# Lesson One, Part 1: What Is Poverty and Who Are the Poor?

## Appendix 1: Relative Poverty and Distribution of Income

1. Relative poverty differs from absolute poverty in being defined by comparing levels of material well-being experienced by different individuals or groups, rather than by comparing the level of well-being to a standard.
   - The perception of relative poverty results from inequality of income distribution.

2. Measures of income inequality portray the disparity between the incomes of the nation's poorest and richest citizens.

- Per capita averages, like GDP per capita, may hide income inequality.
  - Imagine 2 nations, each with only 20 people. The people's incomes are shown in the table below. GDP for the two nations is about the same, but the difference in the standard of living in the two nations is significant. GDP per capita does not give us an accurate picture of the standard of living of the people in the nation with an unequal distribution of income.

**Figure 1**

| | More Unequal Distribution of Income | More Equal Distribution of Income |
|---|---|---|
| 1 | $50,000 | $9500 |
| 2 | $40,000 | $8000 |
| 3 | $2000 | $7000 |
| 4 | $2000 | $6500 |
| 5 | $1000 | $6000 |
| 6 | $1000 | $5500 |
| 7 | $1000 | $5500 |
| 8 | $500 | $5000 |
| 9 | $500 | $5000 |
| 10 | $500 | $5000 |
| 11 | $500 | $4500 |
| 12 | $200 | $4500 |
| 13 | $150 | $4000 |
| 14 | $150 | $4000 |
| 15 | $100 | $4000 |
| 16 | $100 | $4000 |
| 17 | $100 | $4000 |
| 18 | $100 | $3000 |
| 19 | $50 | $3000 |
| 20 | $50 | $2000 |
| **GDP** | **$100,000** | **$100,000** |
| **GDP per capita** | **$5000** | **$5000** |

- If we divide the people in the 2 societies into 5 groups or quintiles, the top quintile would include the 4 people with the highest incomes and the bottom quintile the 4 people with the lowest incomes.

**Figure 2**

| Person # | More Unequal Distribution of Income | | More Equal Distribution of Income |
|---|---|---|---|
| 1 | $50,000 | Top quintile | $9500 |
| 2 | $40,000 | | $8000 |
| 3 | $2000 | 94% 31% | $7000 |
| 4 | $2000 | | $6500 |
| 5 | $1000 | 4th quintile | $6000 |
| 6 | $1000 | | $5500 |
| 7 | $1000 | 3.5% 22% | $5500 |
| 8 | $500 | | $5000 |
| 9 | $500 | 3rd quintile | $5000 |
| 10 | $500 | | $5000 |
| 11 | $500 | 1.7% 19% | $4500 |
| 12 | $200 | | $4500 |
| 13 | $150 | 2nd quintile | $4000 |
| 14 | $150 | | $4000 |
| 15 | $100 | 0.5% 16% | $4000 |
| 16 | $100 | | $4000 |
| 17 | $100 | Lowest quintile | $4000 |
| 18 | $100 | | $3000 |
| 19 | $50 | 0.3% 12% | $3000 |
| 20 | $50 | | $2000 |

In the example of a highly unequal distribution of income:

- The 4 people in the top quintile make $94,000 (94%) of the economy's total income.
  - The other 4 quintiles divide up the remaining $6000, or 6%.
- The 4 people with the lowest incomes make $300 or only 0.3% of the economy's income

The richest four people make 313 times the income of the poorest four people.

