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Tobacco Consumption in the United States, 1880 to 1954

By Benno K. Milmore and Arthur G. Conover

The trend of cigarette consumption in the United States in recent years has been the subject of much comment and speculation. Changes in the consumption of cigarettes have been most striking, but interest also attaches to the consumption of other tobacco products. The following paper makes a contribution to our knowledge of tobacco consumption and probably furnishes the best measures of it that can be devised.

ESTIMATES of consumption of cigarettes and other tobacco products given in this article are derived from two sources. One of these is the records of production, imports, and tax-paid and tax-free removal for domestic consumption of tobacco products, as compiled by the Internal Revenue Service, United States Treasury Department. The other source is information on consumption of tobacco products published recently by the Agricultural Marketing Service, United States Department of Agriculture.¹ These data were adjusted to obtain comparable estimates of the consumption of each of the 5 principal classes of these products in the United States during the last 75 years. Table 1 shows these estimates in terms of unstemmed-processing weight of tobacco per person over 14 years of age.

Unstemmed-processing weight represents weight of tobacco before stems are removed. It does not include any nontobacco materials, such as sugar, honey, and licorice, that may be added during manufacturing operations. Farm production and total supplies of tobacco, including stocks, are generally stated in terms of farm-sales weight. The unstemmed-processing weight of tobacco averages about 10 percent less than its equivalent farm-sales weight.

To facilitate conversion of unstemmed-processing weight of tobacco in cigarettes and cigars into numbers of cigarettes and cigars, appropriate conversion factors were used (table 2). Recent changes in the number of cigarettes per pound of tobacco are principally attributable to the increasing popularity of filter tip and of king-size cigarettes. It has been estimated that in 1954 more

than 28 percent of domestically consumed cigarettes were king-size, nonfilter tips—an increase of 45 percent since 1952.¹ These estimates also indicated that filter tip cigarettes, both regular and king-size, accounted for about 10 percent of the total domestic consumption—about 7 times as many as in 1952.

Estimates of the unstemmed-processing weights consumed separately as smoking and chewing tobacco are only approximate and mainly reflect their respective proportions on a manufactured-weight basis. Consumption figures given here do not include the home use of natural leaf for chewing and smoking. This indeterminate quantity probably was noteworthy, particularly in tobacco-growing areas, in the earlier years of the period covered, but undoubtedly it dwindled to a minor quantity with the passage of time.

Cigarettes that are represented in the data here given are those produced in manufacturing plants; they do not include roll-your-own cigarettes. Tobacco used in roll-your-own is included in the smoking-tobacco category and is not separately available. In the years 1933-40, consumption of roll-your-own cigarettes was considerably larger than during later years, and probably above the pre-1933-40 period. It is estimated that during 1933-40, the tobacco used in the roll-your-own comprised 46 percent of the smoking-tobacco category but that by 1950-54 this proportion had dropped to around 32 percent.

For the purpose of computing average annual tobacco consumption per person, the tobacco-consuming population is arbitrarily considered as all persons 15 or more years old. Although this appears more realistic than use of the total population, it obviously does not adequately represent the tobacco-consuming segment of the population.

¹ See *The Tobacco Situation*, March 10, 1955, table 3, p. 9.

TABLE 1.—Tobacco products, unstemmed-processing weight: Consumption per person over 14 years of age, United States, 1880-1954¹

