

## Making it on their own: the baby boom meets Generation X

*In terms of various income and expenditure measures, young single adults in 1994–95, members of “Generation X,” appear to be economically worse off than were their baby-boom counterparts in either 1972–73 or 1984–85*

Geoffrey Paulin  
and  
Brian Riordon

In a popular 1970s television series, Mary Tyler Moore portrayed Mary Richards, a young woman living alone in Minneapolis and working as an associate producer at a television news program. In some ways, the Richards character typified the successful young singles of the baby-boom generation. To illustrate, the opening theme song asked, “How will you make it on your own?” Richards would toss her hat into the air in a gesture indicating that she would indeed succeed. However, the theme song’s question might get a very different answer from today’s young singles. Structural changes in the economy may have altered the outlook for young single women and men, making the theme song’s concluding lyric, “You’re gonna make it after all,” a less-likely outcome for contemporary young singles.

How do today’s young singles—often called “Generation X’ers”—compare to their baby-boom counterparts who entered the labor market 10 or even 20 years ago? And do the figures look the way they do because of real, structural changes in the economy, or could it be that despite gains in employment, differences in wages or other economic measures persist among men and women, or whites and minorities? As labor force participation has increased among these groups, per capita income has declined, in real terms, even though some segments of the population currently earn more than did their counterparts in earlier years. Despite these other changes, relative to everyone else in the economy, are young singles today doing worse, holding their own, or perhaps even doing

better than their counterparts from the previous generation?

To answer these questions, this article examines various measures of economic well-being for 18- to 29-year-old single persons in three periods: 1972–73 (Boomers I), 1984–85 (Boomers II), and 1994–95 (Generation X). Using data from the Consumer Expenditure Survey, it analyzes differences in incomes and spending patterns to see how, if at all, these measures have changed, and how today’s young singles are indeed “making it on their own.”

### Understanding the data

The data in this study are taken from the Interview component of the Consumer Expenditure Survey. Designed primarily to collect data on major expenditures (such as automobiles and new homes) and recurring expenditures (such as interest payments and insurance premiums), the Interview survey collects about 95 percent of total expenditures. Detailed information about the demographic composition of each consumer unit also is collected, including factors such as family size, members’ ages and occupations, and income (with some sources collected for each member and others collected from the family as a whole).<sup>1</sup>

To compare today’s singles with those of previous years, three periods are examined: 1972–73, 1984–85, and 1994–95. The choice in years stems partly from the availability of data. The most recent data available for this study are for 1994–95. The 1984–85 data were selected because they al-

Geoffrey Paulin and Brian Riordon are economists in the Division of Consumer Expenditure Surveys, Bureau of Labor Statistics.

low for a comparison with individuals exactly 10 years earlier. Prior to 1980, the survey was only conducted about once every 10 years; hence, the 1972–73 survey results are the only data available for that decade.<sup>2</sup>

The sample includes all single-member consumer units, aged 18 to 29, who are financially on their own. Excluded are single-member consumer units who are currently enrolled in college or those who receive contributions from outside their consumer unit.<sup>3</sup> The data obtained from the remaining consumer units are then weighted to reflect the population. Following are the sample sizes for each year and the total number of persons represented as a result of weighting:

<i>Year</i>	<i>Sample size</i>	<i>Number of singles represented (in thousands)</i>
1972–73 .....	705	2,565
1984–85 .....	1,791	3,581
1994–95 .....	1,098	2,779

## About “Generation X”

*Background.* Although Generation X often is referred to as a homogenous group, it is actually comprised of many different subgroups of individuals, with differing backgrounds, outlooks, and beliefs. Members of the generation often are derided by a stereotype that casts them as “slackers” (persons who lack drive and ambition) or as “whiners” (those who complain without reason). While such individuals undoubtedly exist in the Generation-X population, this description does not characterize all of its members. Some psychologists and cultural anthropologists have characterized Generation X in four segments, as described below:<sup>4</sup>

Cynical disdainers	Pessimistic and skeptical, this segment receives most of the press attention
Traditional materialists	Most like baby boomers; positive, optimistic, striving for the American dream
Hippies revisited	Replay the lifestyle and values of the sixties and express themselves through music, fashion, and spirituality
Fifties machos	Conservatives who believe in stereotyped gender roles and are the least accepting of multiculturalism

Various studies define Generation X differently by age,

with some saying that persons born in 1961 are the cohort’s oldest members, while others use a younger upper boundary. The lower boundary fluctuates as well. Most studies conducted in the 1990s consider those who were 18 years old during the study period to constitute the lower limit of Generation X, regardless of the year(s) the study covers. Some studies, on the other hand, consider persons who were 14 years old in 1995 to be part of Generation X, although they may in fact be the beginning of a new cohort in the population. Only in hindsight will the boundaries become clearer. For the purpose of this study, Generation X is defined as persons aged 18 to 29 in the 1994–95 period.<sup>5</sup>

*General characteristics.* Before assessing the effects of changing economic factors on young singles, it is useful to first analyze demographic changes within the cohort. Indeed, shifting demographics may help explain how or why economic factors have changed. The first notable change is in the age of young singles. Although the average age increases only slightly over time—less than a year from 1972–73 to 1994–95—the distribution of singles by age clearly has changed. In 1972–73, 52 percent were below age 25, while 48 percent were aged 25 to 29. By 1994–95, the dispersion had widened—42 percent were under 25, and 58 percent were aged 25 to 29. This may indicate that it was somehow easier in 1972–73 for a young single person to “make it on his or her own” than in the later period. A person could leave high school, for example, and get a job that would provide income necessary for self-sufficiency. But if those circumstances have changed such that jobs paying higher real wages are less available to members of this group, then perhaps a larger portion of the younger singles are moving home after college, or leaving home later if they do not attend college.<sup>6</sup> (See table 1.)

Changes in educational attainment levels, therefore, are extremely important. Well over half of young singles were college graduates in 1972–73, but only about one-third had attained that status in 1984–85 and in 1994–95.<sup>7</sup> Although this seems counter to the notion just expressed—that young persons could enter the labor force with less education and still be self-sufficient—it is not necessarily so. As just noted, more graduates may be returning home after college; or, given the increase in those who have some college experience (10 percent from 1972–73 to 1994–95), it could be that more singles are attending school part time.<sup>8</sup>

The racial composition of the young single population has remained relatively stable, with blacks accounting for between 8 and 10 percent over the period.<sup>9</sup> The gap between males and females, on the other hand, has increased considerably. In 1972–73, a young single person drawn at random was more likely to be a male than a female, but not by a large margin (54 to 46 percent). By 1994–95, there were nearly two single males (62 percent) for every single female (38

