

Chapter 2 – Counting the Poor

- I. The Distribution of Income
- II. The Official Poverty Line
- III. The Number of Poor People
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I. The Distribution of Income

National statistics collected through annual household surveys. One prominent government survey is the *CPS* - Current Population Survey. It is not only used by the government to compute the income distribution and unemployment rate, but widely used by academic researchers to answer a number of questions about the economy. You can see the CPS questionnaire at:

<http://www.bls.census.gov/cps/cpsmain.htm>

Using CPS data on approximately 50,000 households (150,000 people), the Schiller book reports that the average family had annual income of roughly \$59,589 in 1998; median income was somewhat lower at approximately \$46,737. The numbers reported in the book are somewhat higher than those in official reports; see <http://www.census.gov/prod/2002pubs/p60-218.pdf> which reports numbers that are at least 6% lower.

As Table 2.1 of Schiller illustrates, the income distribution in the U.S. is very uneven. The top quintile (top 20%) of households receive about 50% of total wealth, and the mean income in the top quintile, \$148,846, is more than 10 times that of the lowest quintile.

II. The Official Poverty Line

The official poverty line in the U.S. uses the absolute approach to define poverty. Thus, the government must try to identify the minimum amount of money required to sustain a family. In 1998, this was \$16,660 for a family of four.

How Was the Poverty Line Obtained?

Minimum Needs

To establish an “absolute” poverty line, we require some notion of what bundle of goods and services is minimally adequate. Such a bundle will include food, clothing, shelter, fuel, and perhaps other goods. In principle, we could generate such a list of minimum subsistence based on components like minimum caloric intake, etc.

Units of Measure

Once we arrived at some agreement on the subsistence levels for essential items,

one could try to convert those subsistence levels into money income. By doing so, we allow for some disagreement in what the actual subsistence levels are – individuals could choose differing amounts of the subsistence goods.

Note that although the income *flow* is the single best indicator of purchasing power, other indicators like access to credit, asset levels, and in-kind assistance are not accounted for by a poverty line that is reflected in annual income.

CEA Line

The first officially sanctioned poverty line was established by the Council of Economic Advisers (CEA) in 1963 at \$3,000 per year per family. The established this line by observing that a minimally adequate diet for a family of four would cost about \$1,000 per year, and that consumer studies indicated that low-income families spent approximately two-thirds of their income on non-food items. Thus, the CEA scaled up the \$1,000 of “minimum” food expenditure per year to \$3,000 of “minimum” total expenditure.

By their estimates, 33.4 million people lived in poverty in 1963.

The CEA measure did not account for family size – obviously it is somewhat more expensive to meet minimum needs with larger families, and somewhat less expensive with smaller families. Thus, the CEA measure underestimated the number of large families in poverty, and overestimated the number of small families in poverty.

SSA Index

The Social Security Administration (SSA) revised this measure in a number of important ways; these are largely incorporated in the current poverty measure.

Family size - The poverty line was adjusted for family size, but this was not as simple division. That is: $POV_N \neq \left(\frac{N}{4}\right)POV_4$, (except for $N=4$). Larger families enjoy some *economies of scale* – for example rent and heat typically do not decline by half for a family of two. Thus, SSA computed *equivalency scales* – the factor that translated a budget for a 4-person household into a budget for other household sizes.

SSA’s poverty calculation for a family of four in 1963 was \$3,130, not much different from the CEA’s poverty calculation.

Current Poverty Index

The current poverty line is adjusted annually for inflation. To see how inflation has varied over time, you can view Table B-60 of the *Economic Report of the President*, available at:

http://w3.access.gpo.gov/usbudget/fy2003/pdf/2002_erp.pdf

The table is also at the end of these notes.

Between 1963 and 1998, price had increase by about a factor of five, and the poverty line for a family of four was \$16,660. The poverty line in the U.S., as it currently stands, does *not* imply an increased standard of living for the poor. It only rising price.