Year	Cigarettes	Cigars	Tobacco		Snuff	Total	Year	Cigarettes	Cigars	Tobacco		Snuff	Total
			Smoking	Chewing						Smoking	Chewing		
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.		Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
1880	.047	1.36	.73	3.15	.12	5.41	1918	1.70	2.26	2.03	2.63	.50	9.12
1881	.053	1.50	.82	3.62	.13	6.12	1919	1.98	2.19	1.70	2.47	.46	8.80
1882	.055	1.60	.83	3.13	.14	5.75	1920	1.89	2.45	1.50	2.36	.47	8.67
1883	.069	1.66	.91	3.80	.15	6.59	1921	2.07	2.00	1.56	2.13	.45	8.21
1884	.085	1.64	.84	3.20	.16	5.93	1922	2.14	2.16	1.67	2.13	.48	8.58
1885	.10	1.61	.94	3.82	.17	6.64	1923	2.51	2.21	1.59	2.19	.48	8.98
1886	.12	1.67	.97	3.73	.17	6.66	1924	2.69	2.06	1.62	1.97	.47	8.81
1887	.14	1.70	1.04	3.88	.20	6.96	1925	2.96	1.99	1.61	1.97	.45	8.98
1888	.16	1.68	.99	3.50	.13	6.46	1926	3.17	1.99	1.53	1.90	.44	9.03
1889	.17	1.69	1.05	4.04	.21	7.16	1927	3.42	1.93	1.42	1.73	.46	8.96
1890	.18	1.78	1.12	3.99	.22	7.29	1928	3.58	1.91	1.34	1.64	.46	8.93
1891	.20	1.83	1.20	4.13	.24	7.60	1929	3.91	1.86	1.38	1.62	.44	9.21
1892	.22	1.86	1.15	4.11	.25	7.59	1930	3.84	1.67	1.44	1.47	.43	8.85
1893	.22	1.72	1.14	3.53	.26	6.87	1931	3.63	1.53	1.59	1.28	.42	8.45
1894	.22	1.56	1.22	3.71	.25	6.96	1932	3.21	1.24	1.73	1.08	.38	7.64
1895	.25	1.56	1.20	3.77	.21	6.99	1933	3.49	1.23	1.69	1.00	.38	7.79
1896	.27	1.51	1.17	3.40	.26	6.61	1934	3.94	1.29	1.71	1.02	.38	8.34
1897	.25	1.60	1.18	3.93	.27	7.23	1935	4.11	1.30	1.52	.91	.37	8.21
1898	.21	1.75	1.20	3.42	.27	6.85	1936	4.61	1.40	1.52	.91	.38	8.82
1899	.17	1.90	1.36	3.49	.28	7.20	1937	4.81	1.40	1.47	.90	.37	8.95
1900	.16	1.99	1.42	3.56	.30	7.43	1938	4.76	1.31	1.51	.80	.37	8.75
1901	.16	2.08	1.50	3.47	.32	7.53	1939	4.95	1.32	1.45	.74	.37	8.83
1902	.18	2.20	1.57	3.41	.33	7.69	1940	5.16	1.36	1.50	.74	.36	9.12
1903	.18	2.29	1.78	3.75	.35	8.35	1941	5.95	1.42	1.33	.71	.37	9.78
1904	.19	2.26	2.00	3.74	.36	8.55	1942	7.01	1.41	1.13	.75	.39	10.69
1905	.19	2.31	2.18	3.56	.37	8.61	1943	7.99	1.28	1.02	.77	.40	11.46
1906	.23	2.40	2.14	3.60	.38	8.75	1944	8.04	1.22	.82	.74	.40	11.22
1907	.26	2.37	2.15	3.51	.37	8.66	1945	9.15	1.26	.96	.68	.41	12.46
1908	.28	2.19	2.12	3.39	.39	8.37	1946	9.24	1.37	.60	.63	.36	12.20
1909	.32	2.20	2.17	3.56	.45	8.70	1947	9.16	1.29	.59	.56	.35	11.95
1910	.41	2.19	2.17	3.35	.47	8.59	1948	9.35	1.31	.58	.52	.36	12.12
1911	.48	2.28	2.20	3.25	.43	8.64	1949	9.33	1.16	.59	.49	.36	11.93
1912	.60	2.27	2.20	3.21	.46	8.74	1950	9.36	1.18	.59	.49	.34	11.96
1913	.71	2.36	2.08	3.06	.47	8.68	1951	9.98	1.19	.53	.45	.33	12.48
1914	.74	2.27	2.06	2.88	.43	8.38	1952	10.41	1.26	.49	.43	.33	12.92
1915	.82	2.17	2.13	2.84	.44	8.40	1953	10.46	1.26	.44	.42	.32	12.90
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¹ 1940-54 data include Armed Forces overseas.

² Provisional.

Little is known concerning how much of the increase or decrease in consumption of various tobacco products per person over 14 years old is attributable to changes in the proportion of such people who use tobacco rather than to changes in the average quantities consumed by users of tobacco.

