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After the Refinancing Boom: Will Consumers Scale Back Their Spending?

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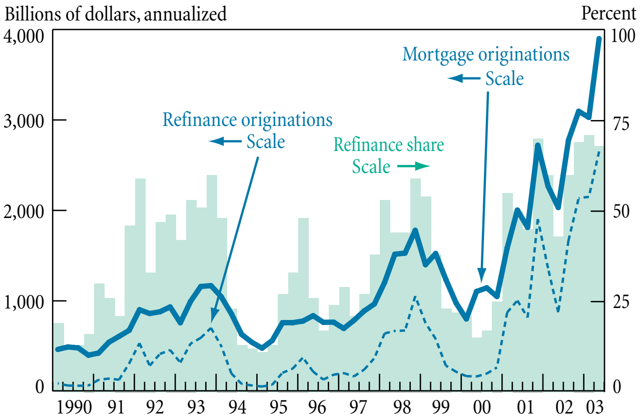
Concerns are rising that the recent surge in home equity withdrawal has left consumers in a weakened financial position that will, over time, prompt a retrenchment in spending. However, a look at household assets and liabilities suggests that consumers have used the withdrawn funds to restructure their balance sheets and reduce their debt service burden. As a result, households may be in a better position to spend in the years ahead.

The mortgage refinancing boom of the last few years reached a high-water mark in 2003. Assuming that the pace of refinancing in the second half of 2003 was roughly equal to that of the first half, nearly 12 million mortgage loans were refinanced in 2003 on the heels of more than 8 million in 2002.[1] With about 75 million home-owning households in the United States, 58 percent of which have mortgages, this means that more than one out of every four home mortgages in the country was refinanced in 2003. By volume, this has been the largest wave of mortgage refinancings in history (Chart 1).

By refinancing or repricing their mortgages, homeowners can significantly reduce their monthly mortgage payments, freeing up cash for other purposes. Moreover, it has become increasingly common, particularly in this period of rapid home price appreciation, for refinancing homeowners to take on a new mortgage for a larger amount than the loan they pay off, thus tapping the accumulated equity in their homes. It seems uncontroversial to say that this extracted equity has provided a net boost to consumer spending in recent years. But it is impossible to determine with any precision the magnitude of that boost since we cannot observe what consumer spending would have been *absent* the home equity withdrawal. Frequently cited surveys, in which households have been asked what they did with the funds derived from cash-out refinancings, are difficult to interpret for the same reason. To say that 25 percent of the equity withdrawn through a refinancing was used to purchase a new automobile, for example, does not mean that the homeowner would not have purchased the automobile without withdrawing the equity.

A more pressing question is what the recent surge of equity withdrawal means for consumer spending in the near future. Many analysts have predicted that when interest rates move higher and the refinancing boom comes to an end, there will be a significant retrenchment in consumer spending.[2] Implicit in

Chart 1
Mortgage Originations and the Refinance Share



Sources: U.S. Department of Housing and Urban Development; Mortgage Bankers Association of America.

this view is the belief that the wave of home equity withdrawal has fueled a substantial net increase in consumer spending while eroding the household balance sheet.

In this edition of *Current Issues*, we argue that higher interest rates and the return of refinancing activity to more normal levels are not likely to result in a sharp slowing in the growth rate of consumer spending. Our sanguine view comes from an investigation of what households are doing with the equity they withdraw from their homes. We find that the rapid increase in mortgage debt stemming from the accelerated pace of home equity withdrawal is not leading to a deterioration of household net worth. Rather, in this period of historically low mortgage interest rates, households are quite sensibly using low-cost, tax-advantaged mortgage debt to make many of the same purchases that they otherwise would have financed by drawing down their financial assets or incurring nonmortgage debt. In fact, we find that this period of unprecedented home equity extraction has been accompanied by a slowing in the rate of increase of nonmortgage household liabilities, an increase in the personal saving rate, and a reduction in a comprehensive measure of household debt service burdens relative to disposable income.

In short, we believe the evidence is strong that the aggregate household balance sheet has not been impaired by the boom in home equity withdrawal, and that the end of this boom need not lead to a significant slowdown in consumer spending. Moreover, it is important to note that while the refinancing boom will inevitably come to an end when interest rates rise, the increase in rates will most likely be the result of faster growth of employment, incomes, and spending throughout the economy.

To support our assertions, we examine the national income accounting of mortgage refinancing to assess the net effect of refinancing on consumer spending. We then turn our attention to home equity withdrawal, which the business press has represented as a significant impetus to spending in recent years. After assessing the magnitude of home equity withdrawal in recent years relative to the past, we investigate what households are doing with the withdrawn funds and explore the likely implications for consumer spending in the near future.

