CHAPTER Cd
Consumer Expenditures

Editor: Lee A. Craig

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"Consumer expenditures" refer to purchases of goods and services by families and households. They include items destined for immediate consumption – food, haircuts, and entertainment – and items that will yield a flow of services over several years – automobiles, refrigerators, and pianos. By convention, consumer expenditures do not include purchases of new or used homes.[1] Also by convention, consumer expenditures do not include consumption goods purchased either by businesses or by other private enterprises. Major components of such business or governmentally purchased consumption goods are life, health, and retirement insurance.

Since the time of Adam Smith, economists have recognized that consumption is a primary, if not the ultimate, objective of economic activity. According to Smith, "Consumption is the sole end and purpose of all production" (Smith 1976 [1776], volume 2, p. 179). Following Smith's admonition, today consumer expenditure data are used as an indicator of the standard of living and quality of life. Because they measure consumption directly, they are better standard-of-living indicators than output and income. This is partly because many households save rather than spend a portion of their income. For these households, income is greater than consumption. Other households draw down their earlier savings or borrow money and go into debt in order to finance consumption. For these households, income is less than consumption. Moreover, the propensities to save, dissave, and borrow change over time, and at any point in time they differ among the different segments of the population. For example, during World War II, gross domestic product (GDP) and personal income rose faster than consumer expenditures. The difference between income and consumption – savings – was lent by households, through their purchases of war bonds, to the government, which used the resources to finance the war. After the war, consumption grew faster than income as consumers redeemed their government bonds, moved back to peacetime spending patterns, and purchased automobiles and refrigerators. Furthermore, at any point in time there are differences among segments of the population in the relationship between income and consumption. Young people tend to borrow and accumulate debt; people in their middle years tend to save; and retirees eventually tend to draw down assets such as pension accumulations and savings accounts.

At the same time, it is important to note that even though consumer expenditures are a better measure of consumption than output or income, they may be misleading as well, because they omit the value of household production and governmentally provided services. For example, a home-baked loaf of bread will be recorded as the value of the purchased inputs of flour and liquids. The labor services of the home-baker will be absent, whereas store-bought bread will reflect the market value of those services, thus indicating larger consumption expenditures – though a loaf of bread was consumed in each case. Therefore, on the one hand, because home production has fallen over time, expenditure data tend to overstate the long-term rise in consumption.[2] On the other hand, exclusion of the consumption of publicly provided goods and services – such as roads, schools, water and sanitation services, and libraries – biases the measure in the other direction (Galbraith 1958). The absence of these publicly provided goods and services from consumer expenditures will understate the true level of the standard of living at any one point in time, though it is difficult to determine the net trend over time in this missing component.

Consumer expenditure data are also useful in comprehending, in human terms, the implications for standard-of-living and quality-of-life changes over long periods of time. It might be difficult to imagine how anyone could have survived on the low incomes typical of, say, the early nineteenth century. Consumer expenditure data on what people bought with that income – what and how much they ate, what household implements and clothing they purchased, and what they wasted – are helpful in evaluating the human dimensions of economic growth (Martin 1942; Brady 1972; Easterlin 2000). In the same way, consumer expenditure data may be more helpful than income data in assessing the social meaning of poverty, income inequality, and the social "distance" between classes. Poverty in a society in which the poorest members consume above a bare subsistence level of food, shelter, and clothing would be judged less onerous than in societies where the poorest suffer malnutrition, exposure, and starvation (Sen 1986). Still, the position equating greater levels of consumption with greater well-being has not gone unchallenged (Veblen 1934; Easterlin 1974; Scitovsky 1976).

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[1] Such expenditures are treated separately in Chapter Dc, on construction, housing, and mortgages.

[2] See the essay and tables dealing with household production in Chapter Ba, on labor.