Trends Vary by Product

Trends of consumption of tobacco, based on table 1, are portrayed on a semilogarithmic scale in figure 1. The consumption of all tobacco products combined has been considerably more stable

than that of some of the individual tobacco products. In 1954 total tobacco consumption per person over 14 years of age was 2.25 times as large as in 1880. During the same period, consumption of cigarettes multiplied 209 times and snuff 2.67 times, whereas consumption of other tobacco products declined. Chewing tobacco decreased the most—the 1954 consumption amounted to only 13 percent of that for 1880. Cigar consumption in 1954 was 90 percent and smoking tobacco 56 percent of corresponding figures in 1880.

Figure 2 shows the average annual consumption per person over 14 years old of the 5 classes of

TABLE 1.—Tobacco products, unstemmed—processing weight: Consumption per person over 14 years of age, United States, 1880–1954¹

Year	Cigarettes	Cigars	Tobacco		Snuff	Total	Year	Cigarettes	Cigars	Tobacco		Snuff	Total
			Smoking	Chewing						Smoking	Chewing		
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1886	.12	1.67	.97	3.73	.17	6.66	1924	2.69	2.06	1.62	1.97	.47	8.81
1887	.14	1.70	1.04	3.88	.20	6.96	1925	2.96	1.99	1.61	1.97	.45	8.98
1888	.16	1.68	.99	3.50	.13	6.46	1926	3.17	1.99	1.53	1.90	.44	9.03
1889	.17	1.69	1.05	4.04	.21	7.16	1927	3.42	1.93	1.42	1.73	.46	8.96
1890	.18	1.78	1.12	3.99	.22	7.29	1928	3.58	1.91	1.34	1.64	.46	8.93
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1892	.22	1.86	1.15	4.11	.25	7.59	1930	3.84	1.67	1.44	1.47	.43	8.85
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1895	.25	1.56	1.20	3.77	.21	6.99	1933	3.49	1.23	1.69	1.00	.38	7.79
1896	.27	1.51	1.17	3.40	.26	6.61	1934	3.94	1.29	1.71	1.02	.38	8.34
1897	.25	1.60	1.18	3.93	.27	7.23	1935	4.11	1.30	1.52	.91	.37	8.21
1898	.21	1.75	1.20	3.42	.27	6.85	1936	4.61	1.40	1.52	.91	.38	8.82
1899	.17	1.90	1.36	3.49	.28	7.20	1937	4.81	1.40	1.47	.90	.37	8.95
1900	.16	1.99	1.42	3.56	.30	7.43	1938	4.76	1.31	1.51	.80	.37	8.75
1901	.16	2.08	1.50	3.47	.32	7.53	1939	4.95	1.32	1.45	.74	.37	8.83
1902	.18	2.20	1.57	3.41	.33	7.69	1940	5.16	1.36	1.50	.74	.36	9.12
1903	.18	2.29	1.78	3.75	.35	8.35	1941	5.95	1.42	1.33	.71	.37	9.78
1904	.19	2.26	2.00	3.74	.36	8.55	1942	7.01	1.41	1.13	.75	.39	10.69
1905	.19	2.31	2.18	3.56	.37	8.61	1943	7.99	1.28	1.02	.77	.40	11.46
1906	.23	2.40	2.14	3.60	.38	8.75	1944	8.04	1.22	.82	.74	.40	11.22
1907	.26	2.37	2.15	3.51	.37	8.66	1945	9.15	1.26	.96	.68	.41	12.46
1908	.28	2.19	2.12	3.39	.39	8.37	1946	9.24	1.37	.60	.63	.36	12.20
1909	.32	2.20	2.17	3.56	.45	8.70	1947	9.16	1.29	.59	.56	.35	11.95
1910	.41	2.19	2.17	3.35	.47	8.59	1948	9.35	1.31	.58	.52	.36	12.12
1911	.48	2.28	2.20	3.25	.43	8.64	1949	9.33	1.16	.59	.49	.36	11.93
1912	.60	2.27	2.20	3.21	.46	8.74	1950	9.36	1.18	.59	.49	.34	11.96
1913	.71	2.36	2.08	3.06	.47	8.68	1951	9.98	1.19	.53	.45	.33	12.48
1914	.74	2.27	2.06	2.88	.43	8.38	1952	10.41	1.26	.49	.43	.33	12.92
1915	.82	2.17	2.13	2.84	.44	8.40	1953	10.46	1.26	.44	.42	.32	12.90
1916	1.13	2.32	2.05	3.00	.47	8.97	1954 ²	9.84	1.23	.41	.40	.32	12.20
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¹ 1940–54 data include Armed Forces overseas.