In reality, there has been real economic growth over time. This means that even after adjusting for inflation, the standard of living for most households in 1998 was better than the standard of living for similar households in 1963. The absolute poverty line, which is indexed for inflation, does not reflect a rising standard of living for the population as a whole.

Selected Poverty Thresholds in 1998	
Family Size	
1	\$8,316
4	\$16,660
8	\$28,166

As can be seen from the above table, taken from Table 2.4 of Schiller, the poverty line is non-linear. Note that with the exception of Alaska and Hawaii, the poverty line in the U.S. is not adjusted for cost-of-living differences. That is, it is assume that the same amount of money is needed to meet basic needs in different parts of the country.

Hard Choices

The American public is occasionally asked “What is the smallest amount of money a family of four needs to get along in this community?” In 1996, the median answer was \$30,000 (see Table 1.3). Schiller therefore concludes that the public’s view of minimum needs is well above official poverty thresholds and that most Americans do not believe that the official poverty standard is high enough.

It is not clear what to make of this survey evidence, however. In particular, it is not clear what goods the survey respondent is envisioning when making this income calculation. For example, does the respondent view a television, microwave oven, or automobile as essential?

Cultural Context

In the U.S., the poverty line is an “official” line that separates poor from non-poor. It does not necessarily indicate what is “enough.” There is no official

definition or line for the middle class or upper class.

III. The Number of Poor People

As mentioned previously, the Census Bureau uses the CPS to compute poverty statistics annually, based on money income. See <http://www.census.gov/hhes/poverty/povdef.html> for more details.

At the end of this handout, a figure from, <http://www.census.gov/hhes/poverty/poverty01/pov01cht.gif> shows trends the number of people and the percentage who live in poverty over time. The main things to take away from this chart are that the poverty rate fell dramatically in the 1960s, increased in the late 1970s, and has remained in the 12%-15% range thereafter. Even during the economic expansion of the last decade, the poverty rate peaked at 15.1% in 1993 and troughed at 11.3% in 2000.

How Poor?

The “poverty gap” refers to how far below the official poverty index a family is. A family that is slightly below the poverty line is clearly different than a family that is thousands of dollars below that line.

The aggregate poverty gap is the total income shortfall below the poverty line by all poor people. In 1998, it was \$83 billion, or approximately \$2400 per poor person.

IV Measurement Problems

Is the poverty line too low or too high? Some believe that it is too low. They disagree with the notion that the poverty line should be an absolute measure, meaning that it should not increase with the improving standard of living. In addition, the fraction of the typical budget that is devoted to food expenditure has changed over time. Others believe the poverty line is too high. For example, the poverty line only counts income, but not assets (such as owning a home)

There are at least five difficulties with the current poverty line:

In-kind income

Many poor families receive income *in-kind* – meaning they receive goods or services directly from the government instead of cash. These are clearly valuable. For example, poor households might receive food stamps, Medicaid health insurance, Medicare (if they are elderly), subsidized housing, energy assistance, and subsidized childcare.

Because they receive these goods in-kind, these households do not need to use their own cash to purchase them.

The official poverty count ignores in-kind income. Schiller’s Table 2.5 shows that the poverty rate in 1998 would fall from 12.7% to 9.5% if in-kind transfers and tax credits were included. About nine million people would be taken out of poverty.

Not only is the poverty *level* affected by in-kind income, but poverty *trends* as well. In-kind income, particularly health insurance subsidies, have grown tremendously over the past forty years. In 1999, in-kind income accounted for 75% of welfare benefits, up 20 percentage points from 1968.

At the same time, it is difficult to value many in-kind transfers. The value of health insurance, for example, depends on health status. In general, the value of in-kind assistance depends on whether the transfer is marginal or infra-marginal.