**Table 1.** General characteristics of single-person consumer units by period of interview

General characteristics	Period of interview		
	1972-73	1984-85	1994-95
Sample size .....	705	1,791	1,098
Number of consumer units represented .....	2,564,989	3,580,739	2,778,958
Income before taxes (1994-95 dollars) <sup>1</sup> .....	\$22,413	\$21,928	\$19,891
Total expenditures (1994-95 dollars) .....	\$19,984	\$20,536	\$18,591
Age (average single person) .....	24.2	24.8	24.8
Percent distribution:			
Age:			
18 to 24 years .....	52.3	46.3	41.6
25 to 29 years .....	47.7	53.7	58.4
Gender:			
Male .....	54.3	58.9	61.7
Female .....	45.7	41.1	38.3
Race of reference person:			
White and other .....	91.0	91.8	90.0
Black .....	9.0	8.2	10.0
Education of reference person:			
Some high school or less .....	4.8	5.9	9.5
High school graduate .....	20.9	33.8	27.5
Some college .....	18.6	27.2	27.7
College graduate .....	55.7	33.1	35.3
Housing tenure:			
Homeowner .....	4.0	9.8	11.3
Renter .....	96.0	90.2	88.7
Region of residence:			
Northeast .....	16.6	18.8	20.4
Midwest .....	29.9	27.3	25.4
South .....	24.3	31.1	31.9
West .....	29.2	22.8	22.3
Degree urbanization:			
Urban .....	94.8	94.3	92.5
Rural .....	5.2	5.7	7.5
Average number in consumer unit:			
Earners .....	.94	.97	.96
Cars and trucks .....	.86	.81	.72

<sup>1</sup> Complete income reporters only.

percent) in the group.

The percentage of homeowners among young singles has nearly tripled from 1972-73 (4 percent) to 1994-95 (11 percent). This may be due to the increased availability of condominiums and other smaller-than-usual housing units. The U.S. Bureau of the Census reports that condominium starts—that is, the number of *new* dwellings built—rose from 69,000 in 1973 (the earliest year for which data are available) to an annual average of 87,500 in 1984-85.<sup>10</sup> That figure dropped to 47,500 in 1994-95, but assuming that new starts increase the supply of condominiums (rather than just replace those that are demolished for one reason or another), these figures

support this hypothesis. The increase in supply may coincide with an increase in demand. Also, as noted earlier, the percentage of this group comprised of 25- to 29-year-olds has steadily increased, and the probability of home ownership increases with age.<sup>11</sup>

## Income and expenditures

One measure of “well-being” that can be used to compare Generation X to its earlier counterparts is income. Income is a critical variable in determining spending patterns. For example, consider the “budget constraint,” which shows for the individual the trade-off of purchases possible at prevailing prices. When given additional income, the individual’s budget constraint will shift to the right—more dollars can go to both consumption and savings than before, if desired; hence, the individual is better off. However, if the budget constraint shifts to the left, the person is worse off, facing now the difficult choice of how consumption is to be reallocated among goods and services given the reduction in income. (For more on budget constraints, see appendix A.)

For the purposes of this analysis, data on income before taxes are examined for complete income reporters only.<sup>12</sup> Also, because this study covers a period of more than 20 years, one cannot simply compare average *nominal* incomes over the period to study changes in the economic well-being of young singles. To do so would of course lead to the erroneous conclusion that singles in 1972-73 were far worse off than those in the other two periods. Both nominal and “real” (inflation-adjusted)<sup>13</sup> income for single-person consumer units, aged 18 to 29, are shown below:

Year	Nominal income	Real income (1994-95 dollars)
1972-73 .....	\$6,830	\$22,413
1984-85 .....	15,428	21,928
1994-95 .....	19,891	19,891

By the latter measure, members of Generation X clearly are worse off than their Boomer counterparts. In real terms, they earn about 9 percent less than Boomers II, and 11 percent less than Boomers I. Most of the decline occurred in the later period, with the change in real incomes from 1972-73 to 1984-85 (\$485) accounting for less than one-fifth of the total change from 1972-73 to 1994-95 (\$2,522).

## The Lorenz quotient

Simply comparing real incomes for the three groups, however, may not tell the whole story. Perhaps Generation X’s

were not the only ones affected, and everyone is worse off. How has the status of young singles relative to the rest of the population changed over time? A tool to help answer this question is inspired by the Lorenz curve. In a Lorenz curve, the population is ordered so that the lowest-income subgroup (in this case, family, person, or consumer unit) is assigned the number 1, and other consumer units follow in order of income, with the highest-income family being assigned a value of  $n$ , where  $n$  is the total number of subgroups in the population. The population can then be split into any number of equal parts (up to  $n$ ) to compare its proportion of the population to its share of total income. If these values are equal, there is perfect equality of income distribution in the economy. The extent of difference gauges the level of inequality (For more on Lorenz quotients, see appendix A.)

To make the analysis more meaningful, young singles are compared with the total singles population. If they were compared with the total (single and non-single) population of consumer units, it would be expected that singles would account for less than their population share, because single-person consumer units by definition have fewer members than other consumer units, and average income generally increases with consumer unit size. For similar reasons, the sample of singles (regardless of age) is restricted to those who are currently earning income and who are not in school.<sup>14</sup> In addition, the percentage of all single-person consumer units for which young singles account changes over time, as does the percentage of total single persons' income for which young singles account.

In order to find out how young singles compare to the rest of the singles population in a way that is comparable across periods, a *Lorenz quotient* is defined for the purposes of this analysis as the ratio of two percentages—the percent of all single-member consumer unit income accounted for by young singles, and the percent of the total singles population for which young singles account. If the Lorenz quotient is equal to 1.0, then the share of income accounted for by young singles exactly matches their proportion of the total singles population. If it is greater than 1.0, young singles account for “more than their share” of all single persons' income; if lower than 1.0, young singles account for “less than their share” of all singles' income.

The results of this analysis are presented in table 2. In each of the periods studied, the Lorenz quotient is less than 1.0.<sup>15</sup> According to this measure, Generation-X singles lost little ground (relative to the rest of the relevant singles population) between 1972–73 (0.84) and 1984–85 (0.83), but had lost far more by 1994–95, the period for which the Lorenz quotient is the lowest (0.71). But once again, the differences in the Lorenz quotients may be due to other changing characteristics. For example, suppose that women, minorities, or those who are under 25 earn lower incomes than their other single

counterparts. Suppose that at the same time, women, minorities, or those under 25 have increased as a percentage of all singles studied. Then, even if the gap in earnings has been reduced over time for any of these groups, the fact that there is still a gap may make overall income smaller than it would otherwise be. To see what influence changing demographics has on the income distribution, each of these three groups is examined separately in table 3.

As noted earlier, total income before taxes dropped 9 percent from 1984–85 to 1994–95, and 11 percent from 1972–73 to 1994–95. These figures can be compared with the changes shown in table 3 to see which groups account for the largest share of that drop. For example, incomes dropped faster for the 25- to 29-year-olds in both periods than for those aged 18 to 24, but female income decreased less sharply than male income from 1972–73 to 1994–95 (and actually increased from 1984–85), while male income continued to drop; note that average incomes are virtually equal for males and females in 1994–95. As the table shows, though, this appears to have more to do with the sharper drop in male income than the rise in female income. Since 1985, more women per year have earned a formal degree than men (although men still earn more professional and doctoral degrees).<sup>16</sup> This may help account for the closing of the income gap.

For young black singles, however, the experience is virtually the opposite. Starting with incomes that were slightly smaller than those of white singles in 1972–73 (by about 5 percent), the percent loss in income from 1972–73 to 1994–

**Table 2.** Lorenz quotients for income and expenditures: young singles compared with other similar singles

Period	Percent of total	Percent of consumer income	Lorenz quotient
1972–73:			
Singles, 18–29 .....	26.75	31.83	.84
All other singles .....	73.25	68.17	...
1984–85:			
Singles, 18–29 .....	44.46	53.75	.83
All other singles .....	55.54	46.25	...
1994–95:			
Singles, 18–29 .....	27.13	38.09	.71
All other singles .....	72.87	61.91	...
	Percent of total expenditures	Percent of consumer units	Lorenz quotient
1972–73:			
Singles, 18–29 .....	31.78	31.13	1.02
All other singles .....	68.22	68.87	...
1984–85:			
Singles, 18–29 .....	48.66	52.65	.92
All other singles .....	51.34	47.35	...
1994–95:			
Singles, 18–29 .....	32.43	38.99	.83
All other singles .....	67.57	61.01	...

**Table 3. Average real incomes by demographic groups within Generation X**

Period	Younger group (18 to 24 years)		Older group (25 to 29 years)	
	Real income	Percent change (to 1994-95)	Real income	Percent change (to 1994-95)
1972-73 .....	\$17,629	-11.9	\$27,807	-17.9
1984-85 .....	16,396	-5.3	26,651	-14.3
1994-95 .....	15,527	( <sup>1</sup> )	22,831	( <sup>1</sup> )
	Males		Females	
	Real income	Percent income (to 1994-95)	Real income	Percent change (to 1994-95)
1972-73 .....	\$23,986	-17.0	\$20,571	-3.4
1984-85 .....	24,173	-17.7	18,610	6.8
1994-95 .....	19,899	( <sup>1</sup> )	19,876	( <sup>1</sup> )
	White		Black	
	Real income	Percent change (to 1994-95)	Real income	Percent change (to 1994-95)
1972-73 .....	\$22,481	-9.4	\$21,728	-29.9
1984-85 .....	21,949	-7.2	21,700	-29.8
1994-95 .....	20,370	( <sup>1</sup> )	15,239	( <sup>1</sup> )

<sup>1</sup> Not applicable.

95 is more than 3 times as steep for blacks as it is for whites, and more than 4 times as steep from 1984-85 to 1994-95 as it is for whites.

### Permanent income

While the analysis of well-being has thus far centered around reported annual income (also known as “current income”), it may be more useful to look at a related concept known as “permanent income.” The Permanent Income Hypothesis, first put forward by Milton Friedman in 1957, states that consumers make decisions on expenditure patterns based not only on current income, but on expectations of future income.<sup>17</sup> Total expenditures are frequently used as a proxy for permanent income for theoretical and empirical reasons.<sup>18</sup> As with current income, the first question that comes to mind is by how much, if at all, permanent income has changed over time. Table 1 shows that permanent income is lowest in the latest period, dropping by 7 percent from 1972-73 to 1994-95, and by more than 9 percent from 1984-85 to 1994-95.

But as noted before, these trends may simply reflect a new economic reality for the whole population. How can one be sure that members of Generation X are worse off than their Boomer counterparts were? Once again, the Lorenz quotient

can be used to analyze the relationships of population share and aggregate consumption share. Table 2 shows that although the consumption share was about two-thirds the size of the population share for both groups of Boomer singles, the ratio has declined for singles from Generation X (from 1.02 to 0.83), indicating that they are worse off, relative to the relevant singles population, than were their predecessors.

### Changing expenditure patterns

As stated earlier, these figures only measure changes at the aggregate level. If permanent incomes are declining—meaning the permanent income budget constraints are shifting to the left—how do singles make adjustments? This is particularly interesting when considering that not all goods and services have experienced uniform price changes over time. In real terms, both the slopes and intercepts of the permanent income budget constraints may have changed, if one considers the budget constraint for each good measured against all other consumption. (That is, one can consider real-dollar food-at-home expenditures on the X-axis, and all other goods and services on the Y-axis. The new budget constraint may shift to the left, but need not be parallel to the original if prices for food at home changed at a different rate than prices for all other goods and services.) However, even if it can be shown that consumption of some goods and services has changed in real terms at different rates than overall consumption, what does this imply for the well-being of young singles in different periods?

One measure of social welfare that is frequently used is derived from Ernst Engel’s famous Proposition of 1857.<sup>19</sup> Engel found that, at least in mid-19th century Prussia, families with higher incomes allocated a smaller share of those incomes to food than families with lower incomes. Expenditure shares can be used as a measure of well-being in this case because the larger the proportion that a family spends on goods and services that are basic to life (such as food), or so-called “necessities,” the less the family has to spend on other goods and services, and, therefore, the less well-off is the family.

But inherent within this use of allocation of shares as a measure of social welfare is that members of the compared groups face the same prices. For example, suppose two typical four-member families with different incomes are compared. Presumably, they each require about the same amount of food to maintain good health. Assuming they each buy similar quantities, and pay similar prices, the low-income family will allocate a larger share of its income to food than the high-income family.

In the present study, however, there are some complications. For example, unlike the four-member families just discussed, these singles are not all observed contemporane-

ously—some are interviewed in the 1970s, some in the 1980s, and some in the 1990s. During these periods, prices changed dramatically; overall, consumer prices rose 228 percent from 1972–73 to 1994–95, and 42 percent from 1984–85 to 1994–95. Thus, before expenditures are analyzed, price changes must be taken into account.

The most obvious way to control for price changes is to divide all expenditures by an index that converts “nominal” 1972–73 and 1984–85 dollars into “real” 1994–95 dollars. This at least controls for the real dollars spent on an item. For example, suppose that the Consumer Price Index had exactly doubled from 1972–73 to 1994–95. Suppose further that the average single person in the 1972–73 sample spent \$10 for apples. In 1994–95, that value changed to \$20. If 1972–73 expenditures are converted to 1994–95 dollars, one is tempted to say that nothing changed—in real terms, persons in 1972–73 are spending 20 real 1994–95 dollars, just as they are in 1994–95, and so there the story ends. In terms of opportunity cost, they gave up \$20 (in real terms) to purchase apples in 1972–73, which is just like giving up \$20 in 1994–95; that is, the purchasing power of the \$20 is the same in each period.

But what if, unlike all other goods, apples did not show a price increase of 100 percent, but underwent an entirely different pattern of changes? For example, suppose that in nominal terms, apples sold for \$10 per pound in 1972–73, but only for \$5 per pound in 1994–95. The average sampled person in 1972–73 only purchased 1 pound of apples, while the person

in 1994–95 purchased 4 pounds. Yet, in real dollars, each expenditure was \$20.

To correct for this, the data examined here are divided through by their own price indexes, in order to obtain real “consumption dollars.” In other words, in the apple example, if the price index for apples was set at 1.00 in 1972–73, the index would be set at 0.50 in 1994–95. Dividing the \$10 by 1.00 yields \$10 of apple consumption for 1972–73. Dividing the \$20 by 0.50 yields \$40 for apples in 1994–95. Note that by controlling for price in this way, any change in observed real consumption dollars must be due to a change in the quantity purchased. And indeed, note that the real consumption expenditure in 1994–95 is 4 times larger than its counterpart in 1972–73, reflecting the fact that the person actually purchased 4 times as many apples (4 pounds) in 1994–95 than in 1972–73 (1 pound). Because the Consumer Expenditure Survey does not collect information on quantities purchased for most items, this method yields fruitful results.

