

Wealth and Consumption: Would a Stock Market Drop Really Cause a Recession?

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9 February 2000

If the stock market were to fall from its current lofty heights, what would happen to the U.S. economy? Would consumers run for the mall parking lots, climb into their new sports utility vehicles, and drive home for a lengthy sojourn from their ongoing consumption binge? If they did, a recession would surely follow.

Among economists, a standard rule-of-thumb is that a one dollar increase in wealth leads to a permanent increase in consumption of between three and five cents. This is the so-called *wealth effect*. While it is difficult to estimate the exact magnitude and timing of the wealth effect, its importance is not really in doubt. So what would be the consequences of a stock market drop of 20 to 25 percent, to a level where the Dow Jones Industrial average were around 8500?

Taking these estimates at face value, a fall in the Dow from 11,000 to 8500 would mean a drop in household wealth of at least \$4 trillion — it would be more if the housing market collapsed too. Conventional estimates suggest that consumption would fall by between \$120 and \$200 billion, resulting in a fall of 1½ to 2 percent of GDP. Things would surely not end there, as a shock of that magnitude would likely have a significant impact on business decisions. This simple calculation, together with the wide spread suspicion that the stock market is at least 20% overvalued, suggests cause for serious concern. Should we really be that worried?

If people have adjusted their consumption level to their new wealth, then a drop in the value of wealth could be catastrophic. But, as I will argue, consumers have reacted cautiously to the rise in the stock market over the past decade, and so, while we will need to remain on the alert, there is no reason to panic — at least not yet.

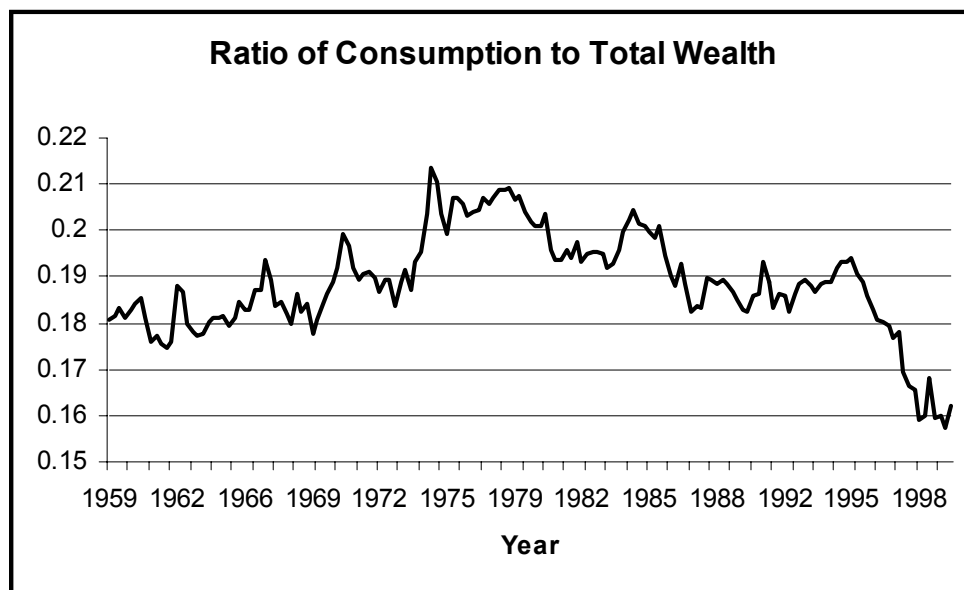
How can I reach this reassuring conclusion? Actually, it comes from looking at a few simple facts. First, during the decade of the 1990s, we can use data from the Federal Reserve to estimate that overall household wealth, including everything from stocks to homes to toasters, has roughly doubled to approximately \$44 trillion. The stock market has done even better, rising by a factor of about four.

