If you want to measure inflation, which measure should you use? It depends on the question you want to answer. If you want to know what’s happening to your own cost of living, the consumer price index probably tells you what you want to know. If you want to know what’s happening to inflation more broadly in the economy, however, you should probably pay more attention to the GDP deflator. The consumer price index overstates the overall rate of inflation for several reasons.

Let’s consider for a moment some of the things that cause the consumer price index not to be representative of the general rate of inflation in the economy. The first problem with the consumer price index is that it’s not a comprehensive measure of price changes. That is, it considers only the bundle of goods and services that households typically buy. The GDP deflator, on the other hand, is a broader measure that includes all kinds of goods and services produced in the economy, and is therefore probably a better measure when you really want to know about inflation.

A second problem is the substitution bias of the consumer price index. The consumer price index assumes that people continue to buy the same basket of goods and services as prices change. For instance, suppose the price of red meat goes up; the cost of living, as reflected by the consumer price index, will be rising, because the consumer price index assumes that people continue to buy the same basket. However, in reality, when the price of red meat goes up, people seek substitutes instead. And if they buy the substitute goods, the actual cost of living may remain changed relatively little. However, the consumer price index doesn’t take this substitution into account; it ignores it, and imagines that people continue to buy the same goods and services. We call this problem the “substitution bias,” and because of the substitution bias, the consumer price index overstates changes in the cost of living. The GDP deflator, on the other hand, is a broad measure, and includes all goods and services, and therefore allows some room for substitution. Remember the quantities are changing as we move from one year to the next in calculating the GDP deflator, and that can reflect a change in the consumption of red meat relative to chicken.

Another problem with the consumer price index is people are always enjoying new goods and services. For example, I don’t see any cellular telephones in here, I don’t see any of the latest model computer – these are all things that make our life better. And yet, what is in here are goods that people were consuming five and six years ago; there’s not a lot of scope here for the inclusion of new products. And not only are the new products making our life better, but these new products’ price changes may be an important part of our economic life. I mean, remember when computers first became available, they were pretty expensive; but their prices have fallen steadily over time. The same with cellular telephones, and all the other new gadgets that we enjoy. So one problem with the consumer price index is it neglects the effect of new products – the latest stuff that people are spending money on.

Another problem is the consumer price index doesn’t take into account quality changes. For instance, although there is some air transportation in the consumer bundle, air transportation is much safer today than it was 30 years ago. So if you’re paying the same price for an airline ticket today as you were in 1970, you’re getting a much better deal today, because the quality of that product has improved. The cellular telephones, the computers, the toys, the automobiles – everything is increasing in quality as technological progress becomes part of our goods and services. However, this technological progress and these changes in quality are not reflected in the CPI. That is, if we’re paying the same price and getting higher quality, our standard of living is actually rising, although this measure of the cost of living would be staying constant.

Also, we have to take into account that people’s shopping patterns change. If we measure the cost of goods and services as purchased at a supermarket, for instance, then we’re neglecting the reality that many people now are buying things online, or in large superstores, where the prices may be lower. That is, people change their purchasing patterns in response to new shopping opportunities created by the Internet, or by mega-malls, or things like that. As shopping opportunities change, then the cost of living, as measured by this bundle, if we’re pricing it at traditional stores – the cost of living would actually be overstated by the consumer price index, because people are finding less expensive alternatives in new shopping opportunities.

So the consumer price index as measured by the price of this particular bundle of goods and services may overstate inflation. And some researchers say that the actual degree of overstatement may be as much as 1 percentage point to 1.5 percentage points. That is, if the measured inflation rate is 3%, it may be that the cost of
living is actually only rising by about 1.5 or 2% a year. The consumer price index tends to overstate, because of the substitution bias, the neglect of new products, the neglect of quality improvements, and the neglect of changing shopping opportunities.

For this reason, the Federal Reserve, which makes monetary policy for the United States, tends to focus more of its attention on changes in the GDP deflator, rather than the changes in the consumer price index. The changes in the GDP deflator are probably a more reliable measure of the overall inflation rate in the country. The CPI is still useful because it does tell you something about the cost of living; and especially if you understand its limitations, you can read the newspaper with an eye towards filtering and translating the numbers that are reported.