Introductory Macroeconomics

In-Tutorial #1
Week Starting 8th March 2021

Questions.

1. Compare your answer to Question 4 of the pre-tutorial work with everyone else in your group. Make sure your group ends up with a consensus answer (one that you all agree with). In light of this example, why do you think the Australian Bureau of Statistics (ABS) prefers chain-weighted measures over a fixed base period when calculating real GDP?

2. When comparing data across countries, economists often scale a variable by dividing by GDP. For example, to get an idea of the role of government in an economy, economists would divide the level of government spending by the level of GDP. Explain why this is a useful thing to do.

3. When people say something is 'good for the economy' they are often implicitly using GDP as a measure of how well the economy is performing. Do you think that GDP is a good measure of welfare of a society? In what ways is GDP a good measure of welfare and in what ways would GDP be an inadequate measure of welfare? Explain your answer. What do you think are alternative ways of measuring welfare?

Solutions to In-Tutorial Work.

1. The numbers in the question are a nice illustration of the advantage of chain-weighted indexes. Chain-weighted indexes (what the ABS refers to as 'volumes') are more sensitive or 'alert' to structural changes in the economy.

   Using 2009 as a fixed base suggests that real GDP is 2.5 percent higher in 2011 than in 2009. Using the chain index measure, however, shows that real GDP has fallen in 2011 relative to 2009.

   What explains this is the following: motorcycles accounted for 25% of nominal GDP in 2009 but 9% in 2010 and only 6% in 2011. Therefore, using 2009 as a fixed base year uses information from a period in which motorcycles were relatively more important in GDP than is the case in later years. So, calculating real GDP in 2011 using 2009 prices gives what happens to motorcycles a disproportionately larger weight than is justified; using the 2009 base period gives a figure for real GDP in 2011 that is higher relative to 2009 because the quantity of motorcycles is growing since 2009. On the other hand, car production is falling from 2009 on. The 2011 chain-weighted index more accurately reflects what has happened to real GDP because it gives more weight to what has happened to cars (the quantity has fallen) than to motor cycles (the quantity has risen) in line with the shift in the relative shares of cars and motorcycles in nominal GDP.

2. Economies vary by a great amount in size due to, for example, population size. If we are interested in evaluating differences, in say, the role of the government in an economy it would not necessarily make sense to compare the *level* of government spending. A large economy like China would have much greater government spending than a small economy like Nepal. To compare the role of government in the economy it would make more sense to compare the ratio of government spending to GDP. As a follow up question, you can ask in what other ways can economic variables be scaled to make them more comparable across countries. Concretely, suppose you wanted to compare living standards across countries, then you may compare output per person or consumption per person which would imply scaling by the population size.

3. GDP is often associated with welfare and we can see why for a number of reasons. Countries that have higher GDP typically have higher educational attainment, better health outcomes, and often more gender equality. It is argued that at least for some part, this is a causal relationship with higher GDP leading to better health and educational outcomes. The mechanism would be something like: countries with higher GDP are more productive. This greater productivity allows people to pursue a broader range of opportunities and leads to greater levels of happiness. The empirical evidence suggest that GDP and welfare are closely related. GDP and happiness as measured in surveys are strongly correlated particularly for low and middle-income countries.

GDP is not necessarily a perfect measure of welfare. There are a number of reasons why:

- GDP does not take into account leisure time but leisure time has value and adds to welfare.
- GDP does not include non-market activity. If you made your own breakfast this morning, this is not included in GDP. If you ate the same meal at a cafe, this would be included in GDP.
- Quality of life - there is more to life than economic activity.
- Environmental and resource depletion - high levels of GDP may be associated with environmental damage or the reduction in resource wealth.
- GDP does not measure poverty and inequality. Studies often show that happiness is negatively associated with inequality. GDP only measures the level of economic activity. It does not tell us how this economic activity is distributed.

There are a number of alternative measures economists and other social scientists use to think about welfare:

- The United Nations Development Program created a *Human Development Index*. It is an index that includes measures of health and education in addition to income (ie. GDP per person). Some argue that this broader concept is a better measure of welfare.
- Economists and other social scientists often use surveys to measure happiness of individuals. A good example is the Household Income and Labour Dynamics in Australia (HILDA) Survey that asks individuals to rate how happy they are.
- Economists sometimes look at the decisions people make, to evaluate preferences. This is called a *revealed preference* argument. By looking at migration decisions, we can get some idea as to what people's preferences are. If people are migrating out of regions, then we suspect that they may not be happy in those regions and if they are migrating into particular regions, we suspect that they may be happier there.