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While wealth was shooting up at an unprecedented rate, consumption was also growing rapidly. From 1990 to 1999, household spending increased by just over 60 percent (not adjusted for inflation), from \$3.8 trillion in 1990 to \$6.2 trillion in 1999, as did most measures of income. Throughout this period, personal saving as a percentage of disposable personal income fell steadily from 7.8 percent in 1990 to 2.4 percent in 1999, and so consumption did grow more quickly than income, but was it as fast as we would have expected?

Since people are likely to set a goal of consuming a constant fraction of their wealth each year, we expect the ratio of consumption to wealth (C/W) to be roughly constant. Granted there would be fluctuations, but C/W should not contain any sort of trend. There may be a cyclical component, with the level of wealth and income falling by more consumption during a recession, implying an increase C/W , but overall, consumption and wealth should grow at roughly the same rate.



Source: Board of Governors of the Federal Reserve and Bureau of Economic Analysis.

In the accompanying figure, I have plotted C/W since 1959. While things do bounce around quite a bit, the last five years stand out as different from what came earlier. Prior to 1995, consumption fluctuated between 17½% and 21½% of total wealth, until early 1997. What stands out in the numbers is that the unprecedented rise in the wealth has produced an unprecedented response by households — the reaction of consumption has been more muted than ever before. In other words, as dramatic as consumption growth has been over the past five years, it has not even come close to keeping pace with the increase in wealth.

Returning to our anxieties about a stock market collapse, we can ask two related questions: (1) How much would consumption have to rise to catch-up to the recent increase in wealth? And, (2) How large a stock market drop would it take to bring the consumption wealth ratio back to its historical norm? The answer to the first question is that consumption would have to rise by a phenomenal 17%, driving the personal saving rate down to nearly -20%.

Looking at the second question, it would require a \$5 trillion drop in household wealth to bring C/W back to its historical norm of 0.19. Depending on what happened to non-stock-market wealth as equities fell, this would require a drop of between 15% and 35% in equity values. As a rough estimate, if non-stock wealth drops by half as much as stock market wealth, that would leave the Dow in the neighborhood of 8500. In other words, households are currently behaving as if the stock market is 20+% below its current level.

Why might people have failed to adjust their spending to their new-found riches? I can think of several possible reasons, including that it is simply too difficult to adjust your consumption quickly. Exchanging a modest home for a more grandiose one takes substantial time and effort, and is something most people do not do very often.

My favored explanation is that people are wary of the levels of the market, and so they have not fully adjusted their consumption. How much might people be discounting the possibility that their higher stock wealth is permanent? To answer this final question, we need a simple estimate of the fundamental value to which people think that stocks might return. If price-earnings ratios revert to their historical norms, the DJIA would go back to about 6000. Given that the market is currently at 11,000, and people are behaving as if it is at 8500, simple computation tells us that they are discounting the gains of the last few years significantly. In fact, one could conclude that households think that there is a 50% chance that the market will go back to normal. That seems pretty remarkable to me!

My conclusion from all of this is that a 20% to 25% drop in the market is already built in to consumption behavior. If a correction of that size were to come, the net effect on the economy would likely be small. But a fall of more than that, and we should be worried.

Have I overplayed my hand? Well, maybe. I cannot in such a simple computation take account of the possibility that a market drop will set off a panic. If that were to happen, then shopping malls could be empty for a long time. And finally, it is clear that the longer the market stays at its current level, the more comfortable people have become, and the more damaging a drop would be. I did this same calculation a little less than one year ago, and my conclusion was that people were consuming as if there is a 3/4 chance that the market will fall to about 6000. Everyone is getting used to being richer, and so if the stock market is going to drop, the sooner it does, the less likely it will cause a recession.

Further Reading:

For a more technical treatment of this subject, see

Lettau, Martin and Sydney Ludvigson, "Consumption, Aggregate Wealth, and Expected Stock Returns," Federal Reserve Bank of New York, unpublished manuscript, November 1999.

Ludvigson, Sydney and Charles Steindel, "How Important is the Stock Market Effect on Consumption?" *Economic Policy Review* of the Federal Reserve Bank of New York, vol. 5, no. 2, July 1999, pp. 29-52.