

April 28, 2016

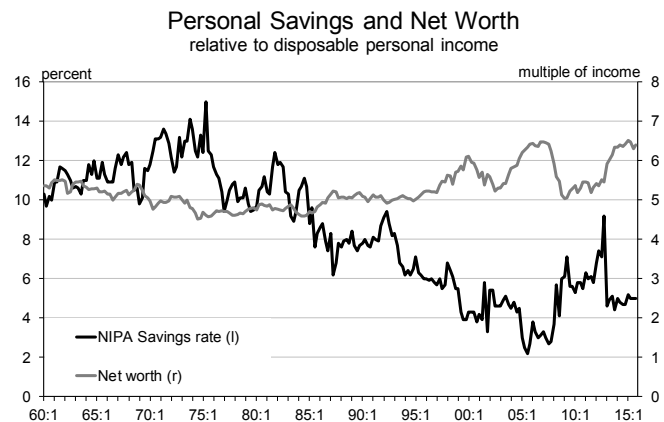
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- *Consumer saving has moved higher since the recession and does not seem likely to revert back in the foreseeable future.*
- *One theory to explain this change is the 'dread risk' theory. Another is that expected returns on investment have declined. Both are probably playing a role.*
- *Data support both theories, but low interest rates and very slow normalization suggest saving rates will remain above pre-recession levels.*

Did the last recession turn the great American consumer into the great American saver? Saving rates in the post-recession period have consistently been higher than suggested by historical experience. At first glance, this is not obvious – in the 60s, 70s and early 80s saving rates regularly exceeded 10% of disposable income. However, wealth at that time was fairly stable at about five times income. In the mid-80s, wealth began to rise relative to income and reached about 6 ½ times income prior to the 2007 - 08 recession. As wealth rose, consumers became more willing to spend a larger share of current income. When wealth plunged during the recession, savings shot up just as the historical relationship between wealth and saving suggested. Since the recession, wealth has returned to about 6 ½ times income, but savings has remained about 2 points higher than at comparable levels of wealth prior to the recession. This is a very strong indication saving behavior has changed. If this is true, it has important implications for the consumer sector and the broader economy.

A variety of theories have been put forward to explain why behavior may have shifted. One, articulated by Bank of England economist Andy Haldane*, has roots

Chart 1



* *Stuck* – a speech by Andy Haldane, June 30, 2015.

in the classic Friedman and Schwartz study of the Great Depression – psychologists call it ‘dread risk’. This results when large numbers of people incur large losses at the same time. Catastrophic events cause people to overestimate the probability of these events recurring. There are many illustrations of this, but the most prominent example of an economic dread event was the Great Depression. According to Friedman and Schwartz, “expectations of great instability enhanced the importance attached to accumulating money and other liquid assets.” The Asian financial crisis of the late 1990s is another example of an event that caused catastrophic losses for many people at about the same time and caused a precautionary shift to safe assets. In 2008, US households and companies were running a combined deficit of 2.4% of GDP, but this had switched to a 7.2% surplus by 2010 – strong evidence the recession was a dread event which caused a change in behavior.

Dread risk affects demand in two ways. First, it makes consumers cautious about making big ticket spending decisions. They adopt a ‘glass half empty’ frame of mind. Second, the response to news is asymmetric. Good news is banked and used to bolster balance sheets; bad news causes an immediate defensive reaction. Psychologists have documented these asymmetries. That saving remains high, despite wealth having almost returned to previous peaks, suggests the ‘glass half empty’ frame of mind continues to dominate. Our last *Chartbook* discussed a variety of measures, such as very low debt/income ratios, that show consumers continue to behave in a conservative, risk averse manner. The good news is there is no bubble building in consumer spending that will require a correction; the bad news is consumer spending has been less robust than hoped during this expansion.