Consumer expenditure data can also indicate important social, political, economic, and cultural changes that are difficult to observe directly. For example, changes over time in women's economic roles and options can be glimpsed in statistics on the relative importance of domestic service expenditures in family budgets, of restaurant meals as a share of all food expenditures, and of relative spending on women's and men's clothing. In addition, scholars use consumer expenditures as indexes of social trends. Corsets, processed flour, and tail fins on 1958 Chevrolets are but a few of the individual items that have been viewed as emblematic of complex social patterns (Cummings 1940; Reid 1968; Horowitz 1985; Levenstein 1988; Lebergott 1993, 1996). Highlighting the role of mass consumption as an "Americanizer," Daniel Boorstin writes: "Men who never saw or knew one another were held together by their common use of objects so similar that they could not be distinguished even by their owners. These consumption communities were quick; they were nonideological; they were democratic; they were public, and vague, and rapidly shifting" (Boorstin 1973, p. 90). One could say the same about mass consumption in the global economy today. At the same time, consumer behavior can be used to maintain group identity and check assimilation. Ethnic foods and traditional clothing can serve this function.

Finally, consumer expenditure patterns are thought to be responsible for certain features of American economic development. For example, the "American system" of manufacturing, which relied on the mass production of identical products using highly specialized machinery and interchangeable parts, is believed to have depended, in large part, on the development of a vast domestic market for inexpensive, standardized products (Rosenberg 1972; David 1975; Hounshell 1984). Another example is the "consumer durables revolution" of the 1920s – that is, the rapid growth of new goods such as automobiles, furniture, and appliances – which is thought to have made the economy more unstable and thus to have contributed to the economic disaster of the Great Depression of the 1930s (Olney 1991).

Sources of Consumer Expenditure Data

The earliest systematic evidence on consumer expenditures for the United States was collected in a series of surveys of households in the late nineteenth century. Prompted by the social unrest generated in the wake of industrialization, unemployment, immigration, urbanization, unionization, and the factory employment of women and children, Carroll D. Wright (1840–1909), Commissioner of the Massachusetts Bureau of Labor Statistics, initiated the systematic collection of a set of objective and comparative survey questions. Wright believed that the first step to developing intelligent public policy was to gain a better understanding of underlying conditions. Wright said he wanted to "show the actual condition of the workingman . . . and his comparative situation as regards his fellow laborers in other states and foreign countries" (Commonwealth of Massachusetts 1875, p. 192). To this end, Wright first organized and administered a survey of the earnings and expenditures of 397 families of skilled and unskilled workers in Massachusetts in 1875 (for a summary of key findings, see Table Cd456–464). What gave Wright's data credibility at the time, and what makes this evidence valuable today, is the care and thought that Wright and his colleagues put into the selection of their samples, the design of a survey instrument that was relatively objective and unambiguous, and the scrupulous tabulation and publication of the findings. Wright eventually became Commissioner of the U.S. Bureau of Labor, and there he supervised similar large-scale studies in 1888–1891 and 1901 (see Tables Cd465–482). Wright's leadership and example inspired labor commissioners in other states and in foreign nations, scholars, and other investigators to conduct literally hundreds of similar studies in the half-century that followed his pioneering effort. Williams and Zimmerman (1935) and U.S. Bureau of Labor Statistics (1959) are valuable, annotated guides to the evidence collected from these studies.

During the First World War, the U.S. Bureau of Labor Statistics (BLS) began to conduct national cross-section studies of consumer expenditure patterns at irregular intervals. Data from some of the larger and better-known surveys are presented in Tables Cd483–502, Cd521–539, and Cd597–616. The BLS's *How American Buying Habits Change* (1959) offers a useful guide to comparability across many of these surveys.

In 1980, the BLS initiated its Consumer Expenditure Survey program, and in 1984 it began its publication of annual, representative, and comparable data on the buying patterns of the American people. Data from these surveys, including the major components of consumer expenditures, are shown in Table Cd424–455. Among their many important uses, these data are inputs into periodic revisions of the Consumer Price Index (CPI). Williamson (1967), Horowitz (1985), Carter, Ransom, and Sutch (1991), and Brown (1994) provide recent appraisals of these data collection efforts and the implications of their findings. Micro-level data from some of these surveys are available in electronic form at the Interuniversity Consortium for Political and Social Research (ICPSR) at the University of Michigan.