² Provisional.

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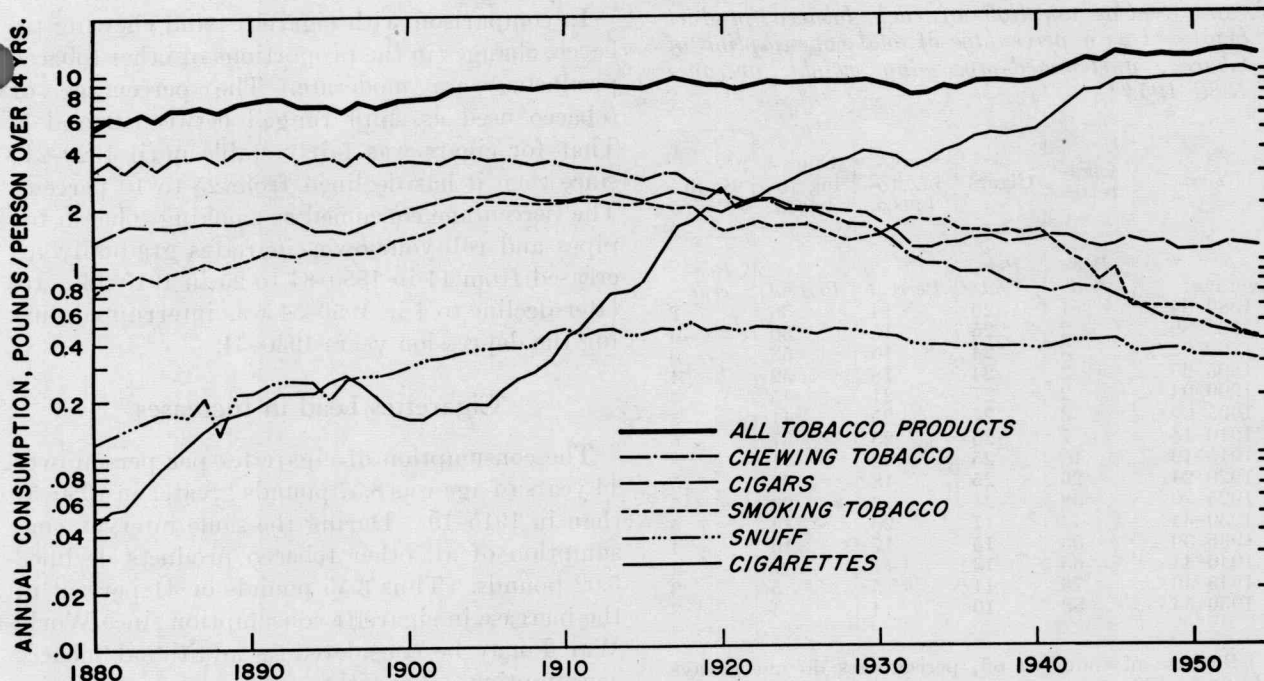


Figure 1

tobacco products during the first, middle, and most recent 5-year periods of the last 75 years. Cigarette consumption in 1880-84 was smaller than that of any other tobacco product; in 1950-54 it was 4 times as large as the sum of all other tobacco products. Snuff is the only other such

product for which recent consumption per person was greater than it was 75 years ago. Chewing tobacco was the leading tobacco product of

TABLE 2.—Number of cigarettes and cigars per pound of tobacco, unstemmed-processing weight; averages 1880-1954, annual 1950-54

Period	Cigarettes	Cigars ¹
Average:	Number	Number
1880-99	333	59.9
1900-09	334	63.5
1910-19	332	56.3
1920-29	338	47.3
1930-39	353	43.6
1940-44	348	42.1
1945-49	351	42.1
1950-54 ²	348	43.0
1950	355	43.0
1951	353	43.7
1952	352	42.8
1953	340	42.8
1954 ²	339	42.8

¹ Small cigars (weighing not more than 3 pounds per 1,000) represented 6 to 14 percent of all cigars from 1900 to 1929 but had diminished to about 1 percent by 1950 to 1954.