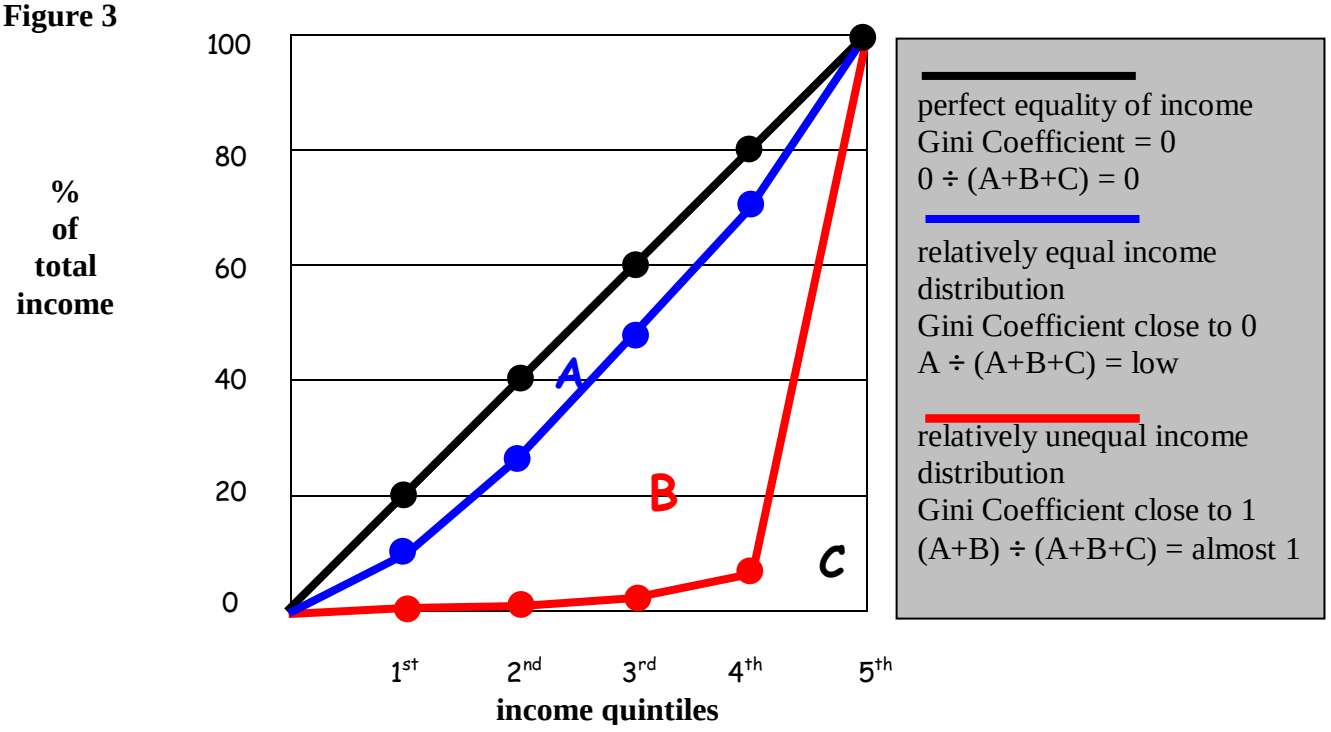
In the example of a more equal distribution of income:

- The people in the top quintile make $31,000, or 31% of total income.
- The people in the bottom quintile make $12,000 or 12% of total income.

In this case the income is more evenly distributed, with the richest people averaging only 2.6 (not 313) times the income of the poorest.

- The Lorenz Curve is a graphic representation and the Gini Coefficient is a statistical representation of the degree of income equality / inequality in an economy.
  - (The Lorenz Curve in Figure 3, below, uses the data from Figures 1 & 2, above.)

**Figure 3**




  - The Lorenz Curve plots the fraction of income held by each quintile of the population, beginning with the poorest group.
    - If the distribution of income were completely equal, the curve would be a straight line at a 45 degree angle from the origin; each 20% of the population having 20% of the income. (See black line, above.)
    - The extent to which the line measuring the actual distribution curves below the line of equality provides a visual measurement of the degree of inequality. The more the curve bows away from the 45 degree line, the greater the income inequality.
  - The Gini Coefficient is a single statistic that measures inequality by comparing the area between the Lorenz Curve and the 45 degree line to the total area under the 45 degree (black) line.
    - A population with exactly equal income distribution will produce a Gini Coefficient of zero [0 ÷ (A+B+C) = 0].
    - A situation in which one person owns all the income – perfect inequality – will produce a Gini Coefficient of 1 [(A+B+C) ÷ (A+B+C) = 1].
    - Thus, the *larger* the Gini Coefficient, the more *unequal* the distribution of income or wealth.

