

C A M B R I D G E A S S O C I A T E S L L C

U.S. MARKET COMMENT: RE-EXAMINING THE WEALTH EFFECT

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Re-examining the Wealth Effect

The wealth effect holds great appeal as a powerful and concise explanation of the simultaneous boom in equity prices and consumption during the latter half of the 1990s. The argument runs as follows: the sharp rise in equity prices increased households' net worth, encouraging them to load up on even more stocks and more consumer goods. By the market peak in March 2000, stock ownership, consumption, and indebtedness all stood at record highs (see Tables A and B). Equities ownership (excluding pension funds) rose from 16.0% in 1990 to 44.4% of household financial assets in March 2000 (although it should be noted that "households" include all sorts of entities bearing no relation to actual people occupying actual houses). Meanwhile, from 1995 to mid-2000, real personal consumption expanded at a 4.4% annual rate, 1.1 percentage points more than the 3.3% growth of disposable income over the same period. Reflecting this deficit, personal savings fell from 6.5% of disposable personal income in late 1994 to -1.3% in early 2001, and by year-end 2000, mortgage and installment credit had risen to a record of nearly 120% of disposable personal income.

But if rising equity prices were the basis for increased consumption and diminished savings, what happens now that equity prices have stalled out? Will households be forced to retrench, cutting their consumption in order to rebuild their savings? In an economy that is two-thirds dependent on consumer spending, retrenchment on any considerable scale could hurt corporate profitability, triggering a deeper and self-reinforcing fall in equities as investors adjust to lower earnings expectations by reducing their equity exposure. By some estimates, a return of the savings rate to its 1992-97 average of 6% would cause consumer spending to drop dramatically, possibly slashing overall economic growth by about 1.3 percentage points a year. Bridgewater Associates argues that the recent halt in the fall of the savings rate has already shaved 1.5 percentage points from GDP growth. If savings increase as fast as they fell during the latter half of the 1990s, Bridgewater contends, an additional 1.5 points per year would be subtracted from GDP growth. This reverse wealth effect could turn into a vicious cycle, whereby payroll reductions by corporations lead to higher unemployment, declining consumer confidence, rising savings rates, reduced consumption, further pressures on corporate revenues, less capital investment, more desperate attempts to cut costs to generate and conserve cash flow, and so on.

While this scenario seems both plausible and worrisome, several recent studies challenge the validity and pervasiveness of the wealth effect. One report complains about flaws in the methodology behind the calculation of personal savings, while others suggest that the propensity to consume may have moved to a permanent and higher level, which would be less vulnerable to stock market weakness. These arguments hold critical implications for the future of equity markets: if the causal relationships between rising (falling) equity prices, increased (decreased) consumption, and a lower (higher) propensity to save have been misinterpreted to overstate the vulnerability of the U.S. economy to stock market weakness,

the wealth effect may prove to be a simplistic notion from pop economics rather than a true threat to American prosperity.

Low Savings: Not a Problem

In a recent paper, Martin Barnes, editor of the *Bank Credit Analyst* (BCA), argues that the United States is not in fact confronting a crisis of low saving. He claims that the measurement of personal income and savings does not accurately capture the reality of household consumption and savings. First, the National Income and Product Accounts (NIPA), which is the source of official data on the personal savings rate, defines saving as after-tax income less spending (see Table C). NIPA, thus, treats spending on autos and other durable goods as consumption, the full value of which is included in the calculation at the time when the spending took place. Barnes argues, however, that instead of consumption, this type of spending should be treated as investment (as does the Federal Reserve in its flow of funds accounts), because durables are long-lived assets that depreciate over a number of years. He asserts that incorporating this change into the measurement of personal savings would reduce consumer spending by 3.4 percentage points, which increases the reported savings rate from -0.1% to 3.2%.

Second, NIPA treats the pension sector as part of the household sector, which means that pension fund benefits paid out to retirees are not regarded as income. According to Barnes, this distorts the measurements of income and savings because consumers do, in fact, regard these benefits as money available to spend (indeed, they are likely to constitute most of a retiree's income). Additionally, the stock market boom has allowed employers to reduce their pension fund contributions, which, though pension benefits have actually increased, shows up as a decline in the "other labor income" component of NIPA personal income. This distortion can be offset by assuming that the "other labor income" component grew at the same pace as wages and salaries during the second half of the 1990s, thereby boosting last year's savings rate by three percentage points.

