

Introductory Economics

Introdução à Economia

Problems

2021/2022

3rd Quarter (P3)

3. Inflation, unemployment, and inequality

3. Inflação, desemprego e desigualdade

3.1. The following table shows the annual inflation rate (the GDP deflator) of Japan, the UK, China, and Nauru in the period 2016–2019. (Adapted from CORE, The Economy)

	2016	2017	2018	2019
Japan	–1.9%	–1.7%	–0.8%	–0.3%
UK	1.6%	2.0%	1.6%	1.9%
China	6.9%	8.2%	2.4%	2.2%
Nauru	–18.2%	18.1%	24.1%	–21.7%

Based on this information, which of the following statements is correct?

- a. Japan experienced a persistent period of disinflation between 2016 and 2019.

False. Disinflation describes a falling inflation rate. While Japan experienced deflation between 2016 and 2019, the inflation rate became less negative, so actually increased over that period.

- b. In the UK the price of goods and services remained stable between 2016 and 2019.

False. In the UK the inflation rate remained stable. This means that the price increased at a stable rate, not that the price level remained stable.

- c. China has been experiencing deflationary pressure between 2017 and 2019.

False. China has been experiencing disinflationary pressure (a falling inflation rate), not deflationary pressure (falling price levels).

- d. Nauru's price level at the end of 2019 is lower than it was at the start of 2016.

True. The price level at the end of 2019 is $(1 - 0.182) \times (1 + 0.181) \times (1 + 0.241) \times (1 - 0.217) = 0.939$ of that at the start of 2016, i.e., a fall of 6.1%.

3.2. What is the difference between price level and inflation?

Inflation is an increase in the overall price level. Thus, inflation is the rate of change in the average price level over time, measured, for example by the rate of change in the Consumer Price Index (CPI).

3.3. “Core inflation is less volatile than other measures of inflation that include all goods and services.” Comment.

The statement is true. Core inflation is less volatile because this measure excludes commodities whose prices are too volatile or fluctuate wildly, such as food and energy.

3.4. Hyperinflations are extremely rare in countries whose central banks are independent of the rest of the government. Why might this be so? (Adapted from Mankiw, Principles of Economics)

Hyperinflation is a term to describe rapid, excessive, and out-of-control general price increases in an economy (more than 50% per month). Although hyperinflation is a rare event, it has occurred many times throughout history, more recently in Zimbabwe and Venezuela.

Hyperinflations usually arise when governments try to finance much of their expenditures by printing money. This is unlikely to occur if the central bank (which is responsible for controlling the level of the money supply) is independent of the government.

3.5. Which of the following statements is correct? (Adapted from CORE, The Economy)

a. participation rate = employed ÷ labor force.

False. participation rate = labor force ÷ population of working age

b. unemployment rate = unemployed ÷ population of working age

False. unemployment rate = unemployed ÷ labor force

c. employment rate = employed ÷ population of working age

True.

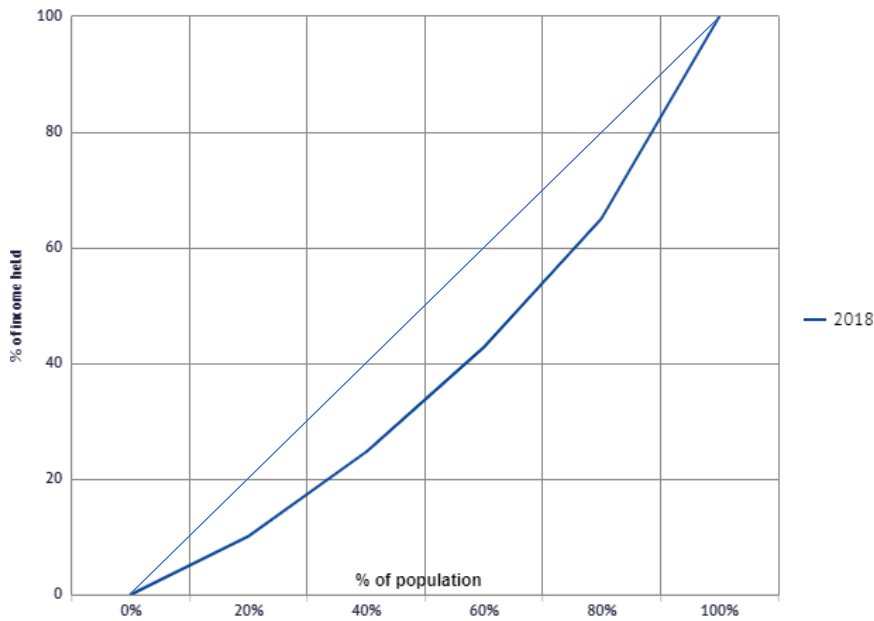
d. employment rate + unemployment rate = 1

False. unemployment rate = unemployed ÷ labor force, while employment rate = employed ÷ population of working age. They do not add up to 1 because the denominator is different.