3. While instances of absolute poverty undoubtedly exist, poverty in the United States is largely an issue of relative poverty.

- It is possible for people to be *rich* in <u>absolute</u> terms and *poor* in <u>relative</u> terms.

- For example, though relatively poor in comparison to other Americans, people living at the U.S. poverty line today have access to many goods and services that were beyond the means of even the middle class a century ago. In absolute terms, they are better off.
- A minimum-wage, single mother in the United States is relatively poor *compared to the average American wage-earner,* but she is relatively rich *compared to even middle-income people in most African nations.*
    - Table 1, below, demonstrates how increasing productivity and the consequent lowering of prices makes it possible for people with lower relative incomes to afford a higher standard of living than their ancestors enjoyed.
- The table lists the prices of common household items that significantly improved people's health and well-being. For a worker making the average wage, the blue number is the number of work hours necessary to earn the purchase price.
- Even though the prices were lower in 1910, the items were relatively more expensive in terms of the workers' time, meaning that workers could afford fewer household appliances. By comparison, today's average worker is relatively "rich" and the turn of the century worker is relatively "poor."

**Table 1***

| | | 1910 | 1950 | 1970 | 1997 |
|---|---|---|---|---|---|
| Range | price | $67 | $420 | $380 | $288 |
| | hours | 345 | 292 | 113 | 22 |
| Dishwasher | price | $100 | $250 | $230 | $370 |
| | hours | 463 | 140 | 69 | 28 |
| Refrigerator | price | $800 | $700 | $375 | $900 |
| | hours | 3,162 | 333 | 112 | 68 |
| Washer | price | $110 | $270 | $240 | $338 |
| | hours | 553 | 138 | 72 | 26 |
| dryer | price | $130 | $230 | $190 | $340 |
| | hours | 198 | 118 | 57 | 26 |
| | | | 1954 | 1971 | 1997 |
| Color TV | price | | $1000 | $620 | $299 |
| | hours | | 562 | 174 | 23 |
| | | 1947 | 1967 | 1975 | 1997 |
| Microwave | price | $3000 | $465 | $470 | $199 |
| | hours | 2,467 | 176 | 97 | 15 |

***Source:*** http://www.dallasfed.org/fed/annual/#1997 *(This table comes from a 1997 report by the Dallas Fed that, as of spring, 2012, has not been updated. However, the data still serves to show the significant changes in standard of living that took place over the course of the 20th century. See Tables 2 and 3 below for similar, but more recent data on consumer durables.)

- Consider the standard of living implications for health and nutrition, or the time savings, of owning a refrigerator.

- In 1910, refrigerators, such as they were, were a luxury only the wealthy could afford. Most people made do with ice boxes, because a worker making the average wage for a 40-hour week would have had to commit more than 1½ *years* of income to pay for a refrigerator *and* would have had no money to spend on anything else during that year and a half!

  3,162 hrs. ÷ 40 = 79 weeks = 1.34 years

- A century later, a worker can pay for a refrigerator with little more than a week's work if he makes the average wage, and less than a month's work if he makes half the average wage.

  68 hrs. ÷ 40 = 1.7 weeks (for a worker making the average wage)

  or

  3.4 weeks (for a poorer worker making ½ average wage)

- A 1992 census report, "Beyond Poverty," shows that although people below the poverty line in the U.S. do not experience the absolute poverty of the developing countries around the world, and have even caught up to most other Americans in terms of access to safer food storage or television entertainment, their limited ability to purchase other common consumer durables means that they were still poor relative to others in the American economy. *(See Table 2 for updated 2009 figures.)*
  - For example, as the table indicates, in 2009, over 90% of people whose incomes fell below the poverty line lived where they had access to refrigerators, stoves, and color television and over 70% where they had access to air-conditioning and personal computers – undreamed of among most of the world's poor.