Third, the measurement of personal disposable income includes capital gains taxes, but not capital gains themselves. According to Barnes, this fails to reflect the fact that consumers treat realized capital gains as part of their income that can be either spent or reinvested. If capital gains were included in the savings measure, the savings rate would increase by 6.7 percentage points.

The sum effect of these three adjustments—durable goods spending, pension income, and capital gains taxes—increases the aggregate savings rate to 7.8%; including realized capital gains increases the rate to 14%. By Barnes's own calculation, real savings are actually near a post-war high of 20%.

Not everyone agrees with Barnes's comments, however, and Bill Dudley, chief economist at Goldman Sachs, objects most strenuously. He argues that the critical issue about the wealth effect is the *rate* of savings, not the absolute level, and that even after including BCA's changes, the rate has still fallen rapidly. Dudley also maintains that neither durable goods nor capital gains (realized or unrealized) should be added back into the savings rate, as Barnes proposes. The purpose of examining the wealth effect is to assess the implications of changes in net worth for consumer spending, Dudley reminds us, not only to look at the increment that is actually consumed in a year as the goods depreciate. Unmoved by Barnes's comments, Dudley sticks with his previous forecast that the decline in net worth caused by a weak equity market will force households to increase their savings rate, which will contribute to further weakness in consumer spending.

Both analysts make valid points. Barnes does stretch credibility by arguing that spending on durable goods should be treated as investment. Automobiles and long-lived assets cannot be compared with the investment characteristics of stocks, bonds, or real estate. In addition, we agree with Dudley's claim that the drop in savings is more important than the absolute level, but *only* to the extent that savings remains in positive territory. Whether net savings are positive or negative matters tremendously for the ability of consumers to continue servicing their loans and remaining solvent; in other words, we cannot predict with any great certainty the effect or duration of a reduction in what remains a positive rate of savings, but we can predict that a negative savings rate *must* sooner or later reverse, because consumers will eventually go bust.

Wealth is Here to Stay

While this debate focuses on the methodology behind the calculation of personal saving, two additional studies,¹ both published by the Federal Reserve, raise questions about the implications of the wealth effect. Davis and Palumbo argue that consumer spending behavior has undergone a secular change because of the 1995-99 stock market boom. The authors differentiate between expected and unexpected increases in household net worth to argue that *expected* increases do not alter consumption patterns over the long-term, because they have already incorporated higher income into their spending behavior. As long as they can borrow against their future expected earnings, or as long as they anticipate increases in

¹ "A Primer on the Economics and Time Series Econometrics of Wealth Effects," by Morris Davis and Michael Palumbo, and "Disentangling the Wealth Effect: A Cohort Analysis of Household Saving in the 1990s," by Dean Maki and Michael Palumbo. Both are available at <http://www.federalreserve.gov/pubs/feds/2001/index.html>.

their net worth, household consumption patterns will remain relatively smooth over their lifetimes. However, *unexpected* increases in net worth—such as what occurred with the equity boom in the latter half of the 1990s—make it highly likely that the jump in spending has moved to a higher level that may prove permanent.

The second study, by Maki and Palumbo, claims that the richest households (the top 20% by income) were the sole driver of the consumption boom in the latter half of the 1990s. Not only did this cohort benefit disproportionately from the stock market's performance during this period, the authors argue, but also spent beyond its means, thereby pushing the savings rate to a record low. (In stark contrast, relatively poor families nearly doubled their saving rates from 1992 to 2000.)

Together, these reports implicitly undermine a fundamental tenet of those who worry about the dire consequences of the wealth effect. If households have permanently altered their spending behavior, and if the richest quintile remains relatively insulated from the economic slowdown, it will take a substantial and protracted fall in equity prices—and much higher levels of pessimism than are now apparent—to prod them into increasing their savings at the expense of consumption.

