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The Lorenz curve is a graphical representation of the distribution of wealth or income in a population. It was developed by Max O. Lorenz in 1905 to describe the distribution of wealth in a country. The curve plots the cumulative percentage of the total wealth or income of a population on the y-axis against the cumulative percentage of the population ranked by increasing wealth or income on the x-axis. The curve is commonly used to analyze income inequality in a country or region.

**Construction of Lorenz Curve:**

**To construct a Lorenz curve, we need to follow these steps:**

**Collect data:**

We need to collect data on the distribution of income or wealth in a population. This can be done by conducting surveys or using data from government agencies.

**Rank the population by income:**

Once we have the data, we need to rank the population by increasing income or wealth.

**Calculate the cumulative percentage of income:**

We calculate the cumulative percentage of income or wealth for each group. For example, if we have five groups, we would calculate the percentage of income held by the bottom 20%, the bottom 40%, and so on.

**Plot the Lorenz curve:**

The Lorenz curve is a graph that shows the cumulative percentage of income on the y-axis and the cumulative percentage of the population on the x-axis. To plot the curve, we connect the points representing each group’s cumulative percentage of income or wealth.

**Analyze the curve:**

The shape of the Lorenz curve can tell us a lot about income inequality in a population. The more bowed the curve, the greater the income inequality. If the curve is a straight line, it indicates perfect equality.

**Interpretation of Lorenz Curve:**

The Lorenz curve is a useful tool for analyzing income inequality in a population. It can help us to answer questions such as:

What percentage of the total income is held by the top 10% of the population?

What percentage of the total income is held by the bottom 50% of the population?

How does income inequality in one country compare to another?

Has income inequality in a country changed over time?

The Gini coefficient is a commonly used measure of income inequality that is based on the Lorenz curve. It is defined as the ratio of the area between the Lorenz curve and the line of perfect equality to the total area under the line of perfect equality. The Gini coefficient ranges from 0 to 1, with 0 indicating perfect equality and 1 indicating perfect inequality.

**Conclusion:**

The Lorenz curve is an important tool for analyzing income inequality in a population. It can help policymakers to identify areas of the population that are most affected by income inequality and to design policies to address the issue. The curve is also useful for comparing income inequality across different countries and over time.

**Thank you…**