The real consumption expenditures are analyzed here in a slightly different way than conventional shares analysis. Continuing to use total expenditures as a proxy for permanent income, total expenditures are adjusted for inflation by the overall change in prices to reflect a “potential” consumption level in real terms. As table 4 shows, this potential level shrinks both from 1972–73 to 1994–95 and from 1984–85 to 1994–95, indicating that young singles from Generation X are worse off than their Boomer counterparts because their potential consumption is lower—in other words, they cannot

**Table 4.** Real consumption expenditures and percent changes over time

Category	Period 1: 1972–73	Period 2: 1984–85	Period 3: 1994–95	Percent change	
				Period 1 to period 3	Period 2 to Period 3
Income before taxes <sup>1,2</sup> .....	\$22,413	\$21,928	\$19,891	-11.3	-9.3
Total expenditures <sup>2</sup> (annual) .....	19,984	20,536	18,591	-7.0	-9.5
Basic goods and services .....	8,827	7,496	7,833	-11.3	4.5
Food at home .....	1,085	1,419	1,668	53.7	17.5
Shelter and utilities .....	6,766	4,990	5,192	-23.3	4.0
Apparel and services .....	976	1,087	973	-0.3	-10.5
Recreation/related expenditures .....	2,723	3,011	2,430	-10.8	-19.3
Food away from Home .....	1,317	1,385	1,102	-16.3	-20.4
Entertainment .....	974	1,275	1,126	15.6	-11.7
Reading .....	178	147	107	-39.9	-27.2
Other lodging .....	254	204	95	-62.6	-53.4
Transportation .....	4,809	4,736	4,200	-12.7	-11.3
New cars/trucks .....	1,005	1,431	797	-20.7	-44.3
Used cars/trucks .....	960	916	998	4.0	9.0
Gasoline and motor oil .....	979	768	646	-34.0	-15.9
Other transportation .....	1,865	1,621	1,759	-5.7	8.5
All other expenditures <sup>3</sup> .....	3,625	5,293	4,128	13.9	-22.0

<sup>1</sup>Complete reporters only.

<sup>2</sup>1994-95 dollars.

<sup>3</sup>Total expenditures less basic goods, recreation, and transportation; includes

alcohol, tobacco, education, personal care, cash contributions, miscellaneous, household operations, housefurnishings, personal insurance, and health care.

afford to consume as much in real terms as their older counterparts did when they were the same age.

The impact of this lower potential for consumption is examined by comparing the percent decline in potential consumption with the percent change in real consumption dollars spent on different goods and services. For example, potential consumption declined by about 10 percent from 1984–85 to 1994–95. If consumption for each individual good and service were cut back equally in response to this change, then all goods and services should show a 10-percent decline in real consumption dollars allocated to them. But this is not the case. Members of Generation X have cut back on some items more severely than others, while at the same time increasing consumption of some goods and services.

### Basic goods and services

The decline in real consumption expenditures allocated to basic goods and services from 1972–73 to 1994–95 (11 percent) is substantially larger than the decrease in total consumption expenditures (7 percent) for this period.<sup>20</sup> However, real consumption expenditures actually increased more than 4 percent for basic goods and services from 1984–85 to 1994–95, despite a decrease of nearly 10 percent in total consumption expenditures during this period. Most remarkable is the large percent change in expenditures for food at home during each of these periods. Real consumption of food at home increased 54 percent from 1972–73, and 18 percent from 1984–85. (It should be noted that real consumption expenditures for food away from home decreased by larger percentages than total consumption during these periods, so it is not necessarily true that total food consumption increased.)

Expenditures for shelter and utilities change over this period, too, dropping from 1972–73 to 1984–85, and then increasing. Consumption of apparel and services, on the other hand, appears to be stable—in 1994–95, expenditures were virtually identical to the levels of the 1972–73 period. Although they fell 11 percent from 1984–85 to 1994–95, this accords with the general decline in expenditures over the period. On the other hand, it is important to note a decrease in the percent reporting expenditures for these items. The percent reporting declines from 92 percent in 1984–85 to 87 percent in 1994–95, meaning that those who purchase are purchasing a lot more clothing than perhaps they used to, but fewer persons are making such purchases.<sup>21</sup>

Recreation and related expenditures also decrease over these periods, but less sharply than expected from 1972–73 to 1994–95, and more sharply than expected from 1984–85 to 1994–95. Of these expenditures, consumption of food away from home clearly decreases over time. The percent reporting was 92 to 93 percent in the latter periods, yet real expenditures declined substantially more than overall consumption

expenditures, regardless of the base year (1972–73 or 1984–85). Although entertainment expenditures decreased from 1984–85 to 1994–95, they are actually higher in both these years than they were in 1972–73. This may reflect the introduction of new products and services in the 1980s, such as compact disc players and video cassette recorders, that were simply not available for purchase in the 1970s.<sup>22</sup> Consumption expenditures decline drastically for both other lodging and reading, both of which also show sharp declines in percent reporting.

Transportation expenditures fell over both periods by an amount similar to the overall consumption decline. More interesting are the changes in the components, particularly new and used vehicles. New car and truck expenditures declined far faster (21 percent from 1972–73 to 1994–95; 44 percent from 1984–85 to 1994–95) than overall consumption expenditures did for either period. On the other hand, used car and truck expenditures rose over both periods. Yet, the percent reporting used vehicles remains about the same. The new car and truck purchase declines are in line with lower percentages reporting—3 percent in 1984–85 to about half that in 1994–95. Perhaps those who had cars decided to hold on to them longer over these periods, or some persons decided to lease cars rather than actually purchase them.

Finally, gasoline and motor oil expenditures decreased substantially in both periods. This may be related to the improved fuel efficiency of vehicles offered for sale in the latter two periods.<sup>23</sup> By the mid-1980s, domestic automobile manufacturers had started offering a larger variety of smaller cars than they had in the early 1970s, when such cars were available primarily from foreign manufacturers.

### Standardization

Changes in expenditure allocations for the group as a whole may not be due only to income changes, but to the changing demographic characteristics of the group. For example, if males and females have different tastes for different expenditures, then the fact that there are more males in the group could account for a significant portion of the change in the allocation of expenditures. A technique called “standardization” (described in detail in appendix A) measures the effects that changes in the demographic composition of a group have on spending in two ways. First, even if tastes had not changed over the period, by how much are expenditures predicted to change given the changes in the demographic composition of the group? Second, if characteristics had remained the same over time, how much of the change in predicted expenditures is due to a change in tastes and preferences?<sup>24</sup>

In this case, standardization is performed for two categories of (real-dollar) expenditures—basic goods and services and recreational goods and services. Table 5 shows that,

taken all together, changes in the distributions of purely demographic information (such as race, gender, region, rural/urban area, education, housing tenure, and age) account for very little of the expected change in spending for either basic or recreational goods and services. Regardless of the period considered (1972–73 to 1994–95, or 1984–85 to 1994–95), these changes in the aggregate account for at most, \$39 of increase or decrease in predicted expenditures for the categories.