A second theory relates to a change in expectations about returns on investment. It is well known that long term interest rates have been declining for a very long time – the inflation adjusted rate on AAA corporate bonds has fallen from over 8% in the early 80s to less than 2%. Many short term interest rates are close to zero in nominal terms and negative when adjusted for inflation. In spite of this decline, US rates are high by the standards of other industrialized countries. While this trend was in place long before the 2007 - 08 recession, events since have cemented the idea it is not turning around any time soon. Most central banks have continued easing policy, with many pushing rates into negative territory. The Fed projects very low rates for an extended period and they have been forced to continuously push that period forward, because forecasts have consistently been overly optimistic.

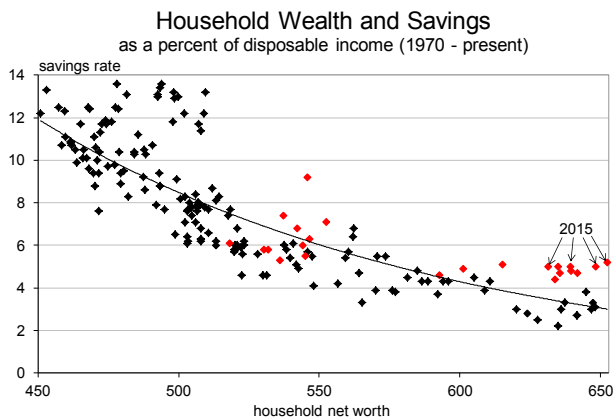
As a result of this experience, many have lowered expectations about what they may earn on their savings. Those expecting to earn 4 - 6% returns before the recession may be looking at 2 - 4% today. Pension managers who had assumed an 8% return before the recession are now ratcheting those assumptions lower. Financial advisors are telling their clients they need to incorporate lower rates of return in their long term planning assumptions. The implications of this shift in expectations are quite clear – more savings are necessary to reach any goal. Those who are saving to fund retirement, to make a down payment on a house, or to provide an education need to save more.

The conservative behavior of consumers during the post-recession period suggests the message has been received. Some argue the decline in energy prices in 2015 made it easier for consumers to achieve a higher desired level of savings last year. Note this theory does not contradict the dread risk theory – both may be at work and both point to a long term change in behavior. However, the dread risk effect diminishes over time as the event fades from memory, with more serious events fading more slowly. Low interest rate expectations will only change if interest rates themselves change. It is now seven years since the end of the last recession and saving rates are edging higher rather than lower. The longer this continues, the more it appears expectations of continued low interest rates is outweighing any dread risk effect.

A third theory suggests the distribution of income and wealth are playing a role in shifting savings higher. Those who earn high incomes save more than those earning low incomes. As the gap between high and low earning groups has grown larger, most of the wealth and income gains have accrued to those at the high end. This effect may have been particularly strong in the early part of the expansion when financial wealth rebounded much more quickly than real estate wealth.

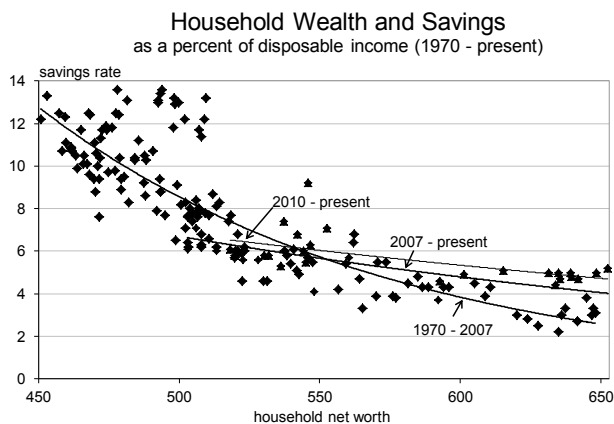
The widening gap between high and low income groups may have influenced the rising trend in savings, but there is little to suggest this is a recent development. Studies of this topic have shown the trend has been underway for some time. This theory does not explain a change in behavior before and after the recession. Further, steady gains in real estate wealth in recent years have caught up with the early post recession gains in financial wealth, which has spread wealth more broadly across income groups. If this were a significant contributor to higher savings, the effect should have faded as the distribution of wealth broadened and there is no evidence this has occurred.

