The CE Survey publishes data for the following age classes: Under the age of 25, 25 to 34 years, 35 to 44 years, 45 to 54 years, age 65 and over, 65 to 74 years, and age 75 and over. Households headed by someone 45 to 54 years of age had the highest average annual tobacco expenditure at \$415, whereas the 75-and-over households had the lowest at \$81—a difference of 412 percent. In comparison, the average annual tobacco expenditure for the under-25 group was \$286, compared with \$376 for the 35-to-44 age group, and \$220 for the 65-to-74 age group.

There is less variation in average annual tobacco expenditures among age groups for those CUs who reported tobacco expenditures when compared to the average annual expenditures for all CUs (including those who did not report having tobacco expenditures). The group with the highest average expenditure was the 45-to-54 age group at \$1,413, and the group with the lowest was the under-25 group at \$1,100—a 28 percent difference.

For the 75-and-older group, the share of average annual expenditures for tobacco was 0.3 percent, compared with 0.5 percent for the 65-and-older group, and 0.8 percent for the 25-to-34, 35-to-44, and 55-to-64 age groups. The share of average annual expenditures on tobacco was highest for the youngest households, with a share of 1.2 percent for the under-25 group.

As previously mentioned, 24 percent of all CUs reported tobacco expenditures in 2002. Twenty-nine percent of the 45-to-54 age group—the highest of all age groups—reported tobacco expenditures, followed closely by the 35-to-44 age group at 27 percent and by the 25-

to-34, 55-to-64, and under-25 age groups at 26 percent. In contrast, only 12 percent of the 65-and-over age group, 17 percent of the 65-to-74 age group, and 7 percent of the 75-and-over age group reported tobacco expenditures.

A comparison of the amount spent on tobacco with the amount spent on food shows that, for the under-25 group—the highest of all age groups—the amount spent on tobacco was 8 percent, compared with only 3 percent for the 75-and-over group. The amount spent on tobacco averaged 103 percent of that spent on alcoholic beverages for the 35-to-44 group, 89 percent for the 45-to-54 group, 80 percent for the 25-to-34 group, 73 percent for the under-25 group, 68 percent for the 65-to-74 group, and 56 percent for the 75-and-over group.

In 2002, households headed by someone aged 65 and over made up 20 percent of CUs but accounted for only 9 percent of total tobacco expenditures, whereas those households headed by someone under 25 years old made up 8 percent of all CUs and accounted for 7 percent of tobacco expenditures. In contrast, the 35- to 44-year-old group and the 45- to 54-year-old group made up 22 percent and 20 percent of all CUs, respectively, but accounted for 26 percent of the tobacco expenditures.

In summary, CE 2002 data shows that, as CUs achieve higher levels of education, the amounts and shares that they spend on tobacco becomes smaller. Among occupation groups (excluding retired households), households of managers and professionals and self-employed workers spend a smaller amount and have the lowest share of tobacco expenditures. Construction workers and mechanics as well as operators, fabricators, and laborers spend a larger amount and share on tobacco. As age increases among groups, the amounts and the shares that they spend on tobacco becomes smaller. While the percent of CUs who purchase tobacco differs by age, education, and occupation, the average annual expenditure on tobacco by CUs who purchase tobacco does not differ as widely by these factors. ■

Table 1. Average annual expenditures and spending on tobacco for all consumer units, by education level, occupation, and age of reference person, Consumer Expenditure Survey, 2002