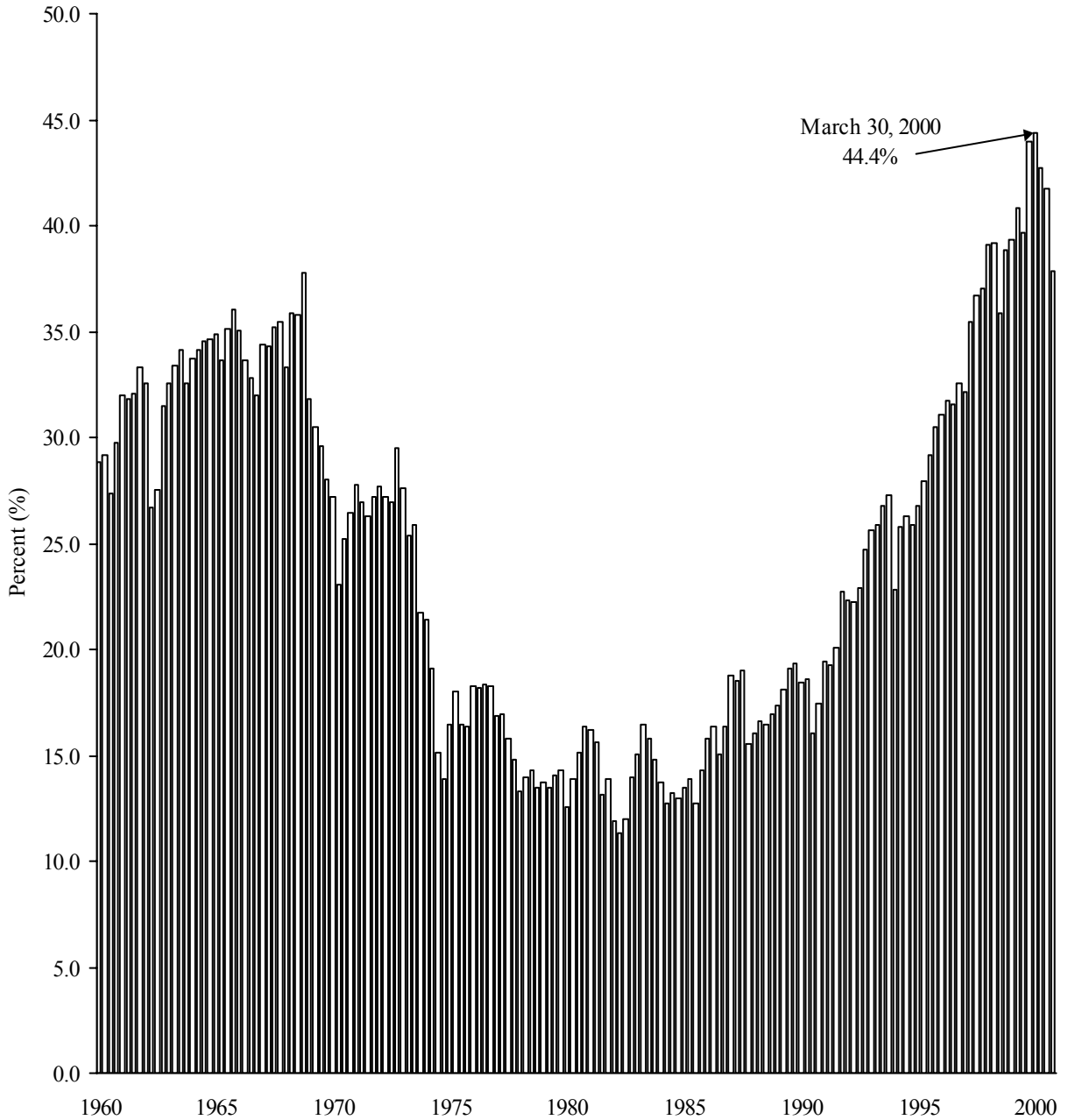
Conclusion

All the studies discussed above raise questions about the precision and explanatory power of the so-called wealth effect. These studies (and others on this topic) do not always differentiate clearly between *income* and *assets*. That is, they do not explicitly state whether it is the security of a household's income or the size of its overall *assets* that drives people to spend more. Interpretations of the wealth effect impute causality among its variables—higher (lower) equity prices, increased (decreased) consumption, and lower (higher) propensity to save—where there may only be correlation. If its variables cannot withstand scrutiny, it is less likely to explain accurately the true relationship among equity prices, income, assets, and consumption. For example, even if consumers rebuild their savings, they may not embark on a fire sale of their equities, but may add to their holdings, focusing on those sectors of the economy less exposed to weaker retail consumption. Similarly, a more robust study would also seek to determine whether the marginal consumers—those whose buying habits have the greatest influence on the level of aggregate consumption—are the same as those most heavily indebted. In short, we are skeptical of the notion that a simple, linear, causal relationship exists between the stock market and consumer spending. We have no doubt that some sort of "wealth effect" exists, but what form it takes, and what precisely it affects, and to what degree, remain subjects of lively debate and uncertainty.