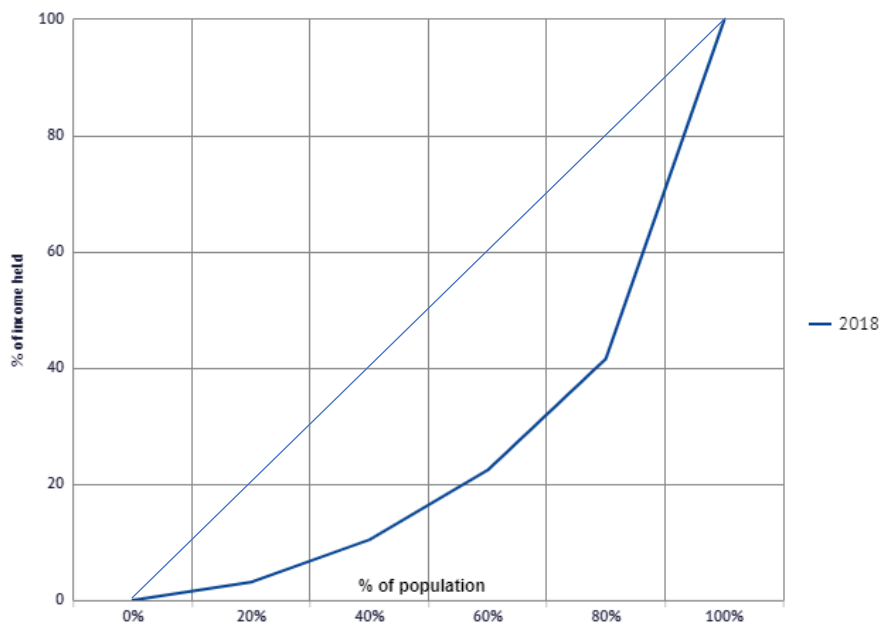
3.6. Draw two models of a Lorenz Curve: one representing a nation with a very small degree of income inequality and the other representing a nation with a high degree of income inequality. Relate with the Gini index.

The first graph should show a Lorenz Curve very close to the line of income equality (45-degree line). The second graph should show a Lorenz Curve very far from the line of income equality. The Gini index is higher where income inequality is higher.

Examples of two opposite countries (source: <https://knoema.com/crmndag/gini-coefficient-and-lorenz-curve-around-the-world>)



Lorenz Curve for Slovenia in 2018 (Gini Index = 24,6).



Lorenz Curve for Brazil in 2018 (Gini Index = 53,9).

3.7. If a nation's Gini coefficient is 25.0, what does that say about income inequality in this nation?

The Gini index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. Thus, this nation has a low degree of income inequality.

3.8. Figure 1 shows the inequality in wealth, earnings, and disposable income in the US, Sweden, and Japan using the Gini coefficient. Based on this information, which of the statements are correct? (Adapted from CORE, The Economy)

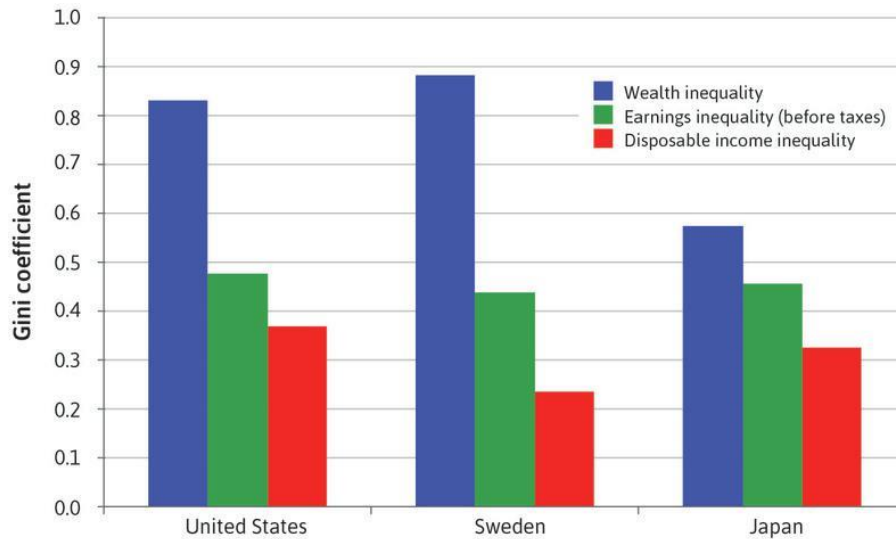


Figure 1

- a. Wealth is much more unequally distributed than earnings in all three countries.

True.

- b. Sweden is an unambiguously more unequal society than Japan.

False. Sweden is more unequal than Japan in terms of wealth but is more equal in terms of disposable income.

- c. Of the three countries, the US is the most unequal society.

False. This statement is true for earnings and disposable income. However, Sweden is more unequal than the US in terms of wealth.

- d. Sweden attains its relatively equal disposable income distribution through its system of taxes and transfers.

True.