Chart 2



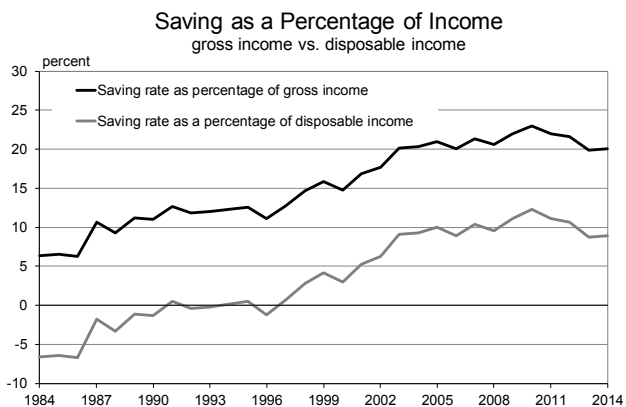
Source: Bureau of Economic Analysis, Federal Reserve Board

Chart 3



Source: Bureau of Economic Analysis, Federal Reserve Board

Chart 4

Source: Bureau of Labor Statistics
Note: Tax rate before 2013 is estimated by EFW

Another idea is young people are saving more now than they did prior to the recession. Perhaps the recession caused young workers to realize they needed to accumulate more assets to protect against unexpected developments and there has been a change in behavior across generations. This idea is a variation on the first two theories, with the suggestion young people were more strongly affected than older groups.

Turning from theories to data, chart 2 shows the relationship between wealth and savings. It is clear the light dots (2010 – 2015) are consistently above the long term relationship. Chart 3 shows the same relationship re-estimated over shorter periods. Since the recession, the curve has become flatter, suggesting saving has become less sensitive to changes in wealth.

The data shown in charts 2 and 3 is standard data from the national income accounts and the Fed's financial asset database. There is another set of data contained in the consumer expenditure survey also worth examining, because it provides some insight into savings behavior by different age groups. This data is considered inferior for a number of reasons, but the additional detail makes it worth a look. Savings rates calculated from this database are shown in chart 4. Because the data do not contain useful estimates of tax payments before 2013, assumptions are required to estimate disposable income and create a savings rate estimate. Nevertheless, these estimates do not show any appreciable change in saving rates before or after the recession, either on a gross income basis or a derived after tax basis. More granular data by age group are similarly uninformative – patterns vary, but nothing suggests the recession has any impact on behavior.

In general, savings data support both the dread risk theory and the theory that investment return expectations have shifted lower. The data do not allow a clear distinction to be made between the theories and both are probably playing a role in current behavior. For investors, the issue is whether the savings rate will stabilize near its current level, return to lower rates that prevailed before the recession or continue edging higher. The dread risk theory suggests the rate might begin to decline now that we are seven years into an expansion. Of course, the Great Depression affected behavior for over a generation so it is unclear when the last recession's impact will begin to fade.

A simple calculation is instructive. Consider someone earning about the median income and saving 5% per year for 30 years at a 5% rate of return. If the expected rate of return declines to 3%, that person will need to increase his saving rate about 2 percentage points in order to reach the same total amount of savings at the end of 30 years.

These numbers correspond broadly with what has occurred. If the savings rate now stabilizes near its current level, this will suggest the second theory has played an important role.

Unfortunately, it may be some time before we will have a high degree of confidence in the reasons for a change in savings behavior. Small revisions in either income or consumption can cause large changes in estimated saving, particularly for the most recent three years. Nevertheless, savings since the recession have consistently been higher than before and there appears to have been some upward drift in the rate. Interest rates will likely remain low by historical standards for an indefinite period, which will encourage higher savings. In addition, saving rates seem to have become somewhat less sensitive to rising wealth. These facts suggest saving rates will not revert to lower rates in the foreseeable future. The great American consumer is likely to continue saving more than before the last recession.

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