Answers to Questions: Chapter 14

1. Figure 14-1 shows that consumption of durable goods as a share of natural GDP has remained relatively constant since 1960, while consumption of nondurable goods has declined as a share of natural GDP over the last 50 years. On the other hand, consumption of services as a share of natural GDP has risen so much since 1960 that total consumption expenditures as a share of natural GDP is now larger than it was 50 years ago.

   Consumption of durable goods as a share of natural GDP is more volatile over the course of the business cycle than are purchases of nondurable goods and services. People are able to delay buying big-ticket items such as cars and appliances when economic activity and incomes decline. Consumption of nondurable goods declines modestly as a share of natural GDP during recessions as households cut back on clothing purchases and higher costs foods. However, there are limits as to how much households can reduce their consumption of most nondurable goods during recessions. Finally, consumption of services as a share of natural GDP does not change over the course of a business cycle as consumers still need to get cars fixed, particularly if they have delayed buying a new one, and they still need housing and health care services during downturns.

2. While nominal spending by households on services rose from less than one-half of all consumption expenditures in 1960 to almost two-thirds of total consumption expenditures by late 2010, real spending on services as a percent of total consumption expenditures rose only modestly over that same period from 62.2 percent to 65.2 percent. The reason that nominal spending rose so much more than real spending is that the prices of consumption services rose much more rapidly than the prices of consumption expenditures on average over the last 50 years. On the other hand, nominal spending on nondurable goods as a percent of total consumption fell slightly more than did real spending because the prices of nondurable goods did not change much over the last fifty years. Finally, while nominal spending on durable goods fell from 13.9 percent of total consumption expenditures in 1960 to 10.4 percent of the total in late 2010, real spending on durables goods rose from 4.9 percent to 12.6 percent of total consumption spending over the last 50 years. The reason for this sharp rise in real spending as a percent of total consumption while nominal spending as a percent of total spending was falling was the sharp decline in the prices of durables goods, particularly electronic appliances, which caused households to buy more of those goods relative to their purchases of nondurable goods and services.

3. Historically, the economy moves along the long-run consumption schedule (Figure 14-4), for which consumption and saving are a relatively constant share of permanent income. Not everyone receives an income equal to his or her permanent income, however. Consequently, when we examine cross-sectional data, those people with actual incomes greater than their permanent incomes will tend to have a saving rate somewhat higher than the average (and the reverse is true for those with incomes below permanent levels). Because people with high incomes are more likely to be in the group with actual incomes in excess of permanent incomes, the saving rate tends to be higher for that group.

4. The PIH suggests that people base their spending patterns on long-term, average incomes. Permanent changes in income cause changes in consumption based on this average response (long-run marginal propensity to consume). Changes in actual income might be due to permanent or temporary changes. The latter will not cause changes in consumption unless the perception of permanent income changes. Thus, the change in consumption out of actual income (short-run marginal propensity to consume) is much smaller because part of that income is considered transitory.

5. Permanent income is not permanent. It is the consumer's expected average income. This can change if events cause the consumer's expectations to change. Passing the bar exam, being accepted into medical school, or receiving a promotion are events that would change an individual's estimate of his or her permanent income.

6. The theory assumes that individuals use assets to increase consumption over their expected life span. If an individual planned no bequests, some of that person's assets would be consumed each year, until none remained at the end of the person's life. This behavior would allow consumption to be higher and saving to be lower for any given level of income.

7. According to the LCH, workers save and retirees dissave. The overall household saving rate depends on the saving and consumption behavior of both groups. An increase in the proportion of the population that is retired raises total consumption relative to total income, thus causing the saving rate to decline. This effect on the saving rate could be offset by a number of means, including an increase in labor productivity that raises income per worker, an increase in the retirement age, or an increase in the number of working-age immigrants accepted into the country.

8. a. Permanent income will change for the workers let go because it is clear that they have a permanent job loss due to higher health care costs that Food-2-Go is being forced to pay. As for the workers retained, if they believe Food-2-Go when it says that they will work overtime on a regular basis, then they will view the increase in pay resulting from overtime as a permanent rise in income. On the other hand, if the workers take the layoffs as a signal that the company is experiencing difficulties, then

that information may convince them that the overtime pay is transitory. It may take a period of a time before they are convinced that they will be working overtime on a regular basis. For workers let go, permanent income will decline initially by a larger amount if expectations are rational since it is assumed that they will earn less at whatever new jobs they get. This is because the higher pay that they earned at Food-2-Go will be used for some time in computing permanent income if expectations are adaptive, which would not be the case if expectations are rational. Once again, for workers retained by Food-2-Go, whether permanent income changes by a larger amount initially if expectations are adaptive or rational depends on whether workers are convinced that they will be working overtime on a regular basis. If they are convinced of that fact, then they will include the overtime pay in the computation of permanent income and it will rise by that amount. If they believe that the overtime pay is transitory, then permanent income computed using adaptive expectations will initially be greater because the overtime pay will be included in the computation of permanent income.

b. Permanent income does not change since the overtime pay is due to an unusually snowy winter. The pay is clearly transitory in nature.

c. This is an increase in permanent income. While the person was expecting the promotion, she was not anticipating the amount of the pay increase. Therefore, the pay increase represents a rise in permanent income. Permanent income will rise initially by a larger amount if expectations are rational as opposed to adaptive since her pay prior to the promotion will not be included in the computation of permanent income.