To illustrate, consider how in-kind assistance affects the budget constraint of a household compared to an equivalent amount of cash. The figures here are available (in more detail) at:

<http://gatton.uky.edu/Faculty/yelowitz/479/SPRING2002-lectures.pdf>

In the first budget constraint, the individual's decision is unaffected by the cash versus in-kind transfer – thus, he values the in-kind transfer at its cash equivalent. In the second budget constraint, the decision is affected, and the in-kind transfer forces the person to “over-consume” food – thus, in utility terms, the in-kind transfer is not as valuable as the cash equivalent.

Underreporting

People may lie to survey takers about their income, especially if they believe that their welfare benefits or taxes might be affected, or if their incomes come from illegal sources.

Some estimates suggest that poor families spend twice as much income as they report receiving, and the gap between spending and reported income has widened over time. Of course, access to credit or changing wealth could explain this too.

Income mobility

Many spells of poverty are fairly short. There is no obvious reason why income over the course of one year is the appropriate measure. Why not one month? Or five years?

Three out of five families that are in poverty in one year are out of poverty the next year. Only one in ten families stays in poverty for five years or more.

Uncounted poor

The CPS survey does not interview the homeless, those who are institutions, and prisoners.

Schiller argues that some families include unwanted aged relatives who may not share equally in a family's resources and therefore should be counted as poor. Schiller calls this “disguised poverty.” It is not clear, however, why this

distinction could not also be made other household structures – there are marriages that certainly stay together out of economic necessity, for example, where one spouse or the other does not enjoy equal access to the resources.

Latent poverty

The poverty measure takes into account cash income from all sources, which includes not only earnings, interest income, dividends, etc., but also cash transfers such as welfare and social insurance programs like Social Security. Obviously many individuals who are collecting Social Security are elderly, and have few other sources of income.

Nearly 40% of all pre-transfer poor are kept out of poverty solely because of government checks. By pre-transfer, we mean counting income sources such as earnings, pensions, etc., but not counting government payments.

By far the largest part of this reduction in the “official poor” is because of Social Security payments. Of 26.9 million who are kept out of the official poverty rolls by government transfers, about two-thirds receive Social Security.

Of course, people pay into Social Security during their working lives. If we are to exclude Social Security benefits, one should presumably consider what would have happened to those Social Security contributions during the working life. Presumably, at least some of those contributions would have been invested in the absence of Social Security. This means that private income sources like pension income and dividends would have been higher too.

V. Characteristics of the Poor

Age and Family Status

Poverty rates vary tremendously by race: blacks and Hispanics have poverty rates around 25%, whites have rates around 8%.

Female headed households have very high poverty rates – around 35%.

The elderly tend to have lower poverty rates than the national average, due in large part to the generosity of Social Security.

Geography

The Northeast and Midwest regions tend to have lower poverty rates than the national average; the South and West have higher poverty rates. Interestingly, despite the discussion of the South in the text, the poverty rate in 1998 was actually higher in the West.

Of course, these estimates do not account for cost-of-living differences; presumably this would overstate poverty in the South because cost-of-living tends

to be lower.

Notice that in 1998, however, that the poverty rate in the South was actually lower than that in the West.

