In the United States, an issue that has been flying under the radar for years is inflation. There are several different reasons; the one I will be talking about here is the systematic repression and manipulation of this concept. There are many ways that the government goes about doing this. But first, what is inflation? It is an artificial increase in the money supply. In other words, when the government prints money, causing a rise in prices. When the money supply grows at an excessive rate, prices go up, so the value of each dollar goes down. For example, if I were to stand here with only a dollar, I would value that dollar highly. But, if someone were to walk in right now and give me 1 trillion dollars, I would not look at that dollar in the same way. All of those individual dollars would become less valuable to me. Another example would be if someone gave every American 1 trillion dollars. Anyone who sells a product or service would immediately raise their prices because everyone now has a trillion more dollars to spend. This is on a much larger scale than what is going on. In reality, inflation takes place over many years. Even the accepted definition of inflation has changed over many years. If the government was printing off more money than needed, causing your money to be less valuable, I would expect you to be upset. So, starting in the '80s, some western governments decided that they wanted to orchestrate a change in how we look at inflation. Instead of inflation meaning that the government is printing off money causing prices to go up, it simply means that prices are going up. This takes the pressure off the government and blames vendors for making smart business decisions.

The government has also changed our perceptions of inflation by manipulating how the CPI is measured. The CPI, or consumer price index, is the way the general cost of living is measured. The CPI is determined by the bureau of labor statistics: BLS. It is calculated as follows:

$$\text{CPI} = \frac{\text{Cost of Market Basket in Given Year}}{\text{Cost of Market Basket in Base Year}} \times 100$$

It is also one of the most used means of measuring inflation. The CPI can influence eligibility for government aid and provide cost-of-living wage adjustments for domestic workers. The CPI is a tool that gives many people a way of making informed decisions about the economy. However, those decisions may not be as informed as they believe.

The CPI (or how it is measured) has been a hot-button topic for a while now. The BLS will be the first to admit that it has made numerous changes to the measurement of the CPI. It is also the first to say that the changes made are in the best interest of the public. The latter statement is not always true.

If you were to take a set of data from many years ago and compare it with data collected today, you would want to make sure that both were collected the same way, right? That is what most people would consider fair and the most honest. So, why does this same principle not apply to arguably the most important measure of inflation and the economy? For years the BLS has been changing the way that they measure the CPI without reporting the real consequences it could have. The problem here is not the changes (although the changes are not always the most logical). The problem is that the new CPI continues to be compared to the old one.

In researching for this essay, and for my interest in years prior, there has been a theme often popping up in articles about inflation. This theme is that ‘yes inflation is bad but don't forget how bad the 80s were.' This is a gross misrepresentation of the issue. In the '80s the inflation rate was at record highs but comparing those numbers to today's is like comparing apples and oranges. Some economists even theorize that inflation (if calculated in the same way) would be the same between now and the ‘80s.

So, what are all these wild changes that drastically change our perceptions of inflation? A big one is that when consumers start buying different things, the CPI is changed. That may sound perfectly reasonable; what consumers are buying should be reflected in the CPI. But, it is more complex than that. Let me give you an example: if people were buying cotton sheets but the price got too high and everyone started buying polyester, that change in value should be reflected in the CPI. And then, what if people started buying tissue paper instead of sheets? Although they may be paying the same amount of money or less, they are sacrificing their quality of life. That is not reflected in the CPI. The product is changed, but the price is not adjusted to reflect the change in worth.

Arguably the most absurd way that the CPI has been adjusted is concerning homeowners and renters. The cost of housing and renting is quite a large expense for most people, so it would make sense it would be one of the most important sectors of the CPI. However, when measuring the cost of renting, instead of contacting actual landlords, the BLS decided that they would ask homeowners how much they would ask to rent out their homes. Why would the BLS do that unless they were deliberately manipulating the CPI? They would not. Homeowners, for the most part, have no idea what they could ask as rent for their house. Landlords on the other hand, already rent out their property and could give an accurate sum.

Even if you think that both of these changes are for the better, the problem is that in the ‘80s the CPI was different. The government uses math, specifically economics, to change our perceptions of the world around us. When high inflation is known, people may be less likely to vote for the person in power in the next election. They may invest in foreign currency or gold. They will also have less trust in the government. It is critical to keep this in mind when looking at the current inflation rate. The people who have control over how inflation is measured, have an interest in making sure it is low. They will jump through any hoops they can to make that happen. If that means changing the consumer price index under the guise of public interest or changing the definition of inflation.

Economics is often overlooked as a mathematical forum. I want to educate that it is as much math as social. Without all of the numbers from different sectors of the economy coming together to measure the CPI, we would not have a means of measuring inflation at all. Every method used to measure inflation involves taking the prices of different goods to compare with past numbers. Math influences us as much as we impact it. Many social factors all contribute to costs, which affect the inflation rate. And, those numbers and how they are presented affect us. In some substantial ways like being eligible for government programs or what candidate is elected. In some small ways like sparking conversations about economics. However you spin it, economics is a meaningful framework for mathematics that does not just affect our wallets but our entire lives.

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