**Table 2**

| Consumer durables | Available to % of non-poor people in U.S. population | Available to % of poor people in U.S. population |
|---|---|---|
| Refrigerator | 99.4 | 98.5 |
| Stove | 99.1 | 97.0 |
| Color television | 99.1 | 97.4 |
| Telephone | 91.9 | 79.8 |
| Washing machine | 86.2 | 68.7 |
| Clothes dryer | 83.8 | 61.2 |
| Microwave | 97.1 | 91.2 |
| Dishwasher | 67.5 | 36.7 |
| Freezer | 38.1 | 25.1 |
| VCR | 93.3 | 83.6 |
| Air conditioner | 86.6 | 78.8 |
| Personal computer | 70.2 | 42.4 |

***Source***: U.S. Census Bureau, Survey of Income and Program Participation, 2004 Panel, Wave 5 Internet Release date: November, 2009.

- Compared to their counterparts in the rest of the world, poor people in the U.S. are relatively well-off.
  - In the 2002 special, *Is America #One?*, ABC newsman John Stossel reported that American "[h]ouseholds with annual incomes under $10,000 are generally classified as impoverished. But . . . nearly 100% of those households have heated water, 96% have color televisions, and 96% have ovens. More than two-thirds have VCRs, and nearly one-tenth have personal computers. By contrast, poor families in India (and most other countries around the world) do not even have *cold* running water, let alone hot water" (Stossel 3).
- The paradox of relative poverty – relatively poor people who seem rich by world standards – is not limited to the United States.
  - In a 2002 report on "Households Below Average Income 2001/2002," the British Department of Work and Pensions found that people in the bottom quintile (lowest 20%) of income distribution had the following consumer durables (household appliances). *(See Table 3.)*
  - Ownership or access to the conveniences of modern technology indicates improvements in the absolute level of well-being experienced by those at the bottom of the income ladder, despite their continued relative poverty.

**Table 3**

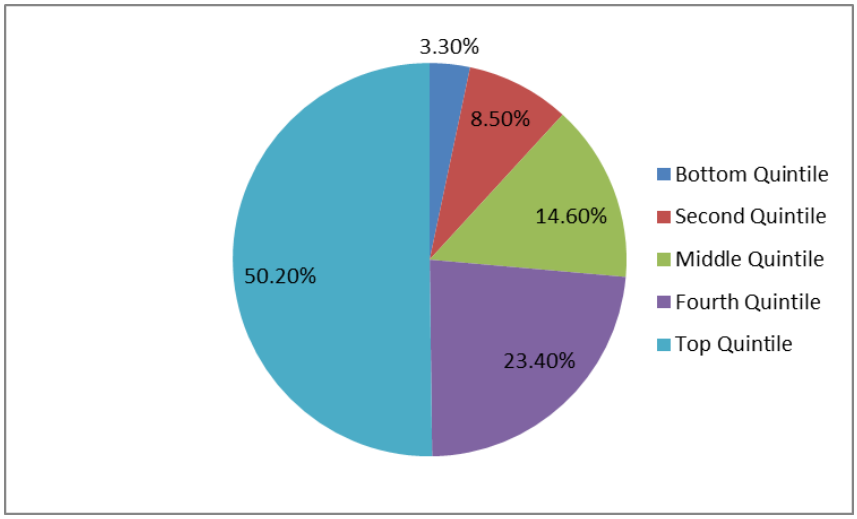
| Durable good | % ownership in bottom quintile | Durable good | % ownership in bottom quintile | Durable good | % ownership in bottom quintile |
|---|---|---|---|---|---|
| Central heating | 89 | Freezer/ Refrig-freezer | 94 | Home computer | 40 |
| Cars or vans | 59 | Microwave | 83 | Washer | 93 |
| Color TV | 98 | Telephone | 87 | CD player | 71 |
| Dishwasher | 17 | Dryer | 50 | Video | 87 |

***Source:*** http://statistics.dwp.gov.uk/asd/hbai/hbai2002/pdfs/Appx3.pdf (2001-2002 data)

4. Comparing the scale of absolute poverty throughout the world should not be taken as a dismissal of the importance of the issue of relative poverty in developed countries.