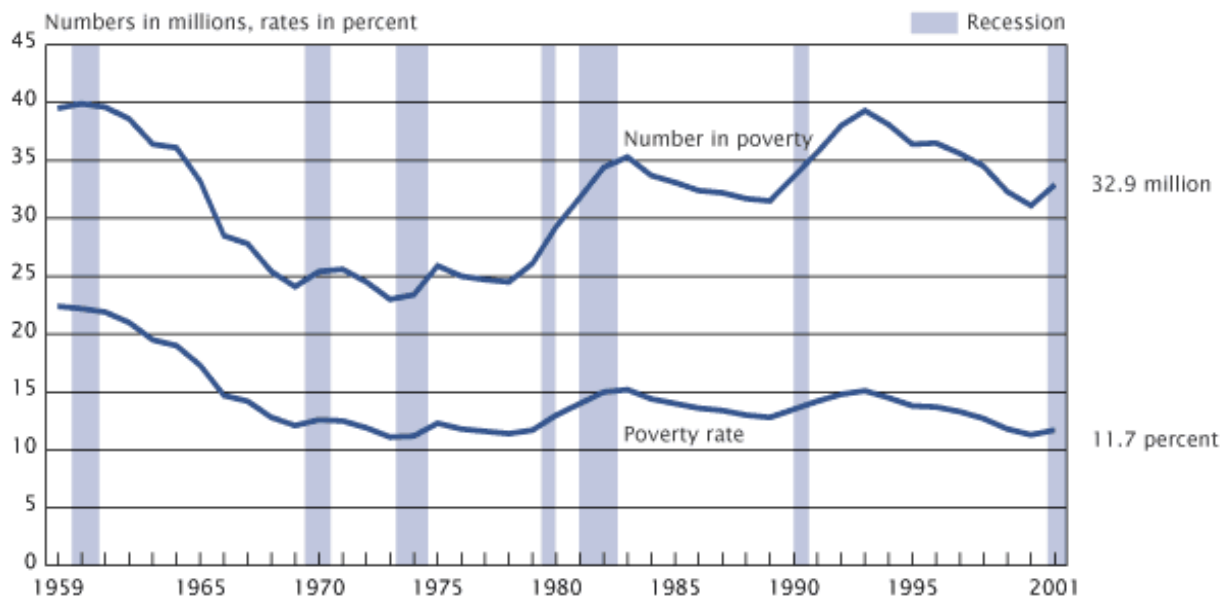
Historically, if you go to <http://www.census.gov/hhes/poverty/histpov/hstpov9.html> , you will see that the South has had the highest poverty rate, but the South made relative economic progress in the 1990s.

Labor force status

The definition of “in the labor force” is a person who is either employed or actively seeking employment, as well as those who are temporarily not working because of illness, bad weather, vacation or a labor-management dispute. “Out of the labor force” is everyone else, and includes those who: are keeping house, attending school, unable to work because of age or disability, or not actively seeking employment.

Table 2.9 shows the unsurprising result that for families with children (which implies that the head is almost certainly non-elderly), virtually all non-poor families had a working member, while a much smaller fraction of poor families had a working member.

Figure 1.
Number of Poor and Poverty Rate: 1959 to 2001



Note: The data points represent the midpoints of the respective years. The latest recession began in March 2001.
Source: U.S. Census Bureau, Current Population Survey, 1960-2002 Annual Demographic Supplements.

PRICES

TABLE B-60.—Consumer price indexes for major expenditure classes, 1958–2001

[For all urban consumers; 1982-84=100, except as noted]