Table A

STOCKS AS A PERCENTAGE OF HOUSEHOLD FINANCIAL ASSETS ADJUSTED FOR PENSION FUNDS

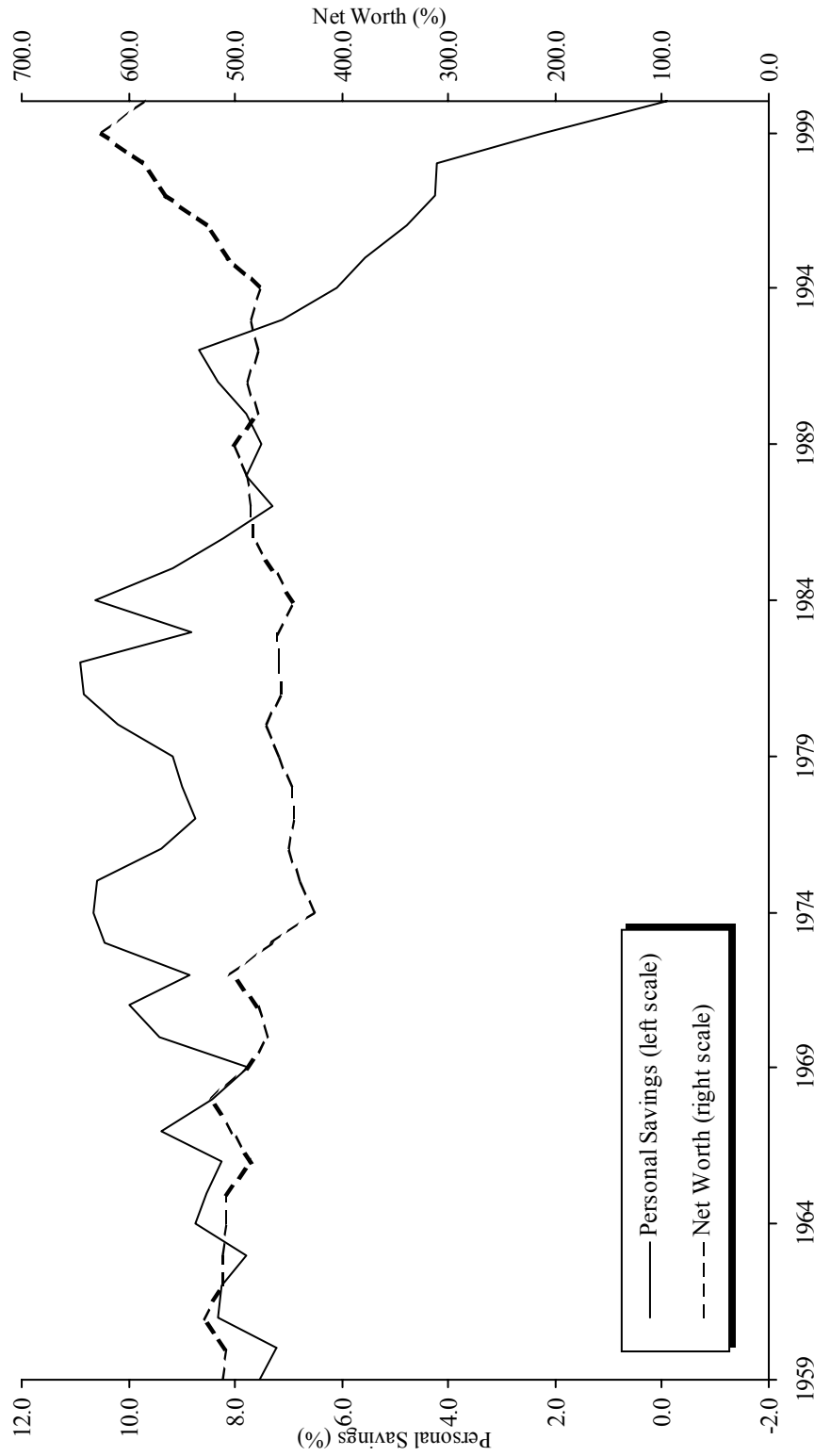
March 31, 1960 - December 31, 2000



Source: Ned Davis Research.

Notes: Graph represents quarterly data. The value as of December 31, 2000 was 37.8%.

Table B
NET WORTH AND PERSONAL SAVINGS AS A PERCENT OF DISPOSABLE PERSONAL INCOME
December 31, 1959 - December 31, 2000



Source: Ned Davis Research.