Although some individual characteristics appear to account for a substantial amount of change (for example, the table shows that the change in percentage of college graduates, by itself, accounts for a decrease in basic goods and services spending of \$108), when taken as a whole, these demographic effects cancel each other out. In each case, regardless of period or characteristic, the income effect dominates. That is, even if all tastes and preferences (as estimated by the regression coefficients) were held constant over time, the decline in real income accounts for \$543 of the decline in expenditures for basic goods and services, and \$195 of the decline in expenditures for recreation and related goods and services from 1972–73 to 1994–95.

As noted earlier, standardizing also controls for changes in tastes by the group as a whole. The coefficient associated with permanent income can be interpreted as the marginal propensity to consume (MPC) either basic goods and services or recreation and related goods and services. The MPC identifies the proportion of an additional dollar that the consumer is estimated to spend for the item under study if the consumer were given an additional dollar. For example, the regression results show that for the Boomers I group, the MPC for basic goods and services is about 0.44, but for Generation X it drops to about 0.39. In other words, given an extra dollar, the average member of Boomers I would spend 44 cents on basic goods and services; but the average Generation X'er is estimated to spend 0.39. This change in MPC is assumed to reflect a change in underlying tastes and preferences for the group as a whole. (See appendix B for regression results.)

Standardization allows the analyst to see how much this change in tastes and preferences would be expected to change expenditures if all other characteristics (including income) were held constant. The results show that from 1972–73 to 1994–95, the change in MPC accounts for a drop of \$930 for basic goods and services, and an increase of \$372 for recreational goods and services. From 1984–85 to 1994–95, the change suggests an increase of \$372 for basic goods and services and a decrease of \$186 for recreational goods and services. When changes in tastes and preferences by other demographic groups are taken into account, the total change in estimated basic goods and services expenditures is a decline of \$3,103 from 1972–73 to 1994–95, and an increase of \$140 from 1984–85 to 1994–95. For recreation and related expenditures, total taste and preference changes (including income and characteristics) predict an increase of \$1,277 for 1972–73 to 1994–95, and a

**Table 5. Standardization results: goods and services**

Item	Expenditures for basic goods and service		Expenditures for recreational goods and services	
	1972–73 to 1994–95	1984–85 to 1994–95	1972–73 to 1994–95	1984–85 to 1994–95
<b>Accounting for demographic and income changes</b>				
Total characteristic effect .....	\$-557	\$-720	\$-234	\$-252
Income effect .....	-543	-759	-195	-272
Demographic effect .....	-14	39	-39	20
Black .....	1	2	-1	-1
Female .....	-6	-2	21	8
Northeast .....	4	1	-3	-1
Midwest .....	36	14	-6	-2
West .....	5	1	2	0
Rural .....	-3	-2	-3	-2
Less than high school .....	-5	-4	21	17
Some college .....	5	1	13	1
College graduate .....	-108	10	-55	5
Renter .....	24	3	-27	-4
18 to 24 years of age .....	33	15	-1	-1
<b>Controlling for changes in tastes and preferences</b>				
Total coefficient effect .....	-3,103	140	1,277	-268
Effect of change in:				
Marginal propensity to consume .....	930	372	372	-186
Demographics .....	-2173	-232	905	-82
Black .....	14	-46	-22	12
Female .....	-63	-114	-98	52
Northeast .....	-67	-99	24	-21
Midwest .....	-134	-232	76	-27
West .....	-172	-108	10	-83
Rural .....	-92	12	1	-21
Less than high school .....	-35	-20	-6	32
Some college .....	-211	100	37	-26
College graduate .....	368	165	116	-57
Renter .....	-1555	145	633	115
18 to 24 years of age .....	-226	-35	134	-58

NOTE: See *standardization techniques* section of appendix A for derivation of various identities.

decrease of \$268 for 1984–85 to 1994–95.

Note that even after accounting for differences in demographics, incomes, and general taste changes, there is still some residual effect that is not captured. For example, the model predicts a total decrease of \$3,660 in expenditures for basic goods and services from 1972–73 to 1994–95. (That is, they decrease \$557 due to demographic changes and \$3,103 due to changes in tastes.) Yet, table 4 shows that real consumption of these goods and services decreased only \$994 during this period. This



discrepancy may be due to factors that are unaccounted for in the model—such as cross-elasticities of substitution or random events that cannot be modeled, like temporary shortages of a particular good or service. The total change due to these residual effects is positive in this case, meaning that expenditures for these goods are higher than might be expected due to changes in factors that are accounted for in the models. Further investigation is warranted. (See table 5.)

THE ECONOMIC WELL-BEING OF YOUNG ADULT SINGLES from Generation X has been compared with that of two groups of baby-boomers using various measures, each of which seems to indicate a reduction in the welfare of Generation X'ers relative to their Boomer predecessors. Comparing real average incomes for the three groups shows Generation X lagging behind both Boomers I and Boomers II. When income data are broken down further, they show similar trends for women and men, blacks and whites, and younger and older members of the cohort. When comparing their income standing relative to the rest of the relevant singles population, members of Generation X appear to

be getting a smaller piece of the pie, regardless of the size of the overall pie.

Permanent income analysis yields similar results, including a reduction of potential consumption in real terms. Generation X'ers also consume fewer "luxury goods" (such as recreation and related expenditures) and more "necessity goods," especially food at home. Standardization technique shows that, for the most part, the decline in average expenditures is due to a decline in real income over the past 10 or 20 years, and not simply due to compositional changes within the group.

Members of Generation X have sometimes been accused of complaining too much, and of being cynical and unmotivated. In this study—conducted by two economists, who, while not cynical, have tried to be skeptical—a variety of economic measures were examined to ascertain whether members of the cohort could be viewed as being better off in any economic sense than their baby-boom predecessors. With the possible exception of having a larger array of entertainment and other goods to purchase, members of Generation X appear to be worse off by every measure. □

## Footnotes

<sup>1</sup> For more information on the Consumer Expenditure Survey, see *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, 1997), Chapter 16, "Consumer Expenditures and Income," pp. 160–66.

<sup>2</sup> This is a fortunate coincidence in that 1972–73 was just before the onslaught of major economic dislocations, starting with the oil shocks of the early 1970s, which led to the severe recession of 1973–75. Also, each of the study periods is at roughly the same point in the business cycle.

<sup>3</sup> The basic unit of comparison in the Consumer Expenditure Survey, a *consumer unit* is defined as a single person or group of persons living together and related by blood, marriage, adoption, or other legal arrangement, or who share responsibility for at least two of three major expenditure categories (food, housing, and all other expenditures). Note that roommates are usually considered to be separate consumer units. Although they may share the rent and other expenses (food, household items), presumably each is responsible for his or her own share.

<sup>4</sup> Faye Rice, "Making Generational Marketing Come of Age," *Fortune*, June 26, 1995, p. 113.