Year or month	All items (CPI-U)	Food and beverages		Apparel	Hous- ing	Trans- por- ta- tion	Medical care	Entertain- ment	Recreation ²	Educa- tion and communi- cation ²	Other goods and services	Energy ³
		Total ¹	Food									
1958	28.9	.....	30.2	44.6	.....	28.6	20.6	.....	.....	.....	.....	21.5
1959	29.1	.....	29.7	45.0	.....	29.8	21.5	.....	.....	.....	.....	21.9
1960	29.6	.....	30.0	45.7	.....	29.8	22.3	.....	.....	.....	.....	22.4
1961	29.9	.....	30.4	46.1	.....	30.1	22.9	.....	.....	.....	.....	22.5
1962	30.2	.....	30.6	46.3	.....	30.8	23.5	.....	.....	.....	.....	22.6
1963	30.6	.....	31.1	46.9	.....	30.9	24.1	.....	.....	.....	.....	22.6
1964	31.0	.....	31.5	47.3	.....	31.4	24.6	.....	.....	.....	.....	22.5
1965	31.5	.....	32.2	47.8	.....	31.9	25.2	.....	.....	.....	.....	22.9
1966	32.4	.....	33.8	49.0	.....	32.3	26.5	.....	.....	.....	.....	23.3
1967	33.4	35.0	34.1	51.0	30.8	33.3	28.2	40.7	.....	.....	35.1	23.8
1968	34.8	36.2	35.3	53.7	32.0	34.3	29.9	43.0	.....	.....	36.9	24.2
1969	36.7	38.1	37.1	56.8	34.0	35.7	31.9	45.2	.....	.....	38.7	24.8
1970	38.8	40.1	39.2	59.2	36.4	37.5	34.0	47.5	.....	.....	40.9	25.5
1971	40.5	41.4	40.4	61.1	38.0	39.5	36.1	50.0	.....	.....	42.9	26.5
1972	41.8	43.1	42.1	62.3	39.4	39.9	37.3	51.5	.....	.....	44.7	27.2
1973	44.4	48.8	48.2	64.6	41.2	41.2	38.8	52.9	.....	.....	46.4	29.4
1974	49.3	55.5	55.1	69.4	45.8	45.8	42.4	56.9	.....	.....	49.8	38.1
1975	53.8	60.2	59.8	72.5	50.7	50.1	47.5	62.0	.....	.....	53.9	42.1
1976	56.9	62.1	61.6	75.2	53.8	55.1	52.0	65.1	.....	.....	57.0	45.1
1977	60.6	65.8	65.5	78.6	57.4	59.0	57.0	68.3	.....	.....	60.4	49.4
1978	65.2	72.2	72.0	81.4	62.4	61.7	61.8	71.9	.....	.....	64.3	52.5
1979	72.6	79.9	79.9	84.9	70.1	70.5	67.5	76.7	.....	.....	68.9	65.7
1980	82.4	86.7	86.8	90.9	81.1	83.1	74.9	83.6	.....	.....	75.2	86.0
1981	90.9	93.5	93.6	95.3	90.4	93.2	82.9	90.1	.....	.....	82.6	97.7
1982	96.5	97.3	97.4	97.8	96.9	97.0	92.5	96.0	.....	.....	91.1	99.2
1983	99.6	99.5	99.4	100.2	99.5	99.3	100.6	100.1	.....	.....	101.1	99.9
1984	103.9	103.2	103.2	102.1	103.6	103.7	106.8	103.8	.....	.....	107.9	100.9
1985	107.6	105.6	105.6	105.0	107.7	106.4	113.5	107.9	.....	.....	114.5	101.6
1986	109.6	109.1	109.0	105.9	110.9	102.3	122.0	111.6	.....	.....	121.4	88.2
1987	113.6	113.5	113.5	110.6	114.2	105.4	130.1	115.3	.....	.....	128.5	88.6
1988	118.3	118.2	118.2	115.4	118.5	108.7	138.6	120.3	.....	.....	137.0	89.3
1989	124.0	124.9	125.1	118.6	123.0	114.1	149.3	126.5	.....	.....	147.7	94.3
1990	130.7	132.1	132.4	124.1	128.5	120.5	162.8	132.4	.....	.....	159.0	102.1
1991	136.2	136.8	136.3	128.7	133.6	123.8	177.0	138.4	.....	.....	171.6	102.5