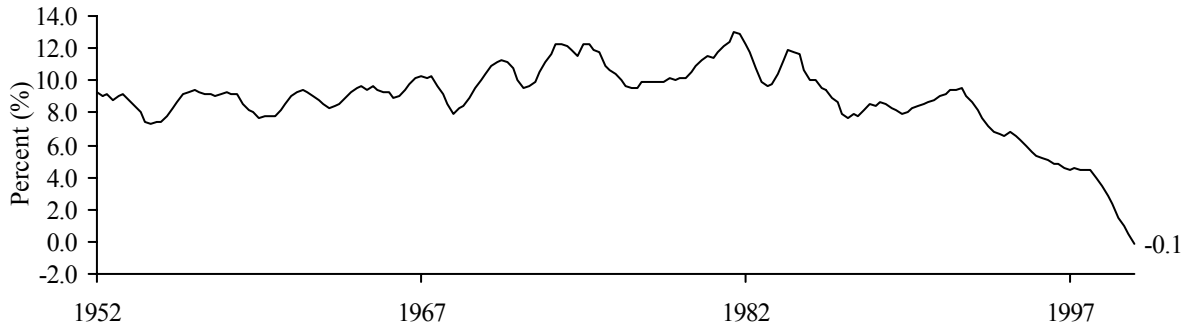
Notes: Graph represents annual data. The net worth data are flow of funds calculations generated by the Federal Reserve. The personal savings rate data are calculated using the National Income and Product Accounts (NIPA) methodology.

Table C

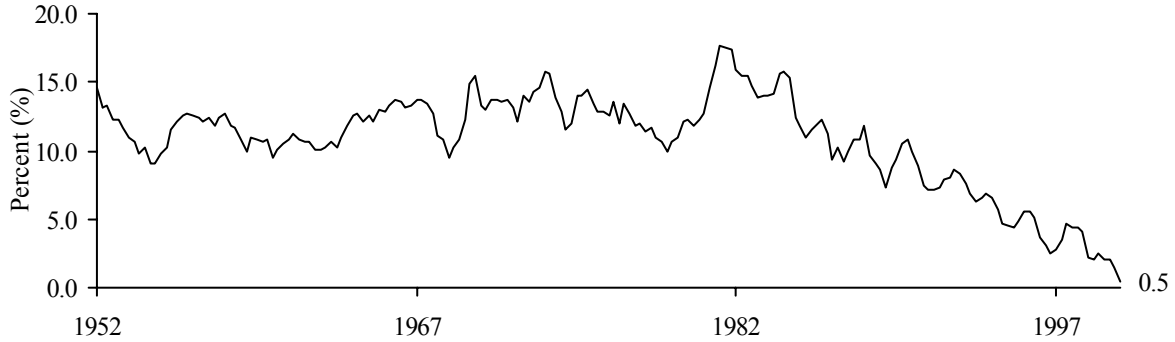
ALTERNATIVE MEASURES OF THE PERSONAL SAVINGS RATE AS A PERCENT OF DISPOSABLE INCOME

December 31, 1952 - December 31, 2000

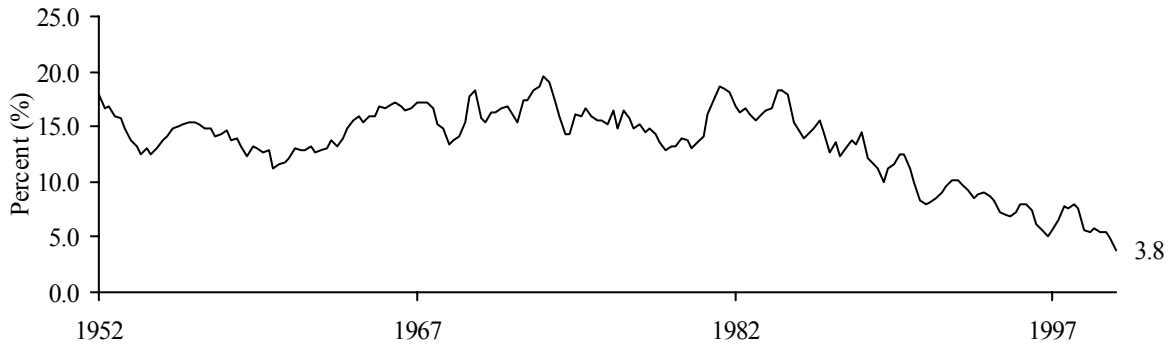
Personal Savings NIPA Basis



Personal Savings Excluding Consumer Durables



Personal Savings



Source: Ned Davis Research.

Note: Graph represents quarterly data.