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Commentary

Title:

*"Inequality of Incomes and of
Alcohol Consumption in the U.S."*

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In recent years many politicians, academics, and policy analysts have paid increasing attention to income and wealth inequality. The most common way that economists measure such differences is by first constructing a Lorenz Curve and then computing the value of a Gini Coefficient. For example, thinking about the distribution of incomes, we could conceptually order everyone in society from lowest income to highest income. Then, focusing on an arbitrary percentage of the individuals with lowest incomes, we could determine the percentage of total societal income earned by these people. According to U.S. Census Bureau data, in 2015 the 20% of households with lowest incomes in the U.S. collectively earned 3.1% of all income earned by all U.S. households. This observation gives us one point on the U.S.'s Income Lorenz Curve. Repeating this exercise for all segments of the population (from the 1% of households with lowest incomes to the 99% of households with lowest incomes) sketches out the entire Lorenz Curve, as illustrated in the accompanying figure which was constructed based upon U.S. Census Bureau data.

With fraction of total population on the horizontal axis and fraction of total income on the vertical axis, the Lorenz Curve must satisfy several mathematical properties. It must pass through the points (0,0) and (1,1); it must be upward sloping; it must get steeper as we move up the curve; and (so long as there are any differences in incomes) it must lie below the "45 degree line." This final observation can be understood by recognizing that the Lorenz Curve would exactly coincide with the "45 degree line" or "Line of Perfect Equality" only everyone had the same exact income. At the other extreme, if only one person had any income (and everyone else in society had zero income), then the Lorenz Curve would be a "reverse-L," passing through the points (0,0), (1,0), and (1,1).

This visual summary of the distribution of income can be reduced to a single summary measure called the Gini Coefficient. As can be seen from the figure, there is a lens-shaped area between the Lorenz Curve and "Line of Perfect Equality." The Gini Coefficient is defined as twice the value of this lens-shaped area. Numerically the Gini Coefficient can range from a low of zero (if there are no differences in incomes, so that the Lorenz Curve coincides with the "Line of Perfect Equality" and the lens-shaped area vanishes) to a high of one (if one person earns all the income, so that the Lorenz Curve is a "reverse-L" and the lens-shaped area encompasses the entire triangle below the "Line of Perfect Equality"). A higher valued Gini Coefficient reveals greater inequality.

The World Bank estimated the value of the Gini Coefficient for incomes in the U.S. to be .42 in 2016. This is higher than the values of .41 realized in 2004, .38 realized in 1991, and .35 realized in 1979, consistent with a narrative of increasing inequality in recent decades. The U.S.'s value is higher than most other OECD countries in recent years, such as Canada (.34 in 2013), France (.33 in 2015), the United Kingdom (.33 in 2015), Japan (.32 in 2008), Germany (.32 in 2015), Sweden (.29 in 2015), and Norway (.28 in 2015). (Note, for each of these countries the most recently available World Bank estimate is reported.) It is often these observations – (i) that the

value of the Gini Coefficient in the U.S. has increased in recent decades and (ii) that the value of the Gini Coefficient in the U.S. is greater than the value in other developed countries – that prompt many to argue in favor of government policies directly intended to reduce income inequality. For further perspective, the highest valued Gini Coefficients in the last decade have been realized in South Africa (.63 in 2014), Namibia (.59 in 2015), Zambia (.57 in 2015), Lesotho (.54 in 2010), Mozambique (.54 in 2014), and Brazil (.53 in 2017).

This approach to measuring inequality can be applied to levels of nearly anything, not just income. For example, in the book “Paying the Tab: the Economics of Alcohol Policy” Philip J. Cook reports observations from the 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) on alcohol consumption by American adults. 30% of the population consumed no alcohol. The 50% of the population with the lowest levels of consumption accounted for merely 0.166% of total consumption, the 70% of the population with the lowest levels of consumption accounted for 3.013% of total consumption, while the 90% of the population with the lowest levels of consumption accounted for 24.911% of total consumption. Using the NESARC data as reported by Cook, the Gini Coefficient for alcohol consumption in the U.S. is approximately .82. Thus, alcohol consumption inequality in the U.S. is significantly greater than income inequality in countries such as South Africa, Zambia, Mozambique, and Brazil.

In the U.S., the Gini Coefficient for alcohol consumption (.82) is almost twice as large as the Gini Coefficient for incomes (.42), revealing drastically more inequality in the former than in the latter. However, while many people are seemingly troubled by and call for direct government intervention to reduce income inequality, far fewer people would argue that the inequality of alcohol consumption in-and-of itself is a cause for concern (with the possible exceptions of prohibitionists – who would like to see all people consume zero alcohol – and others who are concerned about binge drinking and high levels of consumption by addicted users). Rather, most people would likely have the correct recognition that different consumers have different tastes and preferences for consuming alcohol. Since spending more money on alcohol means having less money available to spend on other goods, when facing a common set of prices different consumers with different levels of income and different preferences can make different optimal choices.

Simply observing differences in levels of consumption of a particular good tells us very little, if anything, about differences in realized levels of utility or well-being for different people from consuming the good. On some level, the same can be said in regards to levels of income. Some people have lower incomes since they choose to work less. Some people have higher incomes since they face greater risks of being injured on the job. Some people have intentionally chosen careers which they know pay less but that they personally find more rewarding. In reality, what we should potentially care about when assessing inequality of labor market outcomes is inequality of realized utility or well-being, not simply inequality of incomes. Unfortunately realized utility is impossible to observe and measure. When we instead focus on income inequality, we may be

incorrectly perceiving inequality of a magnitude that is not at all in-line with what we should truly aim to gauge. This is not to say that observations on income inequality are never useful or insightful. Rather, it should serve as a general reminder to be fully aware of not only what an economic measure actually quantifies but also the myriad things truly important for individual happiness and well-being.

Figure:

