1. Define “Real GDP” “Nominal GDP” “Expansion” “Recession” “Value Added” “Inflation” and “GDP deflator” with one or two sentences each. Do not use the definitions in the book; provide your own definitions in a way anyone can understand.

2. Why do we subtract imports when calculating GDP by expenditure? Does this mean that our GDP will decrease if we import more?

3. In Enjoyistan, only three final goods are produced, raspberry cheesecake, chocolate and coffee. The table below shows the prices and quantities of the three goods in years 1 and 2.

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th></th>
<th>Year 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity</td>
<td>Price</td>
<td>Quantity</td>
<td>Price</td>
</tr>
<tr>
<td>Raspberry cheesecake</td>
<td>6</td>
<td>10</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Chocolate</td>
<td>20</td>
<td>2</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Coffee</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>8</td>
</tr>
</tbody>
</table>

Given this information, calculate the nominal GDP, the real GDP using year 1 as base and the real GDP using year 2 as base. Then calculate the growth rates of nominal GDP and the two real GDP measures. Interpret your results.

4. Find the real and nominal GDP numbers for Turkey for the recent past. (Use any horizon you want but make sure that your sample period extends before 2000.) Plot these two on the same graph. What has been happening to the Turkish GDP measured both ways? How do you interpret your graph? Are you using total GDP or GDP per capita? Why?

Make sure that you properly refer to your data sources. Someone else must be easily able to exactly reproduce your data using your reference. Save the data you collected, you’ll need them in later in the semester.

5. Read The Economist of the week of February 11, 2012. Look at the tables at the end of the magazine. Do you think The Economist is reporting the real or nominal GDP growth rates? Why?

6. Read the following article from The New York Times, dated August 10, 2009 entitled “G.D.P.R.I.P.” authored by Eric Zencey. In light of your readings discuss the fitness of GDP as a measure of “how well the economy is doing”? In your discussion address the issues regarding (1) what GDP really measures and (2) what it does not properly measure. Make sure that this
discussions is not merely a summary of the article but includes your views/opinions on this matter. The discussion should be at most 300 words. Note: You will be discussing this article in next week’s discussion hours.

The New York Times

August 10, 2009
OP-ED CONTRIBUTOR
G.D.P. R.I.P.

By ERIC ZENCEY

Montpelier, Vt.

IF there’s a silver lining to our current economic downturn, it’s this: With it comes what the economist Joseph Schumpeter called “creative destruction,” the failure of outmoded economic structures and their replacement by new, more suitable structures. Downturns have often given a last, fatality-inducing nudge to dying industries and technologies. Very few buggy manufacturers made it through the Great Depression.

Creative destruction can apply to economic concepts as well. And this downturn offers an excellent opportunity to get rid of one that has long outlived its usefulness: gross domestic product. G.D.P. is one measure of national income, of how much wealth Americans make, and it’s a deeply foolish indicator of how the economy is doing. It ought to join buggy whips and VCRs on the dust-heap of history.

The first official attempt to determine our national income was made in 1934; the goal was to measure all economic production involving Americans whether they were at home or abroad. In 1991, the Bureau of Economic Analysis switched from gross national product to gross domestic product to reflect a changed economic reality — as trade increased, and as foreign companies built factories here, it became apparent that we ought to measure what gets made in the United States, no matter who makes it or where it goes after it’s made.

Since then it has become probably our most commonly cited economic indicator, the basic number that we take as a measure of how well we’re doing economically from year to year and quarter to quarter. But it is a miserable failure at representing our economic reality.

To begin with, gross domestic product excludes a great deal of production that has economic value. Neither volunteer work nor unpaid domestic services (housework, child rearing, do-it-yourself home improvement) make it into the accounts, and our standard
of living, our general level of economic well-being, benefits mightily from both. Nor does it include the huge economic benefit that we get directly, outside of any market, from nature. A mundane example: If you let the sun dry your clothes, the service is free and doesn’t show up in our domestic product; if you throw your laundry in the dryer, you burn fossil fuel, increase your carbon footprint, make the economy more unsustainable — and give G.D.P. a bit of a bump.

In general, the replacement of natural-capital services (like sun-drying clothes, or the propagation of fish, or flood control and water purification) with built-capital services (like those from a clothes dryer, or an industrial fish farm, or from levees, dams and treatment plants) is a bad trade — built capital is costly, doesn’t maintain itself, and in many cases provides an inferior, less-certain service. But in gross domestic product, every instance of replacement of a natural-capital service with a built-capital service shows up as a good thing, an increase in national economic activity. Is it any wonder that we now face a global crisis in the form of a pressing scarcity of natural-capital services of all kinds?