Beginning in 1929, a conceptually distinct source of data on consumer expenditures was collected by the Bureau of Economic Analysis (BEA) in the U.S. Department of Commerce and published as part of the *National Income and Product Accounts of the United States*. Data from this source, including the major components of consumer expenditures, are displayed in Tables Cd153–377. Stanley Lebergott (1996) used the BEA framework to develop conceptually similar estimates of consumer expenditures for the period 1900 through 1929. These are displayed in Tables Cd1–152. Lebergott's estimates are directly comparable with the 1993 revision of the BEA series.

Consumer Expenditures at a Point in Time

Consumer expenditure data were originally collected in order to understand the behavior of families in different economic and social circumstances. Perhaps the most important regularity such studies reveal is known as "Engel's Law" – the proposition that, as expenditures or income rise, the proportion devoted to food falls. This "law" is named in honor of the German statistician Ernst Engel (1821–1896), who first observed the relationship in 1857 in cross-sectional data. The intuition behind the principal is that people prioritize their expenditures, putting food purchases before all others. At very low levels of income, households spend most or all of their income on food. As their incomes rise, they purchase other necessities such as housing and clothing. As their incomes rise further still, and after their basic needs are met, they expand their expenditures to include luxuries. Engel's Law holds even though households with higher incomes purchase more and better-quality food. Tables Cd483–502, Cd521–539, Cd558–577, Cd597–616, and Cd636–655 contain family or household expenditures on sixteen categories for

the years 1917–1919, 1935–1936, 1950, 1972–1973, and 1988. The patterns of food expenditures in these tables are all consistent with Engel's Law, although the precise character of the relationship varies over time. Engel's Law has also been used to describe the pattern of saving at different levels of income – namely, as income rises, savings grow.

Consumer expenditure patterns depend upon households' needs and preferences and the relative cost of different goods, in addition to resources available. For these reasons, scholars have uncovered systematic relations between the occupation, education, location, and class of the household head and the household's buying patterns. A particularly detailed description of expenditure differences across socioeconomic classes, and their change over time, was developed by Clair Brown (Brown 1994). Her estimates are displayed in Tables Cd503–520, Cd540–557, Cd578–596, Cd617–635, and Cd656–673.

Trends in Consumer Expenditures over Time

Historical trend data can reveal important society-wide changes in consumer expenditures. For instance, the rise in food expenditures per capita over the twentieth century is displayed in Figure Cd-A. Over this hundred-year period when real per capita income rose more than five-fold, real per capita food expenditures rose almost three times. The three episodes when real food expenditures per capita fell are exceptions that prove the rule. The declines in the 1920s and again in the 1930s are, in part, the result of substantial declines in the relative price of food (see Table Cc3–5), while the decline during the early 1940s resulted from wartime rationing.

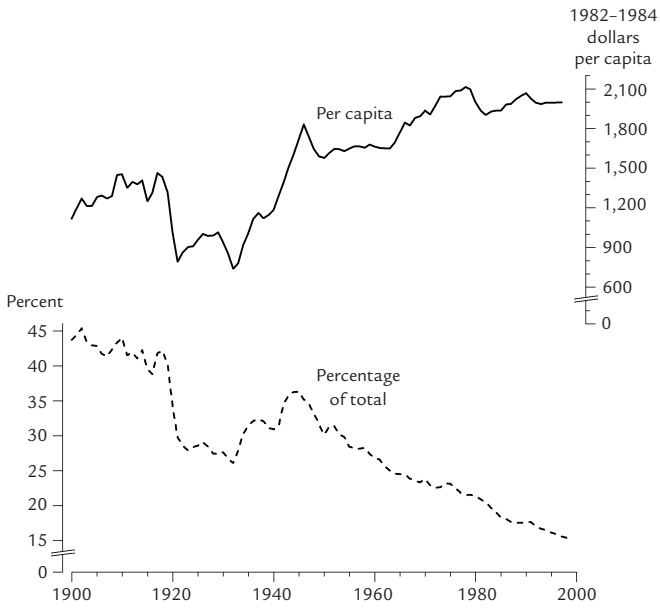

FIGURE Cd-A Consumption expenditures on food, alcohol, and tobacco – per capita and as a percentage of total expenditures: 1900–1999

Sources

Consumption expenditures: series Cd1–2 and Cd153–154. Population: series Aa110. Consumer price index: series Cc1.

