



# Different Ways To Measure Inflation

While the CPI is a popular indicator of inflation in Malaysia, there are also other measures – all giving slightly varying results. How reliable are they?

I'M quite amazed that of late, many of my friends have become more interested in discussing economic issues. Whenever we meet, they start throwing questions at me: What is happening? What are the major issues? What are the prospects?

Some even call me at night – the time I least expect people to want to talk about economics – to discuss issues on the Malaysian economy.

What is happening?

For one, there are many global issues cropping up currently that tend to affect business: high oil prices, rising inflation and interest rates, strengthening of the ringgit, etc. So a typical businessman would naturally wish to find out how these developments would affect his business prospects.

Similarly, the man-in-the-street would want to find out the possible future cost of buying a new car, a new home and the prospect of re-selling them in the next few years. So naturally, many questions are being thrown at economists.

Among all the issues, I find that inflation catches people's attention the most. This is not surprising as recent Department of Statistics numbers suggest that inflation is creeping up. The consumer price index or CPI, a common inflation yardstick in Malaysia, rose by 4.6% in April, above the 35-year average of 3.9%.

Many asked whether the CPI really reflected the true cost of living since they noticed that prices of many things they bought from their grocery stores had gone up by more than the 4.6% indicated by the index. The also wished to know whether there was an alternative measure of inflation.

Well, before discussing further, we may need to understand inflation the way economists define it: a *sustained* rise in general prices in the economy. In other words, general prices have to move up continuously for a certain period.

The scope of price increases is significant because a continuous increase in prices of only certain products, or a one-time rise in the average price level, cannot be considered as inflation.

So, strange as it may sound to the man-in-the-street, a one-time increase due to, say, an increase in oil prices, is not considered as inflation.

So how do we measure the general price level in the economy?

The CPI, which the economists normally use, indicates changes in the general price level from the base year to the current year.

The construction of the CPI is rather tedious. First, a base year should be properly selected. In theory, the base should be a 'normal' year when prices were not extremely high or low and when the economy and the political situation were stable.

A more important task is to select a proper basket of goods and services bought by consumers, for the index, and to assign proper weightage to each category in the basket.

Now, the difficult part is that goods selected must be based on current spending habit of a typical family in the country. In other words, the goods and services cannot represent those purchased only by certain classes of people in the society.

A proper weightage is also crucial because it represents the portion of income a typical household spends. For example, if the weightage of rice to chicken is 3 to 1, that would mean the household expenditure on rice is three times more than that on chicken.

So, from the above explanation, we can see that the CPI also has its drawbacks. Let's take a look at some of them.

First is the selection of the base year. How are we going to define a 'normal' year? To what extent should it be normal? That is very judgmental because it is not easy

to decide which year is an ideal year.

Second, the selection of the basket of goods and services also gives statisticians a lot of headache. How do we really define 'essential' goods, as opposed to 'non-essential' goods?

While some goods are considered essentials by certain groups (class) of people, they are not really essentials for others. This is because the views of higher income level people are different from that of the lower income group.

In fact, even within the same group, there are differences in the way they define essentials and non-essentials.

Third, putting proper weightages to different categories of goods and services is also tricky. Obviously, different people have different scales of preferences. In other words, the relative importance of a good is different from one group to another.

To make it worse, it doesn't remain static. For example, as income increases, the proportion spent on different goods and services changes as well.

There are other drawbacks too, if we wish to go into details. For example, sampling errors would also cause inaccuracy in calculating the CPI. What this means is that when prices are collected, they are normally based on certain sampling techniques, as nobody can really collect the price of every single good and service.

In addition, the information obtained may not always be accurate. So, looking at these drawbacks, we can see why we should be very careful in making comparisons. For instance, we often come across comparisons of inflation rates between countries.

Strictly speaking, such comparisons may not be very accurate. This is because of the differences in most of the things described above – the base year, the basket of goods and services, weightages, and so on.

Given all these drawbacks, the next obvious question would be: are there alternatives to the CPI?

Yes there are, but they also suffer drawbacks. In the United States, the most commonly cited is the core private consumption expenditure (core PCE) deflator. This is the favourite indicator used by the US Federal Reserve Bank to gauge the state of inflation in the economy.

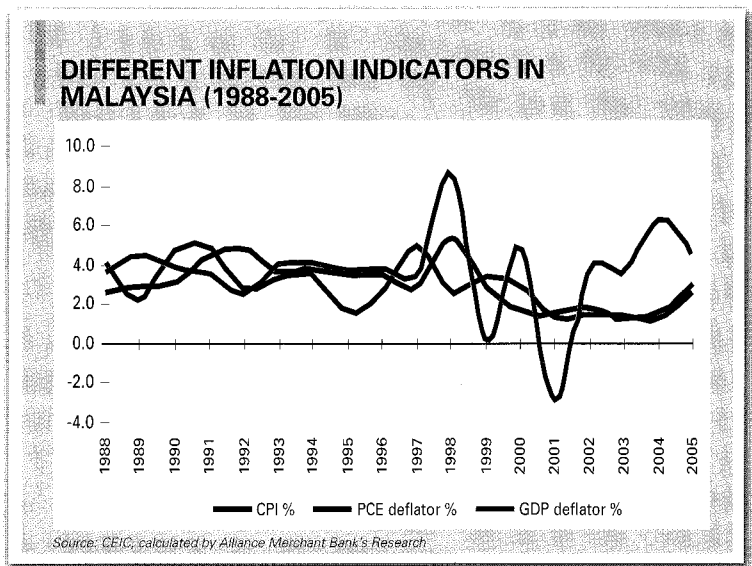
The PCE is essentially constructed based on purchases by the private sector. The index is simply derived from the difference between nominal or the current price and the so-called real price, which is based on a certain year.

The details are less important but the deflator essentially solves the problem of using a fixed basket of goods, because it measures prices based on the actual goods and services purchased and not on a specific basket.

A more complicated measure often used in the US is the difference in yields of US Treasury bonds (UST) and Treasury Inflation Protected Securities (TIPS) of equivalent tenor.

For instance, at the time of writing, the yield of 10-year US Treasury bonds was 5.03% and the yield of 10-year TIPS 2.41%. The difference – 2.62% – is the expected inflation rate over the next 10 years, at least from the financial market's point of view.

In Malaysia, the same index can be calculated. First, the gross domestic product (GDP) deflator is an index measuring the relative difference between nominal and real GDP. Second is the private consumption deflator,



which can be calculated based on the private consumption data provided by the Department of Statistics (*see chart*).

The way the PCE is calculated is the same as that for the GDP deflator. When the three indicators are plotted together, we can see differences in the 'inflation' rates for the past 16 years.

We can see that the 16-year average of the PCE deflator is 2.8%, a shade lower than the average CPI inflation of 2.9% within the same period. On the other hand, the average inflation rate as indicated by the GDP deflator is higher, at 3.6%.

So we can see that inflation rates can be different when measured by different indices. As to which of the three is the most accurate, there is no right or wrong answer. It depends on which indicator an individual feels more comfortable with and believes is a better measure of inflation. **mb**

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