- Relative poverty or "income inequality" is a key concern of critics of capitalism.
  - The equality or inequality of income distribution affects people's perceptions of their own relative poverty or wealth.
  - Great income inequality in a wealthy nation emphasizes the relative poverty of those people in the lower income quintiles.
- Critics point to high and/or growing levels of income inequality as evidence that capitalism leaves the poor behind.
  - Roger Ransom, using data from the Survey of Consumer Finances, points out that the richest quintile in the United States makes an average of 12 times the income of the poorest quintile *(see Figure 4 below for updated data)*, and that the inequality of income distribution is growing. He sees this as a weakness of the capitalist economy of the United States.

**Figure 4: American Income Pie by Fifths, 2010 (%)**




***Source:*** 2012 Statistical Abstract of the United States. U.S. Census Bureau http://www.census.gov/compendia/statab/ (April 30, 2012)

**Table 4: Household Income Distribution by Fifths, 1968 – 2010**

| Year | Lowest Quintile | Second Quintile | Middle Quintile | Fourth Quintile | Highest Quintile |
|---|---|---|---|---|---|
| **2010** | **3.3** | **8.5** | **14.6** | **23.4** | **50.2** |
| 2004 | 3.4 | 8.7 | 14.7 | 23.2 | 50.1 |
| 2001 | 4.2 | 9.7 | 15.4 | 22.9 | 47.7 |
| 1998 | 4.2 | 9.9 | 15.7 | 23 | 47.3 |
| 1995 | 4.4 | 10.1 | 15.8 | 23.2 | 46.5 |
| 1992 | 4.3 | 10.5 | 16.5 | 24 | 44.7 |
| 1989 | 4.6 | 10.6 | 16.5 | 23.7 | 44.6 |
| 1986 | 4.7 | 10.9 | 16.9 | 24.1 | 43.4 |
| 1983 | 4.9 | 11.2 | 17.2 | 24.5 | 42.4 |
| 1980 | 5.3 | 11.6 | 17.6 | 24.4 | 41.1 |
| 1977 | 5.5 | 11.7 | 17.6 | 24.3 | 40.9 |
| 1974 | 5.7 | 12 | 17.6 | 24.1 | 40.6 |
| 1971 | 5.5 | 12 | 17.6 | 23.8 | 41.1 |
| 1968 | 5.6 | 12.4 | 17.7 | 23.7 | 40.5 |

***Source:*** U.S. Census Bureau. Income, Poverty, and Health Insurance Coverage in the United States: 2010. http://www.census.gov/prod/2011pubs/p60-239.pdf

- Countering Ransom and his fellow critics is a growing group of development economists suggesting that the appropriate focus is not on income ***distribution***, but on income ***mobility***.
  - Long-term tracking of income distribution data shows a pattern of relative stability. *(Table 4, above, for the U.S. is representative.)*
  - The similar percentages for the lowest quintiles in 1968 and 2001 are often reported as evidence that people get "stuck" in poverty. Such conclusions, however, are based on the unfounded assumption that the individual people in the lowest quintile in 1968 are the same people in the lowest quintile in 2001.
  - To determine whether being stuck in poverty is a common phenomenon, economists look at upward and downward income mobility. Developed economies with strong capitalist institutions generally have a great deal of income mobility.
    - The income distribution numbers may be stable over time, but for the most part, the people occupying the percentiles change.
      - For example it is not uncommon for young adults who are just completing their education and entering the job force to be in the lowest income quintile. Ten years later, few remain there, and the majority has moved up more than one quintile.
    - In economies with a great deal of income mobility, people move relatively easily from one quintile to another and may occupy several different quintiles during their lifetimes.
    - Table 5 summarizes a demographic study of income mobility in the U.S. between 1975 and 1991.
      - The bottom (shaded) row shows the income changes for those people who were in the lowest 20% of American incomes in 1975. By 1991, only 5.1% remained in the lowest quintile. 21% had moved into the middle income category and 29% had moved all the way to the top quintile.