² Provisional.

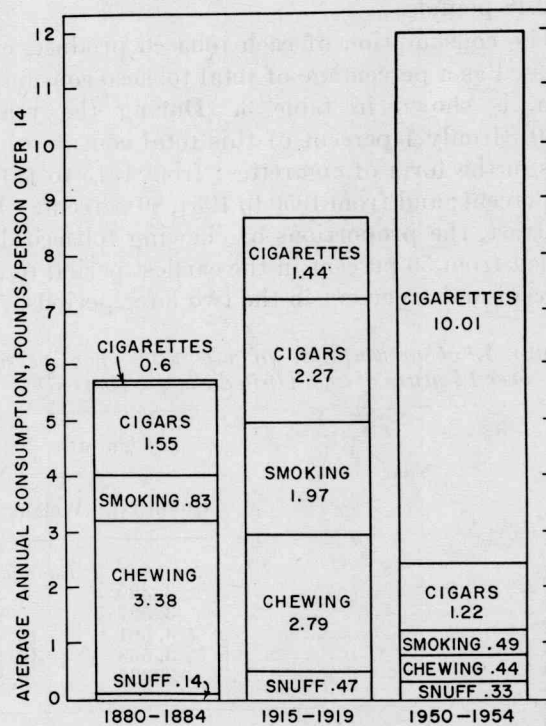


Figure 2

TABLE 3.—Consumption of each tobacco product expressed as a percentage of total consumption of tobacco, unstemmed-processing weight, averages 1880-1954¹

Year	Cigarettes	Cigars	Smoking tobacco	Chewing tobacco	Snuff
	Per-cent	Per-cent	Percent	Percent	Per-cent
Average:					
1880-84---	1	26	14	56	2
1885-89---	2	25	15	56	3
1890-94---	3	24	16	53	3
1895-99---	3	24	18	52	4
1900-04---	2	27	21	45	4
1905-09---	3	27	25	41	5
1910-14---	7	26	25	37	5
1915-19---	16	25	22	31	5
1920-24---	26	25	18	25	5
1925-29---	38	21	16	20	5
1930-34---	44	17	20	14	5
1935-39---	53	15	17	10	4
1940-44---	65	13	11	7	4
1945-49---	76	11	5	5	3
1950-54 ² ---	80	10	4	4	3

¹ Because of rounding off, percentages do not always add up to 100.

² Provisional.

1880-84; in 1950-54 its consumption outranked only that of snuff. Since 1915-19 the consumption of every tobacco product except cigarettes has declined appreciably—from an aggregate of 7.50 to 2.48 pounds.

The consumption of each tobacco product, expressed as a percentage of total tobacco consumption, is shown in table 3. During the years 1880-84 only 1 percent of this total consumption was in the form of cigarettes; from 1915 to 1919, 16 percent; and from 1950 to 1954, 80 percent. In contrast, the proportions of chewing tobacco declined from 56 percent in the earliest period to 31 percent and 4 percent in the two later periods.

TABLE 4.—Consumption of cigarettes per person over 14 years of age, United States, 1950-54

Year	Cigarettes	
	Quantity	Weight ¹
	Number	Pounds
1950-----	3, 320	9. 36
1951-----	3, 527	9. 98
1952-----	3, 661	10. 41
1953-----	3, 558	10. 46
1954 ² -----	3, 337	9. 84

¹ Unstemmed-processing weight.

² Provisional.

In comparison with cigarettes and chewing tobacco, changes in the proportions of other tobacco products were moderate. The percentage of tobacco used as snuff ranged between 2 and 5. That for cigars was fairly stable until 1920-24; since then it has declined from 25 to 10 percent. The percentage consumed as smoking tobacco for pipes and roll-your-own cigarettes gradually increased from 14 in 1880-84 to 25 in 1910-14. Its later decline to 4 in 1950-54 was interrupted during the depression years 1930-34.

Cigarettes Lead in Increases

The consumption of cigarettes per person over 14 years of age was 8.57 pounds greater in 1950-54 than in 1915-19. During the same interval, consumption of all other tobacco products declined 5.02 pounds. Thus 3.55 pounds or 41 percent of the increase in cigarette consumption since World War I may be considered as additional tobacco consumption. The other 59 percent of the increase may be regarded as a shift from other tobacco products to cigarettes.