<sup>5</sup> For examples of the various definitions, see U.S. Chamber of Commerce, *Nation's Business*, May 1996; Shane Sparks, *The Business Examiner*, June 21, 1997; Faye Rice, "Coming of Age," *Fortune*, June 26, 1995; and Geoffrey Meredith and Charles Schewe, "The Power of Cohorts," *American Demographics*, December 1994. In the latter article, a *cohort* is defined by important events or experiences that take place in individuals' formative years. Members share a similar "coming-of-age" period in their lives, during which their tastes and preferences, values and beliefs are shaped by historical, social, and economic events. A *generation*, on the other hand, is defined by dates of birth. To illustrate the difference, persons born during World War II often are called the "World War II Generation." But those who matured during the war might be called the "World War II Cohort."

<sup>6</sup> Data from the U.S. Bureau of the Census, for example, show that, among 18- to 24-year-olds, 54 percent of males and 41 percent of females lived at home in 1970, compared with about 61 percent of males and 48 percent of females in 1984–85, and 59 percent of males and 47 percent of females in 1994–95. Among 25- to 34-year-olds, the comparable figures are 9 percent of males and 7 percent of females in 1970, 13 percent of males and 8 percent of females in 1984–85, and 16 percent of males and 9 percent of females in 1994–95. See U.S. Bureau of the Census, *Current Population Reports*, Series P20-484, "Marital Status and Living Arrangements: March 1994," and earlier reports; also U.S. Bureau of the Census, *1970 Census of the Population*, PC(2)-4B, table 2. Even so, some caution must be exercised when

comparing the 1970 figures to the later figures; as noted, the 1970 figures are derived from the 1970 Census of the Population, whereas the later figures are from the Current Population Surveys (CPS) from the years listed. Sampling error may cause CPS data to differ from what might have been found had a census been taken in the years in question. See U.S. Bureau of the Census, *Current Population Reports*, Series P20-484, "Marital Status and Living Arrangements: March 1994," and earlier reports; see also U.S. Bureau of the Census, *1970 Census of the Population*, PC(2)-4B, table 2.

<sup>7</sup> It is important to emphasize that these characteristics are for young singles who are *living away from home*. Singles who move back with their parents or those who are married may have different characteristics. For example, in 1996, one of the authors of the current study found that educational attainment had increased from 1984 to 1994 for *all* consumer units whose reference person was between 18 and 28 years of age in these periods. The proportion of the Generation-X population that at least attended college rose from 52 percent to 59 percent over the 10-year period. See Brian Riordon, "Spending Patterns of Generation X Analyzed Through Standardization Techniques," presented at the 66th Annual Meeting of the Southern Economic Association, Washington, D.C., November 23–25, 1996.

<sup>8</sup> Although currently enrolled students are excluded from the sample, students with sporadic attendance may be included.

<sup>9</sup> The 1972–73 Consumer Expenditure Interview Survey results do not allow a breakdown of race beyond black and "white and other." Based on census (revised) population figures, however, "other" accounted for just over 1 percent of the white and other group in 1970. By 1980, the comparable figure had risen to 3 percent, and by 1995, to 5 percent. Thus, in the present study, other races (American Indian, Eskimo, Aleut, Asian, and Pacific Islander) are omitted from the 1984–85 and 1994–95 samples, but not from the 1972–73 sample. See U.S. Bureau of the Census, *Statistical Abstract of the United States: 1996*, 116th ed. (Washington, DC, 1996), table 12.

<sup>10</sup> U.S. Bureau of the Census, *Statistical Abstract of the United States: 1996*, table 1178.

<sup>11</sup> The integrated results of the Consumer Expenditure Survey for 1994–95 show that only 2 percent of all singles under age 25 own their home, compared with 23 percent of all singles aged 25 to 34.

<sup>12</sup> Because not all persons provide a full accounting of income when responding to the survey, respondents are divided into two groups—complete and incomplete reporters. To be considered a complete reporter, the respondent must provide income figures from at least one major source, such as wages and salaries, self-employment income, or Social Security income.

<sup>13</sup> Converted to real dollars using average values of the Consumer Price Index (CPI-U X1: All items) for 1972 and 1973, 1984 and 1985, and 1994 and 1995. The CPI-U X1 for 1984–95 and 1994–95 is identical to the CPI-U that is available in most published sources. But the CPI-U for 1972–73 calculates the change in housing prices using a different methodology than is used for the later years. Consequently, the Bureau of Labor Statistics derived a listing of experimental measures that recalculates data from 1967 to 1982 (the last year the old pricing measures were used) to allow analysts to measure price changes consistently. Note that the CPI-U X1 values for 1972 (44.4) and 1973 (47.2) are larger than their counterparts in the CPI-U (41.8 and 44.4 respectively). Therefore, the CPI-U X1 leads to a more conservative estimate of real income than using the CPI-U, at least for 1972–73.

<sup>14</sup> Examples of non-earning singles include those who are long-term unemployed as well as persons currently not in the labor force (neither working nor looking for work).

<sup>15</sup> This is to be expected, because only earners are compared. Presumably, the 18- to 29-year-olds in each year are just entering the work force, and hence are expected to earn less than those who are older and more experienced.

<sup>16</sup> Formal degrees include associate's, bachelor's, master's, professional, and doctoral degrees. See U.S. Bureau of the Census, *Statistical Abstract of the United States: 1996*, 116<sup>th</sup> ed. (Washington, DC, 1996), table 300.

<sup>17</sup> Milton Friedman, *A Theory of the Consumption Function* (Princeton, NJ, Princeton University Press, 1957), p. 221.

<sup>18</sup> Empirical reasons include the ability to use all data in the analyses instead of only data from complete income reporters, as in current income analysis. For more discussion of the theoretical reasons, including expectation theory, see H.S. Houthakker and Lester D. Taylor, *Consumer Demand in the United States: Analyses and Projections*, 2<sup>nd</sup> ed. (Cambridge, MA, Harvard University Press, 1970) pp. 59, 256–59. For other examples of studies using Consumer Expenditure Survey data in which total expenditures are used directly or indi-

rectly as a proxy for permanent income, see the following: Raphael Branch, "Short-Run Income Elasticity of Demand for Residential Electricity using Consumer Expenditure Survey Data," *The Energy Journal*, vol. 14, no. 4, 1993, pp. 111–21; Julie Nelson, "Individual Consumption within the Household: A Study of Expenditures on Clothing," *Journal of Consumer Affairs*, vol. 23, 1989, pp. 21–44; Geoffrey D. Paulin, "Health Insurance Coverage for Low-income Families: Findings from the Consumer Expenditures Survey," *Advancing the Consumer Interest*, vol. 8, no. 2, Fall 1996, pp. 20–31; and R. M. Rubin and Kenneth Koelln "Determinants of Household Out-of-Pocket Health Expenditures," *Social Sciences Quarterly*, December 1993, pp. 721–35.

<sup>19</sup> Graham Bannock, Ron Baxter, and R. Rees, *A Dictionary of Economics* (Middlesex, England, Harmondsworth, Penguin Books Ltd., 1972), p. 140.

<sup>20</sup> Because there is no CPI-U X1 "equivalent" for any components of the CPI-U (food at home and shelter, for example), the standard indexes are used to calculate "real" (constant dollar) component expenditures.

<sup>21</sup> Note that percent reporting in 1972–73 is not comparable to the later periods because it can only be captured in terms of annual reporting, not quarterly as is the case for the 1984–85 and 1994–95 data.