1992	140.3	138.7	137.9	131.9	137.5	126.5	190.1	142.3	.....	.....	183.3	103.0
1993	144.5	141.6	140.9	133.7	141.2	130.4	201.4	145.8	90.7	85.5	192.9	104.2
1994	148.2	144.9	144.3	133.4	144.8	134.3	211.0	150.1	92.7	88.8	198.5	104.6
1995	152.4	148.9	148.4	132.0	148.5	139.1	220.5	153.9	94.5	92.2	206.9	105.2
1996	156.9	153.7	153.3	131.7	152.8	143.0	228.2	159.1	97.4	95.3	215.4	110.1
1997	160.5	157.7	157.3	132.9	156.8	144.3	234.6	162.5	99.6	98.4	224.8	111.5
1998	163.0	161.1	160.7	133.0	160.4	141.6	242.1	.....	101.1	100.3	237.7	102.9
1999	166.6	164.6	164.1	131.3	163.9	144.4	250.6	.....	102.0	101.2	258.3	106.6
2000	172.2	168.4	167.8	129.6	169.6	153.3	260.8	.....	103.3	102.5	271.1	124.6
2001	177.1	173.6	173.1	127.3	176.4	154.3	272.8	.....	104.9	105.2	282.6	129.3
2000: Jan	168.8	166.6	166.1	126.8	166.0	148.3	255.5	.....	102.3	102.7	264.7	112.5
Feb	169.8	166.8	166.3	129.2	167.1	149.7	257.0	.....	102.5	102.2	266.7	116.7
Mar	171.2	167.1	166.5	132.5	167.8	153.4	258.1	.....	102.9	102.0	268.0	122.2
Apr	171.3	167.2	166.6	133.3	167.9	152.9	258.8	.....	102.9	101.8	271.9	120.7
May	171.5	167.8	167.3	132.2	168.1	153.1	259.4	.....	103.1	101.8	270.2	121.0
June	172.4	167.9	167.3	128.3	169.6	155.7	260.5	.....	103.4	101.5	269.6	129.6
July	172.8	168.7	168.1	124.5	170.6	155.0	261.4	.....	103.7	102.0	272.2	129.7
Aug	172.8	169.2	168.7	125.3	170.9	153.2	262.6	.....	103.9	102.8	271.6	125.9
Sept	173.7	169.4	168.9	130.4	171.4	154.7	263.1	.....	103.8	102.9	274.7	130.6
Oct	174.0	169.6	169.1	132.8	171.7	154.4	263.7	.....	103.8	103.6	273.0	129.3
Nov	174.1	169.5	168.9	131.8	171.6	155.2	264.1	.....	103.7	103.2	276.2	129.0
Dec	174.0	170.5	170.0	127.8	171.9	154.4	264.8	.....	103.7	103.6	274.0	128.1
2001: Jan	175.1	171.4	170.9	125.4	174.1	154.4	267.1	.....	104.1	103.9	275.9	132.5
Feb	175.8	171.8	171.3	128.4	174.7	154.9	268.9	.....	104.3	104.0	277.2	132.0
Mar	176.2	172.2	171.7	132.2	175.4	153.9	270.0	.....	104.3	104.3	277.7	129.5
Apr	176.9	172.4	171.9	131.9	175.4	156.1	270.8	.....	105.0	104.1	281.3	133.1
May	177.7	172.9	172.5	129.8	175.9	159.2	271.4	.....	105.0	104.0	280.2	140.1
June	178.0	173.4	173.0	126.3	177.3	158.3	272.5	.....	104.8	104.4	281.2	140.5
July	177.5	174.0	173.5	122.6	177.6	154.4	273.1	.....	105.0	104.8	285.8	132.4
Aug	177.5	174.4	173.9	122.6	178.0	153.3	274.4	.....	105.1	105.8	283.3	129.4
Sept	178.3	174.6	174.1	126.8	177.4	155.5	275.0	.....	105.2	106.6	287.8	132.5
Oct	177.7	175.3	174.9	129.5	176.7	152.3	275.9	.....	105.3	107.1	285.6	122.1
Nov	177.4	175.2	174.6	128.0	176.9	150.2	276.7	.....	105.5	107.0	289.2	116.0
Dec	176.7	175.2	174.7	123.7	176.9	148.5	277.3	.....	105.3	106.9	286.4	111.4