Table 4 shows that the number of cigarettes consumed per person over 14 years old reached a peak in 1952. But the greatest cigarette consumption in terms of weight of tobacco occurred in 1953. This difference reflects changes in the number of cigarettes produced per pound of tobacco (table 2).

Summary

Estimates of the consumption of each of the 5 principal classes of tobacco products in the United States are here given for the years 1880 to 1954. The annual total tobacco consumption per person over 14 years of age increased from 5.41 to 12.20 pounds. During the same period cigarette consumption increased from 0.047 to 9.84 pounds per person. Except for snuff, consumption of other tobacco products declined. Chewing tobacco was the leading tobacco product in 1880; in 1954 its consumption outranked only that of snuff.

In 1952, 3,661 cigarettes were used per person over 14 years of age, the largest number on record. In terms of quantity of tobacco consumed as cigarettes the peak year was 1953; in that year 10.46 pounds of tobacco per person over 14 were so used. During the years 1880-84 only 1 percent of total tobacco consumption was in the form of

cigarettes; from 1950-54, 80 percent. Since World War I the annual consumption of cigarettes per person over 14 has increased by more than 8 pounds, approximately a 6-fold increase. About

41 percent of this increase may be regarded as additional tobacco consumption, the remaining 59 percent as a shift from other tobacco products to cigarettes.

Disposable Income of Farm People

By Frederick D. Stocker

The United States Department of Agriculture publishes regularly a variety of estimates that measure the overall income position of farming and farm people. During the last decade and a half, however, the tremendous growth in Federal income taxes has clouded the significance of many of the before-tax figures on farmers' incomes. In this paper, the author attempts to measure the income that remains to farm people after payment of income and other personal taxes.

BEFORE WORLD WAR II, income taxes paid to the Federal Government amounted to only a small proportion of total personal income. The amount paid by farmers was so small as to be negligible, and for the population at large it came to only about 1 percent of personal income. But by 1954, this proportion had grown to just under 10 percent. In the industrial sectors of the economy, the rise in Federal income-tax payments has been accompanied by increased emphasis by workers on take-home pay. Economists too have given more attention to disposable income as an indicator of consumer demand and as a standard of well-being.

Although farm income is not in general subject to income-tax withholding, the magnitude of the payments forces many farmers to think and plan in terms of their disposable income. Development of a satisfactory measure of farmers' disposable income, however, has depended on the availability of estimates of the Federal income taxes paid by this group. Recently, estimates of this kind have been developed, covering the period from 1941 to 1955.¹

The purpose of this paper is to utilize these figures, in combination with estimates of other personal tax and nontax payments of farmers and with published statistics on farm income, to ascertain the disposable income of the farm population. Such estimates offer a more refined meas-

ure of the income farm people have available for buying consumer goods or farm equipment, for retiring debt, or for adding to their liquid savings. In this respect, disposable income is a useful indicator of how well off farm people are. It is, moreover, an important figure to those who sell things to farmers—especially such things as farm equipment—because of the great influence disposable income has on the strength of the farmers' demand for the products of industry.

Disposable Income—the Concept

Disposable income, as the term is used in the national income accounts of the Department of Commerce, is found by subtracting personal income taxes and certain other personal tax and nontax payments from personal income. Personal income taxes include, in addition to those paid the Federal Government, the amounts paid to States and to local subdivisions. Other personal tax and nontax payments include State and Federal estate or inheritance taxes, poll taxes, property taxes paid on personal belongings, fines, and miscellaneous charges.²

Federal Income Taxes

For the farm population, as for the population at large, Federal income tax payments make up the overwhelming bulk of all personal tax and

¹ See STOCKER, FREDERICK D., THE IMPACT OF FEDERAL INCOME TAXES ON FARM PEOPLE, U. S. Dept. Agr., Agr. Res. Serv., ARS 43-11, July 1955.

² Further detail on the items included in the category "personal tax and nontax payments" is given in U. S. DEPARTMENT OF COMMERCE, SURVEY OF CURRENT BUSINESS, NATIONAL INCOME, 1954 EDITION (special supplement), table 8, pp. 170-171.