<sup>22</sup> See Maureen Boyle Gray, "Consumer spending in the 1980's," *Monthly Labor Review*, May 1992, pp. 18–26. Note that table 1 shows an increasing trend of percent reporting expenditures for video cassette recorders from 1981 to 1986. Also, table 2 shows that, at least in 1990, persons under 25 spent, on average, the largest amount among the groups on sound components and component systems; 25- to 34-year-olds spent the second largest amount on these items.

<sup>23</sup> Although gasoline prices fell sharply in 1986 and stayed low for the next few years, they rose substantially in 1989–90, ultimately stabilizing at slightly lower levels beginning in 1991. Thus, the index initially fell from its 1984–85 value (98.2), only to return to about the same level (99.0) in 1994–95.

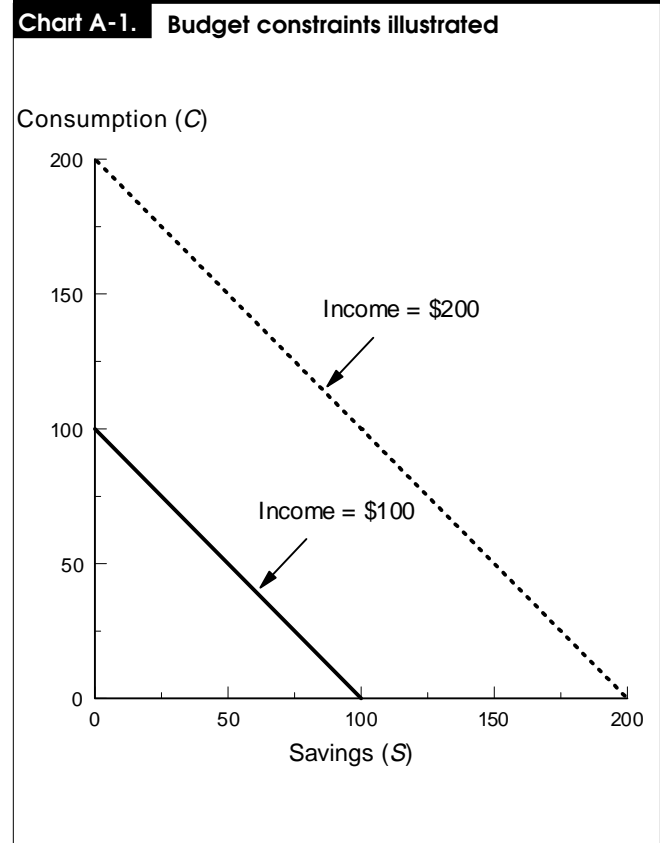
<sup>24</sup> Alan S. Blinder, "Wage Discrimination: Reduced Form and Structural Estimates," *The Journal of Human Resources*, vol. 8, no. 4, 1973, pp. 436–55.

## Appendix A: Analytical tools

**Budget constraints.** At the highest level, one can think of the budget constraint as showing the trade-off between consumption and savings; total income (assumed to be fixed at any given point in time) equals consumption plus savings in this broad sense. (Any money that is spent is considered "consumption." What is not spent is "savings.") Graphically, consider the budget constraint in the following way: On the X-axis is savings (*S*), and on the Y-axis is consumption (*C*). If all income (*I*) is put into consumption, then *C* equals *I*, and *S* equals zero. If all income is put into savings, then *S* equals *I* and *C* equals zero. A straight line joining these two points yields the budget constraint. (Note that the slope is negative 1, indicating that 1 dollar more of *C* means 1 less dollar can be allocated to *S*.) Based on tastes and preferences, each individual will decide at what point they prefer to consume and save on their budget constraint. (See chart A-1.)

**Lorenz curves.** As noted in the text, in the typical Lorenz curve environment, percent of income accounted for by a given percentage of the population is graphed as a function of percentages of the population. In other words, if the population were lined up from lowest income to highest, and the first 10 percent of the persons in that line accounted for 5 percent of the total income in the population, a point is plotted at 10 percent on the X-axis and 5 percent on the Y-axis. The resulting curve is compared to a 45-degree, positively-sloped line. This line represents perfect equality—if everyone in the population were to have identical income, then by definition the first 1 percent of the population would account for 1 percent of the income, the first 10 percent of the population would account for 10 percent of income, and so on. In other words, the population share and share of income accounted for are identical.

But the Lorenz curve is usually convex with respect to the origin ("bowed in"), indicating that the first persons in line account for a lower



share of income than their population share, and the last persons in line account for a greater share of income than their population share. The greater the convexity, the less equal the distribution. In a perfectly equal distribution, the last person in the hypothetical line would account for all the income, and all other persons would have none. Thus, the function would lie on top of the X-axis until reaching the last person in line (100 percent of the population), in which case the line would rise vertically until reaching the 45-degree line, thus making an equilateral triangle whose base is the X-axis from 0 to 100 percent, whose side line parallels the Y-axis, and whose hypotenuse is the 45-degree line. The area between the 45-degree line and the Lorenz curve can be measured; when divided by the area of the "inequality triangle" just described, the "relative inequality ratio" is generated. The closer the ratio is to zero, the more equal the distribution of income. The closer the ratio is to 1, the less equal the distribution of income. (See chart A-2.)

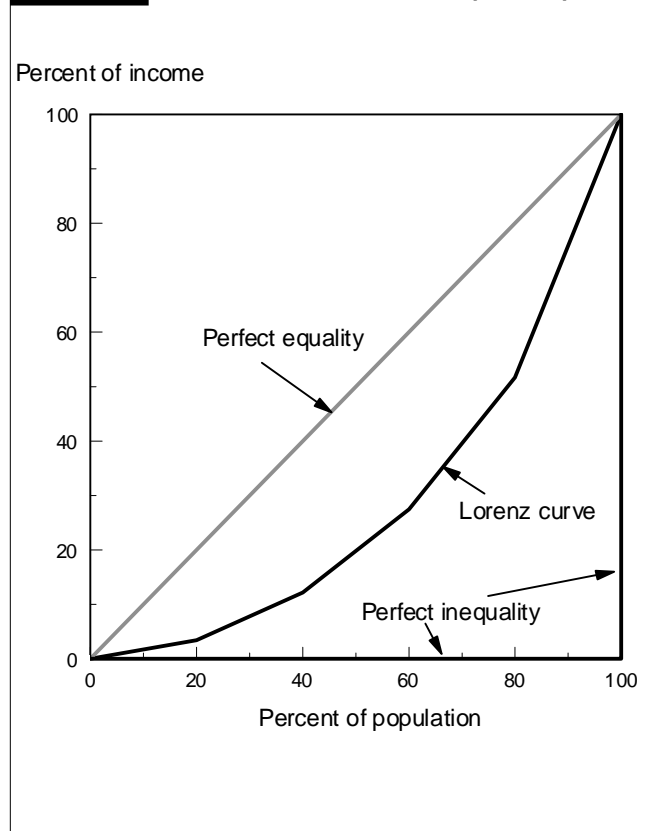
Continuing with this idea, the Lorenz quotient is developed. The Lorenz quotient consists of the ratio of the percentage of all relevant single-member consumer unit income accounted for by single Generation X'ers to the percentage of all relevant single-member consumer units for which single Generation X'ers account. One important distinction between the relative inequality ratio and the Lorenz quotient is that the former term is concerned with measuring income distribution for the entire population, while the Lorenz quotient is concerned only with subgroups of the population. However, their values can be interpreted similarly; for example, if the Lorenz quotient is equal to 1, then the share of income accounted for by young singles exactly matches their share of the relevant singles population. If it is greater than 1, young singles account for "more than their share" of all singles' income; if lower than 1, young singles account for "less than their share."