¹ Includes alcoholic beverages, not shown separately.

² December 1997=100.

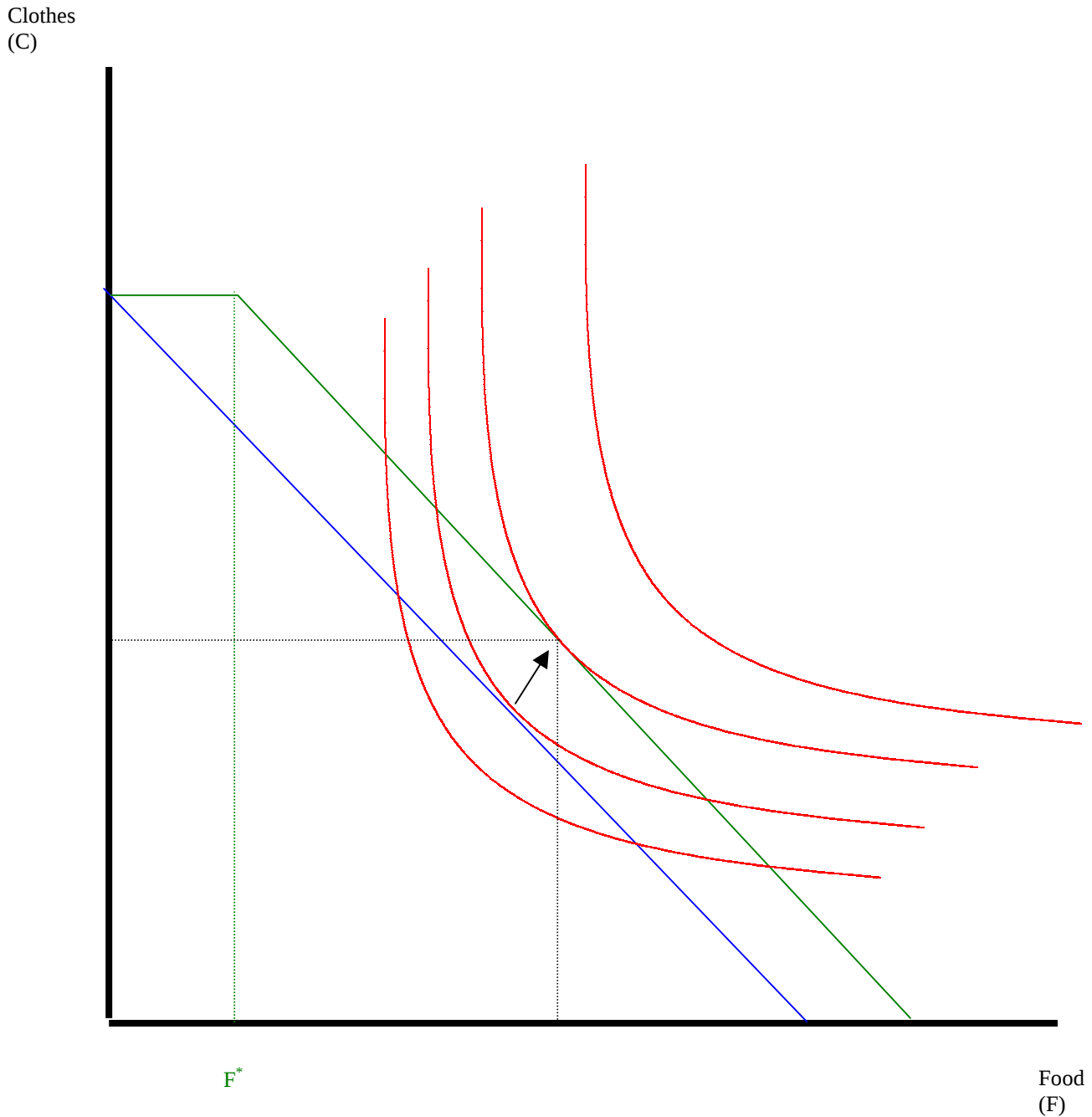
³ Household fuels—gas (piped), electricity, fuel oil, etc.—and motor fuel. Motor oil, coolant, etc. also included through 1982.

Note.—Data beginning 1983 incorporate a rental equivalence measure for homeowners' costs.

Series reflect changes in composition and renaming beginning in 1998, and formula and methodology changes beginning in 1999.