**Table 5 Example of Changes in Income Ranking Over Time**

| **Income Quintile in 1975** | **Percentage in each quintile in 1991** | | | | |
|---|---|---|---|---|---|
| | **1st** | **2nd** | **3rd** | **4th** | **5th** |
| **5th (highest)** | **0.9** | **2.8** | **10.2** | **23.6** | **62.5** |
| **4th** | **1.9** | **9.3** | **18.8** | **32.6** | **37.4** |
| **3rd (middle)** | **3.3** | **19.3** | **28.3** | **30.1** | **19.0** |
| **2nd** | **4.2** | **23.5** | **20.3** | **25.2** | **26.8** |
| **1st (lowest)** | **5.1** | **14.6** | **21.0** | **30.3** | **29.0** |

***Source:*** Cox, Michael W. and Richard Alm. "By Our Own Bootstraps: Economic Opportunity and the Dynamics of Income Distribution." *1995 Annual Report*. Federal Reserve Bank of Dallas, 1995.

- The study reminds us that data showing the percentage of people living in poverty over time may be misleading if we do not also know how easily and how many people moved between income categories during the time period being studied.

*Teacher Note:* To illustrate to students that the distribution of income figures tells us little about the well-being of individual people, use Figure 2 *(above)*, but substitute people's names for some of the Person numbers.

**Figure 6**

**First Survey Year**

| Person | Income | |
|---|---|---|
| 1 Jack | $50,000 | Top quintile |
| 2 Sue | $40,000 | |
| 3 Merlin | $2000 | 94% |
| 4 Bill | $2000 | |
| 5 | $1000 | 4th quintile |
| 6 | $1000 | |
| 7 Tina | $1000 | 3.5% |
| 8 | $500 | |
| 9 George | $500 | 3rd quintile |
| 10 | $500 | |
| 11 Ali | $500 | 1.7% |
| 12 | $200 | |
| 13 Jamal | $150 | 2nd quintile |
| 14 | $150 | |
| 15 Otto | $100 | 0.5% |
| 16 | $100 | |
| 17 Nadia | $100 | Lowest quintile |
| 18 Felicia | $100 | |
| 19 Ben | $50 | 0.3% |
| 20 John | $50 | |

**10 Years Later**

| Person | Income | |
|---|---|---|
| 1 Ali | $50,000 | Top quintile |
| 2 Merlin | $40,000 | |
| 3 George | $2000 | 94% |
| 4 Ben | $2000 | |
| 5 | $1000 | 4th quintile |
| 6 Jeane | $1000 | |
| 7 Tina | $1000 | 3.5% |
| 8 | $500 | |
| 9 Gino | $500 | 3rd quintile |
| 10 | $500 | |
| 11 Sergio | $500 | 1.7% |
| 12 Sue | $200 | |
| 13 | $150 | 2nd quintile |
| 14 | $150 | |
| 15 John | $100 | 0.5% |
| 16 | $100 | |
| 17 Jack | $100 | Lowest quintile |
| 18 Lyle | $100 | |
| 19 Anita | $50 | 0.3% |
| 20 Felicia | $50 | |

The distribution of income by quintiles does not change over the 10 year time period, but the economic situations of individual people, did change – in some cases, quite dramatically:

- Ali, Merlin, and Ben have greatly increased their incomes; Ben went from working as a busboy to owning his own business and moved from the bottom quintile to the top.
- Things stayed much the same for Tina and Felicia. Sue and Jack have greatly reduced incomes; Sue because her business failed, and Jack because he retired.
- Jamal and Otto passed away, and Jeane, Gino, Sergio, Lyle, and Anita left school and entered the work force during the decade.

The lowest quintile of the fictitious population still has only .3% of the income, but only one person, Felicia, has not moved out of that income category.