Documentation

To create a continuous series for display purposes, series from Tables Cd1–77 and Cd153–263 were joined at the year 1929. Also, in computing constant-dollar per capita expenditures, the values were deflated using the consumer price index from series Cc1. These constant-dollar figures differ, therefore, from the constant-dollar values found in Tables Cd78–152 and Cd264–377.

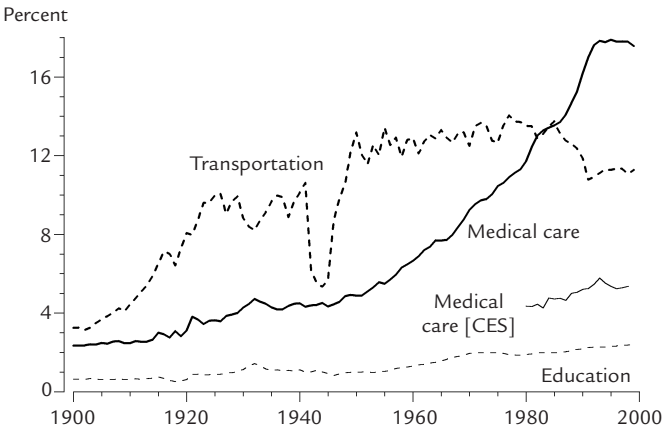

FIGURE Cd-B Consumption expenditures on medical care, transportation, and education as a percentage of total expenditures: 1900–1999

Sources

Aggregate consumption expenditures: for 1900–1928, series Cd39, Cd52, and Cd68 expressed as a percentage of series Cd1; and for 1929–1999, series Cd194, Cd218, and Cd254 expressed as a percentage of series Cd153.

Health care expenditures of consumer units, based on the Consumer Expenditure Survey (CES): series Cd445 expressed as a percentage of series Cd428.

One can also observe a version of Engel's Law in Figure Cd-A, which displays fluctuations in the ratio of food expenditures to total expenditures over the twentieth century. With the exception of the three periods mentioned earlier, this ratio falls from a level of more than 40 percent in 1900 to less than 15 percent a hundred years later. Because real expenditures on food rose over the same period, the substantial fall in food's share of expenditures suggests that the standard of living must have risen, and risen rather dramatically. To understand this conclusion, consider that by the end of the century, food needs could be satisfied with a much smaller share of total income, despite the fact that more and better food was being consumed. This meant that more income was available to meet other basic needs and to purchase luxuries.

Figure Cd-B shows the long-term change for certain goods and services that claimed an increasing share of income over the twentieth century. They include medical care, transportation, and education. The statistics may overstate this growth to the extent that during earlier periods such goods were relatively more likely than the basics to be provided in the home rather than the market. We know, for example, that this may be a problem with the statistics on medical care because in 1900 a large share of nursing services was provided by relatives in the home. Still, properly interpreted, these statistics highlight profound changes in the pattern of peoples' lives over the past hundred years.

Engel's Law suggests that these long-term changes are evidence of improvements in the standard of living and quality of life. Lebergott, for example, offers the following vivid suggestion of the consequences of the increase over the century in expenditures for transportation services.