9. Leaving bequests is compatible with the LCH. No one knows with certainty the length of one's "life cycle." Thus, if an individual uses a life horizon longer than the normal life expectancy, it is probable that when the individual dies, assets will remain.

10. Yes, this observation is consistent with both hypotheses. For a younger family to smooth out consumption spending, the family might have to go into debt in the early years. If loans are unavailable, however, consumption might be constrained by the level of current income, with the result that an increase in current income, even if considered to be temporary, might be spent at a higher rate than the usual short-run marginal propensity to consume would predict.

11. The PIH and the LCH hypothesize that consumption expenditures are relatively stable proportions of expected (permanent or lifetime) income. They also predict that in a recession, when transitory income falls, households cut back their ratio of saving to personal income. For services and nondurables, enjoyment and spending occur at roughly the same time. Durable goods, on the other hand, provide enjoyment over an

extended period of time. The purchase of durable goods is often postponable. It is likely to respond to changes in transitory income to a greater extent than expenditures on nondurable goods and services. These observations help to explain the PIH and LCH prediction. Consumption of durable goods is more volatile than consumption of nondurable goods, and both are more volatile than consumption of services, which tend to grow smoothly. If consumer durable expenditures were treated as if they were a form of saving, then the relatively smooth consumption predicted by PIH and LCH is validated: people make most of their adjustment to short-run changes in income by changing their ratio of saving (including durables) to personal income.

12. The PIH and LCH hypotheses suggest that purchases of consumer durable goods should be excluded from consumption expenditures when studying how consumers behave because households are interested in the amount of services they obtain from durables over time, not the amount of durable goods they purchase at a particular point in time. The leading study of the 2008 ESA indicates that consumers spent between 12 and 30 percent of their tax cuts from the ESA on nondurable goods and services, which would be consistent with the PIH and LCH since the tax cuts were temporary in nature.

    The concept of a liquidity constraint is that some households are not able to borrow on future income because banks see them as credit risks due to either their age or past credit histories or because they are unemployed. Consumers who are subject to a liquidity constraint will spend any additional income that they receive, whether that income is permanent or transitory. In particular, consumers subject to a liquidity constraint would spend a larger portion of a tax rebate than a household not subject to a liquidity constraint since the tax rebate is transitory income. The unemployed consist mainly of consumers who face a liquidity constraint because banks are not willing to lend to the unemployed. Therefore providing transfers payments to the unemployed will have a larger multiplier effect than an across-the-board tax rebate program of the same amount because the unemployed would spend a larger portion of their transfers payments than would the general population which receives the across-the-board tax rebates.

13. A rapid increase in economic growth can cause the saving rate to rise because the income of workers will be much higher than what retirees earned when they were working. Therefore, the amount of saving done by current workers will exceed the amount of dissaving done by retirees, resulting in a higher saving rate.

14. A decline in consumption by retirees, when their income is lower, does not invalidate the LCH. If people believe that they will need to spend less when they retire, then they will take that into account when they make decisions concerning how much to consume out of current income at all points in their lifetime.

There are a number of reasons why retirees can cut their consumption. The first is that they can reduce housing expenditures by moving into either a smaller house or an apartment or to a location where housing is not as costly or because they no longer have to pay a mortgage on their residence. In addition, retirees no longer have the costs associated with working such as those for clothes, commuting, and perhaps more expensive lunches. Finally, retirees are able to spend more time searching for the lowest prices on those things that they do continue to buy.

15. The decline in the national income and product accounts (NIPA) personal saving rate during the 1990s is not consistent with the PIH because households would have viewed at least part of the rapid growth in income in the 1990s as transitory. Therefore the PIH would predict that the NIPA personal saving rate would have risen in the 1990s, which is the opposite of its actual behavior.

16. The decline in the personal saving rate from 1992–2005 and then its subsequent rebound is consistent with the LCH as household wealth rose from 1992–2005 due to the booms in stock prices and housing prices and then the collapse of those prices. The LCH predicts that a rise in wealth reduces the percent of income that is saved, whereas a fall in wealth increases the percent of income that is saved.

17. There are three reasons why the NIPA personal saving rate does not accurately measure the household saving rate. First, capital gains on stocks, bonds, and other assets are excluded because those gains reflect returns from either past production or expected future production, but not current production. Second, NIPA saving does not include the purchases of consumer durable goods; a large portion of the benefits of the purchase of a consumer durable good is realized in the future, just as saving now provides benefits in terms of future consumption. Third, part of nominal interest payments and other returns simply reflect compensation for inflation, not real income.

18. A comparison of Figures 14-9 and 14-10 indicates that the capital gains–inclusive saving rate has been much more volatile than the NIPA and the Flow of Funds Accounts (FFA) personal savings rates since 1985. The gains-inclusive saving rate also rose from 1985–98, whereas the other two rates decline over that period. All three rates dropped in 1999 and 2000, but when the NIPA and FFA rebounded somewhat over the next two years, the gains-inclusive saving rate continued to decline. Finally, the gains-inclusive saving rate, on average, was higher from 1996 to 2007 than it had been from 1985 to 1996 in contrast to drops in the averages of the NIPA and FFA saving rates over those same time periods.