Mortgage Refinancing and Consumer Spending

The estimated dollar volumes of mortgage refinancing in 2001, 2002, and 2003 are $1.16 trillion, $1.47 trillion, and $2.27 trillion, respectively (Mortgage Bankers Association of America 2003). If we apply typical interest rate declines to these volumes—111 basis points in 2001, 115 basis points in 2002, and 140 basis points in 2003—the aggregate pre-tax interest savings in those years are $13 billion, $17 billion, and $31 billion, respectively.[3] Moreover, these interest savings will continue for some time since, for the most part, borrowers have locked in fixed interest rates. Nevertheless, these interest savings are not huge. To put them in perspective, we note that the recently enacted 2003 federal tax cuts are expected to lower individual income taxes by approximately $130 billion from third-quarter 2003 to second-quarter 2004, and much of that reduction in tax burden will continue for many years.

Moreover, we must recognize that the interest income of the ultimate investors in the refinanced mortgages is reduced by as much as the mortgage interest expense of homeowners. This is the prepayment risk that investors in mortgages are exposed to when mortgages can be prepaid at any time without penalty. As a result of the prepayment, investors must reinvest at the current, lower interest rates, thereby losing a future stream of interest income equal to the difference between the rate on the refinanced loan and rates prevailing at the time they reinvest.

Table 1 summarizes the national income accounting of a mortgage refinancing. The relevant components of personal income are personal interest income and the rental income of persons, which is the gross income derived from the nation's stock of housing, including the implicit income that homeowners pay to themselves, minus the expenses incurred to generate that income, such as mortgage interest, property taxes, and depreciation. With a refinancing to a lower mortgage interest rate, rental income of persons increases as gross income is unaffected, while aggregate expenses decline. (In the period when the refinancing occurs, rental income of persons tends to fall because the up-front fees associated with the refinancing are larger than the interest savings during that period.) However, personal interest income falls by essentially the same amount that rental income of persons increases.[4] Thus, the effect on personal income is essentially a wash.

The effect on aggregate taxes paid and, thus, on disposable personal income, is the net result of two opposing forces. Interest income is taxable while the net income derived from owner-occupied homes is not. So this shift in income types would tend to lower tax burdens. However, households paying less in mortgage interest have lower itemized deductions and therefore pay more income taxes. The magnitude of the net effect depends on the relative marginal tax rates of those refinancing and those who experience the offsetting decline in interest income.

Table 1
The National Income Accounting of Mortgage Refinancing

		Effect of Mortgage Refinancing	Explanation
Personal income		Unchanged	—
Personal interest income		Down	—
Rental income of persons		Up	Down in the short run
Less:	Personal tax and non-tax payments	?	Up, owing to lower mortgage interest deductions; down, owing to lower interest income
Equals:	Disposable personal income	?	Depends on relative marginal tax rates of borrowers versus lenders
Less:	Personal outlays	?	Depends on relative marginal propensity to consume of borrowers versus lenders
Equals:	Personal saving	?	—

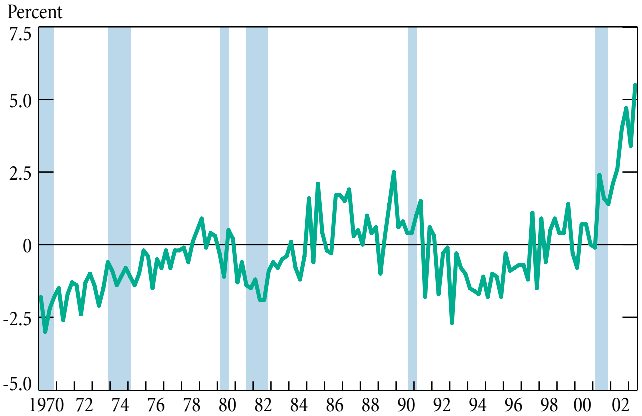
The net effect on aggregate spending and the personal saving rate is also indeterminate. It depends on the relative marginal propensities to consume of those refinancing and the ultimate lenders. It is quite possible, as is often argued, that the households that refinance have higher marginal propensities to consume than do the households that receive less interest income. The refinancing households may be younger and more credit constrained. In that case, this reallocation of income would tend to boost overall consumer spending and reduce the personal saving rate, all else being equal.[5] However, some households lose interest income in an amount equal to the decline of interest payments by another group, which surely limits any net stimulus to consumer spending. In fact, it is very difficult to isolate econometrically a distinct refinancing effect on aggregate consumer spending. The reason is that refinancing increases as interest rates decline, and the effect of refinancing on consumer spending cannot be isolated from the effect of declining interest rates.