> In 1900 the United States led most nations in wealth. With so much open land, it fed horses at low cost. Yet only one urban family in

> five had its own horse and could therefore travel at need, or whim. Fewer still had carriages, enabling several family members to travel together. Most Americans still walked to work, living within a mile of their workplaces. . . .
>
> When the twentieth century opened, the automobile appeared to be only a plaything for the rich and reckless. In the 1920s it became the center of a new society. Its promise of instant mobility made it "essential" for millions. Between 1900 and 1980, the number of cars increased from 8,000 to 100,000,000. . . .
>
> At the beginning of the twentieth century, Americans made few contacts outside their family. If youngsters left home to live in another state, they rarely saw their parents again. But by 1990, contact with other families, other modes of belief and behavior, was almost incessant. Cheap transport, more than almost any other force, made "the melting pot" a reality. (Lebergott 1993, pp. 128, 130, 135)

Other observers have drawn more pessimistic conclusions (Scitovsky 1976; Easterlin 1974; Galbraith 1958).

A second clear pattern is that over time, consumers have purchased more ready-to-use goods and have reduced their time spent in household production. For example, instead of buying flour and baking bread at home, more households buy bakery bread, purchase ready-made sandwiches, and eat out at restaurants.[3]

The third regularity is the expansion in variety and the appearance of new goods. Clair Brown documents the increase in the variety of goods consumed by households at every socioeconomic rung. By the end of the century the variety of goods consumed by the lowest classes rivaled that of the upper classes a century earlier (Brown 1994, pp. 466–7). New Goods are also important. For example, Lebergott calculates that in 1900, 88 percent of American homes were lighted by coal, oil, or kerosene, but that by 1990 all but a relative handful relied on electricity (Lebergott 1993, p. 40).

Aggregate Consumer Expenditures

The rapid growth of the U.S. economy during the 1920s and its subsequent dramatic decline during the Great Depression of the 1930s prompted economists' systematic investigation of the behavior of aggregate consumer expenditures. A number of scholars, including Joseph Schumpeter and Peter Temin, attributed the Great Depression to this decline, though this position is not without controversy.[4]

Regardless of its causes, as a response to the crisis, an intensive effort focused on the development of estimates of aggregate consumer expenditures (Lough 1935; Kuznets 1938; Landefeld 2000). These efforts initiated an ongoing data collection and publication effort that continues to this day. These data are collected by the BEA in the Department of Commerce and published as part of the *National Income and Product Accounts of the United States*. Data from this source, including the major components of consumer expenditures, are displayed in Tables Cd153–377. They have been a durable element of ongoing economic analysis ever since. They underlie the early pathbreaking studies of aggregate saving and consumption (Brady and Friedman 1947; Duesenberry 1949; Modigliani 1949; Houthakker and Taylor 1966).

The value of these consumer expenditure estimates prompted William Shaw to compile estimates for the nineteenth and early twentieth centuries (Shaw 1947). These are shown in Table Cd378–410. More recently, Stanley Lebergott constructed improved estimates of real and nominal personal consumption expenditures by twelve major and sixty-four minor categories from 1900 through 1929 (Lebergott 1996). These are reported in Tables Cd1–152. Although Lebergott placed considerable weight on Shaw's figures, Lebergott's estimates have the advantage of being annual, of including a substantially larger number of categories, and of being based on a larger, more diverse set of sources. Furthermore, Lebergott's figures are directly comparable to the 1993 revision of the consumption figures in the national income and product accounts.

Because we now have one hundred years worth of high-quality annual estimates of detailed expenditures, these data can be used to indicate long-term changes in the distribution of consumers' expenditures across various categories. Indeed, Figures Cd-A and Cd-B make use of them in just this way. These figures should not be used uncritically, however. Unlike the household expenditure data discussed earlier, aggregate consumer expenditure data include the expenditures of businesses and governments. For goods such as food and clothing – that is, goods for which consumption decisions are made by households – the difference is not very important. But for a category such as medical expenditures, the difference is enormous, as Figure Cd-B illustrates in the comparison between the two series for medical expenditures. The difference is caused by the fact that consumers themselves pay only a small and falling share of these expenses, with the remainder being paid by businesses and governments.

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[3] See the essay and tables on household production in Chapter Ba, on labor.

[4] Schumpeter (1939) and Temin (1976). On the controversy, see the summary in Atack and Passell (1994), Chapter 21.

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