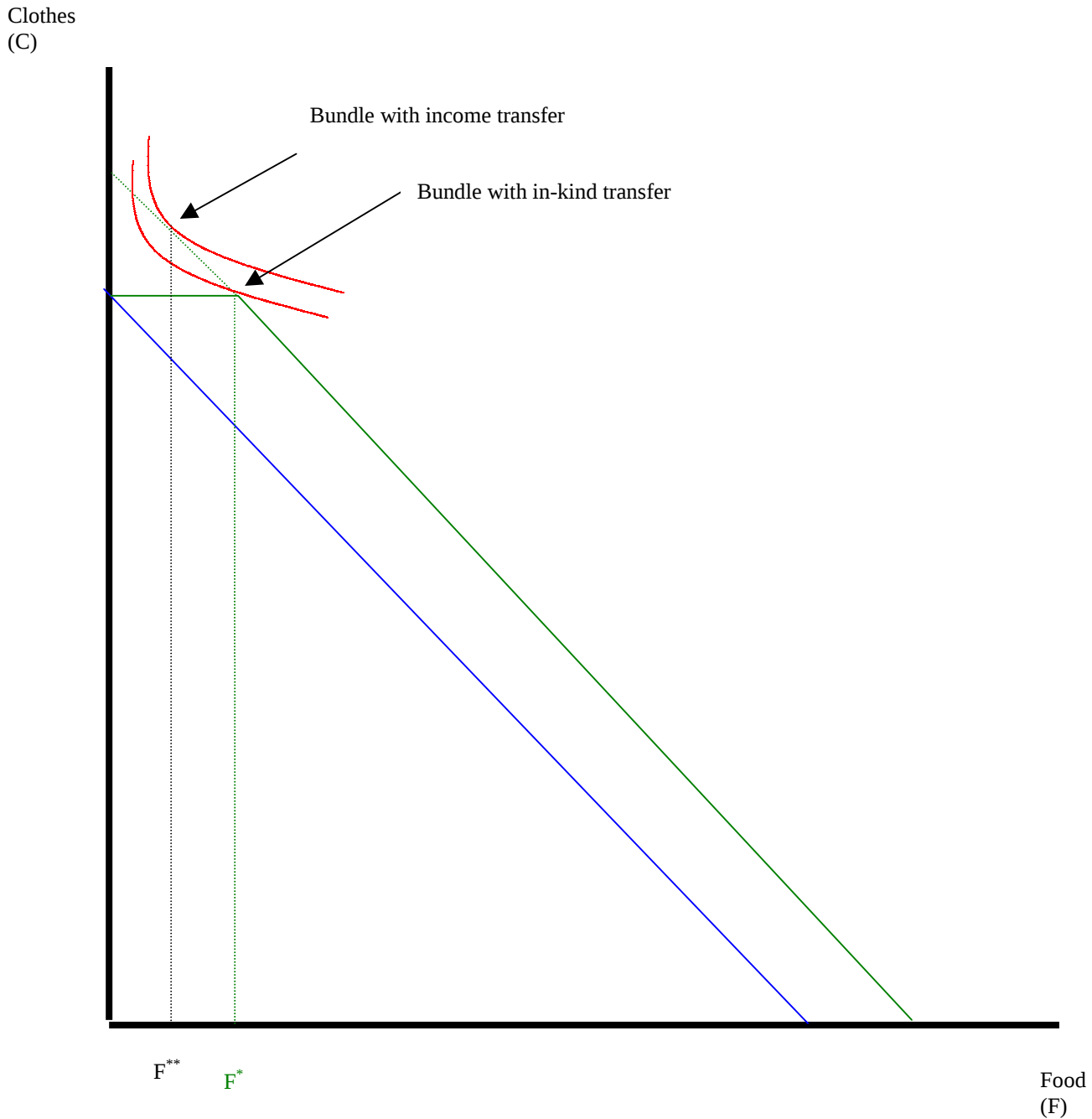
Source: Department of Labor, Bureau of Labor Statistics.

Figure 5-14 – Example with
no inefficiency from in-kind transfer



The person consumes more food than the
in-kind transfer gives him.

Figure 5-15 – Example
where there is inefficiency



The person would consume less food with
an equivalent income transfer