Item	Number of consumer units (in thousands)	Average annual expenditures per consumer unit	Average annual tobacco expenditures per consumer unit	Average quarterly percent reporting (percent)	Average annual tobacco expenditures (consumer units who reported tobacco expenditures)	Average annual tobacco share of average annual expenditures (percent)	Total share of tobacco expenditure (percent)	Population share of consumer units (percent)
All consumer units .....	112,108	\$40,677	\$320	24.2	\$1,321	0.8	100.0	100.0
Education level:								
Total less than college graduate: .....	82,690	34,631	375	27.9	1,346	1.1	86.3	73.8
Less than high school graduate .....	17,075	24,930	354	27.2	1,301	1.4	16.8	15.2
High school graduate .....	31,961	33,708	441	30.4	1,453	1.3	39.2	28.5
High school graduate with some college .....	23,260	38,654	340	26.6	1,277	.9	22.0	20.8
Associate degree .....	10,395	44,406	289	24.0	1,205	.7	8.3	9.3
Total college graduate: .....	29,417	57,384	167	14.1	1,189	.3	13.7	26.2
Bachelor's degree .....	19,082	53,732	186	16.0	1,161	.4	9.9	17.0
Master's, professional, or doctoral degree .....	10,335	64,118	130	10.4	1,248	.2	3.8	9.2
Occupation:								
Total wage and salary: .....	74,695	45,296	354	26.6	1,332	.8	73.6	66.6
Managers and professionals .....	27,104	57,200	251	19.3	1,303	.4	18.9	24.2
Technical sales and clerical workers .....	20,964	42,069	354	26.8	1,321	.8	20.7	18.7
Service workers .....	10,704	34,515	377	30.1	1,254	1.1	11.2	9.5
Construction workers and mechanics .....	4,885	40,711	582	39.8	1,464	1.4	7.9	4.4
Operators, fabricators, and laborers .....	11,038	34,601	482	34.9	1,382	1.4	14.8	9.8
Self-employed workers .....	5,106	46,880	315	21.8	1,447	.7	4.5	4.6
Retired .....	19,204	27,535	163	13.7	1,189	.6	8.7	17.1
All others, including not reporting .....	13,102	31,099	363	27.3	1,330	1.2	13.2	11.7
Age:								
Under 25 .....	8,737	24,229	286	26.0	1,100	1.2	6.9	7.8
25 to 34 .....	18,988	40,318	315	25.9	1,218	.8	16.7	16.9
35 to 44 .....	24,394	48,330	376	27.2	1,384	.8	25.5	21.8
45 to 54 .....	22,691	48,748	415	29.4	1,413	.9	26.2	20.2
55 to 64 .....	15,314	44,330	361	26.1	1,384	.8	15.4	13.7
65 and over .....	21,983	28,105	152	12.3	1,237	.5	9.3	19.6
65 to 74 .....	11,216	32,243	220	17.2	1,278	.7	6.9	10.0
75 and over .....	10,767	23,759	81	7.2	1,128	.3	2.4	9.6

Table 2. Percent ratio of average annual expenditures on tobacco to average annual expenditures on food and on alcoholic beverages, by education level, occupation, and age of reference person, Consumer Expenditure Survey, 2002

Item	Ratio of amount spent on tobacco to amount spent on food (percent)	Ratio of amount spent on tobacco to amount spent on alcoholic beverages (percent)
All consumer units .....	6.0	85.1
Education level:		
Total less than college graduate .....	7.8	123.8
Less than high school graduate .....	8.6	191.4
High school graduate .....	9.4	161.5
High school graduate with some college .....	6.7	91.4
Associate degree .....	5.1	66.7
Total college graduate: .....	2.5	29.8
Bachelor's degree .....	2.8	34.6
Master's, professional, or doctoral degree .....	1.8	21.5
Occupation:		
Total wage and salary: .....	6.1	81.2
Managers and professionals .....	3.7	45.3
Technical sales and clerical workers .....	6.4	94.7
Service workers .....	7.4	116.7
Construction workers and mechanics .....	10.6	136.0
Operators, fabricators, and laborers .....	9.8	130.6
Self-employed workers .....	5.3	63.0
Retired .....	4.3	78.4
All others, including not reporting .....	7.5	162.1
Age:		
Under 25 .....	7.9	72.6
25 to 34 .....	5.8	79.7
35 to 44 .....	6.0	102.5
45 to 54 .....	6.7	89.2
55 to 64 .....	6.5	86.0
65 and over .....	3.9	64.1
65 to 74 .....	4.9	67.9
75 and over .....	2.5	56.3