This points to the larger, deeper flaw in using a measurement of national income as an indicator of economic well-being. In summing all economic activity in the economy, gross domestic product makes no distinction between items that are costs and items that are benefits. If you get into a fender-bender and have your car fixed, G.D.P. goes up. A similarly counterintuitive result comes from other kinds of defensive and remedial spending, like health care, pollution abatement, flood control and costs associated with population growth and increasing urbanization — including crime prevention, highway construction, water treatment and school expansion. Expenditures on all of these increase gross domestic product, although mostly what we aim to buy isn’t an improved standard of living but the restoration or protection of the quality of life we already had. The amounts involved are not nickel-and-dime stuff. Hurricane Katrina produced something like $82 billion in damages in New Orleans, and as the destruction there is remedied, G.D.P. goes up. Some of the remedial spending on the Gulf Coast does represent a positive change to economic well-being, as old appliances and carpets and cars are replaced by new, presumably improved, ones. But much of the expense leaves the community no better off (indeed, sometimes worse off) than before.

Consider the 50 miles of sponge-like wetlands between New Orleans and the Gulf Coast that once protected the city from storm surges. When those bayous were lost to development — sliced to death by channels to move oil rigs, mostly — gross domestic product went up, even as these “improvements” destroyed the city’s natural defenses and wiped out crucial spawning ground for the Gulf Coast shrimp fishery. The bayous were a
form of natural capital, and their loss was a cost that never entered into any account — not G.D.P. or anything else.

Wise decisions depend on accurate assessments of the costs and benefits of different courses of action. If we don’t count ecosystem services as a benefit in our basic measure of well-being, their loss can’t be counted as a cost — and then economic decision-making can’t help but lead us to undesirable and perversely un-economic outcomes.

The basic problem is that gross domestic product measures activity, not benefit. If you kept your checkbook the way G.D.P. measures the national accounts, you’d record all the money deposited into your account, make entries for every check you write, and then add all the numbers together. The resulting bottom line might tell you something useful about the total cash flow of your household, but it’s not going to tell you whether you’re better off this month than last or, indeed, whether you’re solvent or going broke.

Because we use such a flawed measure of economic well-being, it’s foolish to pursue policies whose primary purpose is to raise it. Doing so is an instance of the fallacy of misplaced concreteness — mistaking the map for the terrain, or treating an instrument reading as though it were the reality rather than a representation. When you’re feeling a little chilly in your living room, you don’t hold a match to a thermometer and then claim that the room has gotten warmer. But that’s what we do when we seek to improve economic well-being by prodding G.D.P.

Several alternatives to gross domestic product have been proposed, and each tackles the central problem of placing a value on goods and services that never had a dollar price. The alternatives are controversial, because that kind of valuation creates room for subjectivity — for the expression of personal values, of ideology and political belief.

How, after all, do we judge what exactly was the value of the services provided by those bayous in Louisiana? Was it $82 billion? But what about the value of the shrimp fishery that was already lost before the hurricane? What about the insurance value of the protection the bayous offered against another $82 billion loss? What about the security and sense of continuity of life enjoyed by the thousands of people who lived and made their livelihoods in relation to those bayous before they disappeared? It’s admittedly difficult to set a dollar price on such things — but this is no reason to set that price at zero, as gross domestic product currently does.

Common sense tells us that if we want an accurate accounting of change in our level of economic well-being we need to subtract costs from benefits and count all costs, including those of ecosystem services when they are lost to development. These include storm and flood protection, water purification and delivery, maintenance of soil fertility, pollination of plants and regulation of our climate on a global and local scale. (One
recent estimate puts the minimum market value of all such natural-capital services at $33 trillion per year.)
Nature has aesthetic and moral value as well; some of us experience awe, wonder and humility in our encounters with it. But we don’t have to go so far as to include such subjective intangibles in order to fix the national income accounts. As stressed ecosystems worldwide disappear, it will get easier and easier to assign a nonsubjective valuation to them; and value them we must if we are to keep them at all. No civilization can survive their loss.
Given the fundamental problems with G.D.P. as a leading economic indicator, and our habit of taking it as a measurement of economic welfare, we should drop it altogether. We could keep the actual number, but rename it to make clearer what it represents; let’s call it gross domestic transactions. Few people would mistake a measurement of gross transactions for a measurement of general welfare. And the renaming would create room for acceptance of a new measurement, one that more accurately signals changes in the level of economic well-being we enjoy.
Our use of total productivity as our main economic indicator isn’t mandated by law, which is why it would be fairly easy for President Obama to convene a panel of economists and other experts to join the Bureau of Economic Analysis in creating a new, more accurate measure. Call it net economic welfare. On the benefit side would go such nonmarket goods as unpaid domestic work and ecosystem services; on the debit side would go defensive and remedial expenditures that don’t improve our standard of living, along with the loss of ecosystem services, and the money we spend to try to replace them.
In 1934, the economist Simon Kuznets, in his very first report of national income to Congress, warned that “the welfare of a nation can ... scarcely be inferred from a measure of national income.” Just as this crisis gives us the opportunity to end the nature-be-damned, more-is-always-better economy that flourished when oil was cheap and plentiful, we can finally act on Kuznets’s wise warning. We’re in an economic hole, and as we climb out, what we need is not simply a measurement of how much money passes through our hands each quarter, but an indicator that will tell us if we are really and truly gaining ground in the perennial struggle to improve the material conditions of our lives.

*Eric Zencey, a professor of historical and political studies at Empire State College, is the author of “Virgin Forest: Meditations on History, Ecology and Culture” and a novel, “Panama.”*