This measure is particularly useful given that both the percentage of the relevant population for which young singles account changes over time, as does the percentage of total income for which young singles account. In order, then, to find out how young singles compare to the rest of the singles population in a way that is comparable across time periods, the Lorenz quotient is defined as the ratio of the percent of total income for which young, working, non-student singles account to the percent of the total population for which all similar singles account. Thus, the Lorenz quotient facilitates comparisons of relative distributions in different time periods. (The results of this analysis are presented in table 2 in the text.)

**Standardization technique.** The term cohort can be used to describe two different types of groupings—the first by tastes, preferences, or attitudes, and the second by shared socioeconomic or other demographic characteristics. Note that these two groupings may go hand-in-hand; socioeconomic and demographic characteristics, as well as other similar experiences (such as decade of birth) can help to shape tastes, preferences, and attitudes. Within a larger cohort, such as Generation X, smaller groups may exist with different characteristics and, therefore, tastes than other segments of the larger cohort.

If changes in the larger cohort's tastes, preferences, or attitudes (however measured) occur over time, it is important to find out whether the overall changes are due to changes in all attitudes, or rather to the fact that one segment or another now accounts for a larger or smaller proportion of the larger cohort. To accomplish this, a technique called standardization is used in this paper. Its purpose is to analyze the changes in average expenditures over selected time periods to see how much of these changes can be attributed to changes in demographics, income, tastes and preferences, or other effects. (For more information on standardization, see Alan S. Blinder, "Wage Discrimination: Reduced Form

**Chart A-2. Lorenz curve 1995: all complete reporters**



and Structural Estimates," *The Journal of Human Resources*, vol. 8, no. 4, 1973, pp. 436-55.)

Standardization begins by examining results from regression analysis. The following regression equation is thus specified:

$$(1) S_i = b_0 + \hat{a}_{nj} b_j X_{ji} + u_i$$

where  $S_i$  is the average spending level and  $X_{1i}, \dots, X_{ni}$  are  $n$  observable characteristics that explain the spending of each consumer unit  $i$ . Since two population groups are being compared, two regression equations are estimated, one for each time period:

$$(2) S_i^{94} = b_0^{94} + \hat{a}_{nj} b_j^{94} X_{ji}^{94} + u_i^{94}$$

and

$$(3) S_i^{84} = b_0^{84} + \hat{a}_{nj} b_j^{84} X_{ji}^{84} + u_i^{84}$$

where "94" designates the 1994 population group and "84" designates their 1984 counterparts. These regressions can be broken down to show the difference represented by the regression and that represented by the intercepts. The explained portion of the raw differential comes from the differences in the coefficients,  $b_j^{94}$  and  $b_j^{84}$ , and the differences in the average characteristics,  $X^{94}$  and  $X^{84}$ .

The model decomposes the two regressions in the following way:

$$R = E + C + U$$

where

$R$  = raw differential

$$= b_0^{94} + \hat{a}_{nj} b_j^{94} X_{ji}^{94} + u_i^{94} - (b_0^{84} + S_{nj} b_j^{84} X_{ji}^{84} + u_i^{84})$$

$$= S_i^{94} - S_i^{84}$$

$E$  = portion of differential attributable to differing characteristics

$$= \sum_{nj} b_j^{94} (X_{ji}^{94} - X_{ji}^{84})$$

$C$  = portion of differential attributable to differing coefficients

$$= \sum_{nj} X_{ji}^{84} (b_j^{94} - b_j^{84})$$

$U$  = unexplained portion of the differential =  $b_0^{94} - b_0^{84}$

The raw differential,  $R$ , is simply the difference between the value of both regression equations.  $E$  is the portion of the difference in average expenditures due to a change in the population's average characteristics.  $C$  is the difference due to changes in tastes and preferences.  $U$  is the difference unaccounted for by the variables included in the model.

## Appendix B: Results of regression analysis

Variable	1972-73		1984-85		1994-95	
	Parameter Estimate	T-Statistic	Parameter Estimate	T-Statistic	Parameter Estimate	T-Statistic
<b>Standardization: basic goods and services</b>						
Intercept .....	-1,074.25	-1.88	1,011.84	5.10	1,669.20	5.40
Real total expenditures (annualized) .....	.44	39.47	.37	54.83	.39	38.23
Personal characteristics:						
Black (white) .....	-57.07	-21	671.58	4.55	99.25	0.73
Female (Male) .....	211.36	1.46	354.17	3.98	75.32	0.66
Region of residence (South) .....						
Northeast .....	515.79	1.82	640.05	5.30	121.34	0.82
Midwest .....	-265.23	-1.15	148.53	1.52	-711.54	-4.82
West .....	525.53	2.26	400.34	3.07	-68.82	-0.40
Resides in rural (urban) area .....	-1,918.26	-3.76	-301.44	-1.25	-84.67	-0.33
Educational attainment (high school graduate)						
Did not graduate high school .....	606.83	1.45	246.65	2.08	-93.21	-.58
Attended college (did not graduate) .....	1,208.26	4.36	-269.88	-2.50	98.74	.70
College graduate .....	-143.30	-.89	13.46	.10	514.28	2.87
Renter (homeowner) .....	1264.69	2.38	-504.84	-2.71	-343.91	-1.37
Under age 25 (25 to 29) years .....	63.58	.35	-293.09	-3.03	-370.34	-3.22
<b>Standardization: recreation and related expenditures</b>						
Intercept .....	708.18	2.41	-454.93	-3.55	-18.24	-3.07
Real total expenditures (annualized) .....	.12	19.96	.15	34.29	.14	24.98
Personal characteristics:						
Black (White) .....	168.30	1.20	-217.75	-2.28	-74.30	-.99
Female (Male) .....	-50.64	-.68	-392.22	-6.83	-263.53	-4.23
Region of residence (South) .....						
Northeast .....	-247.40	-1.70	3.89	.05	-104.30	-1.29
Midwest .....	-138.20	-1.17	213.66	3.39	114.23	1.42
West .....	-67.98	-.57	323.80	3.84	-35.71	-.38
Resides in rural (urban) area .....	-127.75	-.49	276.14	1.78	-100.75	-.73
Educational attainment (high school graduate) ..						
Did not graduate high school .....	539.22	2.51	-98.23	-1.28	428.14	4.91
Attended college (did not graduate) .....	-53.98	-.38	239.09	3.43	141.49	1.83
College graduate .....	57.06	.69	438.30	5.22	263.91	2.70
Renter (homeowner) .....	-270.65	-.99	260.02	2.16	388.03	2.83
Under age25 (25 to 29) years .....	-240.74	-2.59	140.83	2.25	16.26	.26

NOTE: Control groups are in parentheses.