Home Equity Withdrawal

While the negative effects of mortgage refinancing on interest income tend to cancel out refinancing's stimulative effects on consumer spending, home equity withdrawal has the potential to boost spending significantly. Households that extract equity from their homes are converting an illiquid asset into cash, increasing their mortgage debt at the same time. They are free to use the cash in a variety of ways, including sharply accelerating their spending on consumer goods.

Chart 2 presents a widely used measure of home equity withdrawal, defined as the net change in home mortgage debt minus gross residential investment made by households and nonprofit institutions.[6] Because gross residential investment includes additions and alterations to existing homes, the resulting measure of home equity extraction is above and beyond equity extracted to make these improvements. To facilitate comparisons over time, home equity withdrawal is expressed as a percentage of disposable personal income. Note that this measure includes withdrawals facilitated through a mortgage refinancing, a home sale, or a home equity loan or second mortgage.

Chart 2
Home Equity Withdrawal as a Percentage of Disposable Personal Income



Source: Board of Governors of the Federal Reserve System, Flow of Funds Accounts.

Note: The shaded areas indicate periods designated recessions by the National Bureau of Economic Research.

As the chart shows, home equity withdrawal is typically negative as gross investment in owner-occupied homes exceeds the net change in mortgage debt, reflecting down payments and ongoing mortgage amortization. However, since the early 1950s there have been three main episodes of positive equity withdrawal: the late 1970s, the mid-to-late 1980s, and the late 1990s to the present. All three periods saw relatively rapid home price appreciation. The 1980s episode, like the current episode, was associated with a steep decline in mortgage interest rates, but it had the added feature of the Tax Reform Act of 1986, which phased out the deductibility of nonmortgage interest payments and therefore significantly reduced the relative after-tax cost of mortgage credit. The chart shows quite clearly that the recent volumes of home equity withdrawal have been unprecedented. In the second quarter of 2003, the withdrawals totaled $450 billion at an annual rate—an amount equivalent to 5.6 percent of disposable personal income and roughly 3 ½ times the size of the recent tax cut.

The Effect of Home Equity Withdrawal on Household Saving

Although this high volume of equity withdrawal has surely spurred consumer spending, it is difficult to assess the size of its effect. Some evidence comes from a household survey sponsored by the Board of Governors of the Federal Reserve System.[7] According to the survey findings, households that refinanced in 2001 and early 2002 used 16 percent of the liquefied equity for a variety of consumer purchases (Table 2).

While this finding suggests that a fair amount of the equity withdrawn was used for consumer spending, the survey results are difficult to interpret. It is possible, for example, that the households surveyed would have made the same purchases even if they had not withdrawn equity from their homes. To get a clearer sense of the magnitude of the spending effect, we turn to aggregate U.S. data on spending and the personal saving rate. If the sharp increase in mortgage debt produced by home equity withdrawal was fueling a large upsurge in consumer spending, we would expect to see fast growth in the spending numbers along with a marked decline in the personal saving rate.

In fact, however, the aggregate data indicate that, over the eight quarters ending in second-quarter 2003, the annual growth rate of real consumer spending was a moderate 3.2 percent, while growth of real disposable personal income was 3.4 percent. Over the same period, the personal saving rate was relatively stable (Chart 3). As calculated in the Federal Reserve's Flow of Funds Accounts, the personal saving rate represents the difference between flows of accumulated

Table 2
Uses of Funds Liquefied in 2001 and 2002 Refinancings

	Share of Loans[a] (Percent)	Share of Dollars (Percent)
Repayment of other debts	51	26
Home improvements	43	35
Consumer expenditures[b]	25	16
Stock market or other financial investment	13	11
Real estate or business investment	7	10
Taxes	2	2

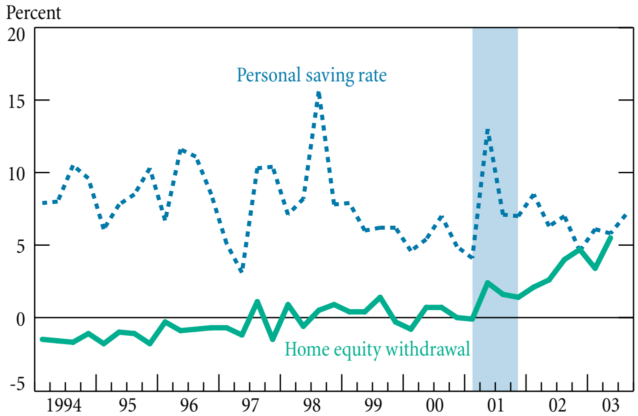
Source: Canner, Dynan, and Passmore (2002).

[a]The percentages sum to more than 100 because multiple uses could be cited for a single loan.

[b]Includes vehicle purchases; vacation, education, or medical expenses; living expenses; and other consumer purchases.

Chart 3

Home Equity Withdrawal and Personal Saving as a Percentage of Disposable Personal Income



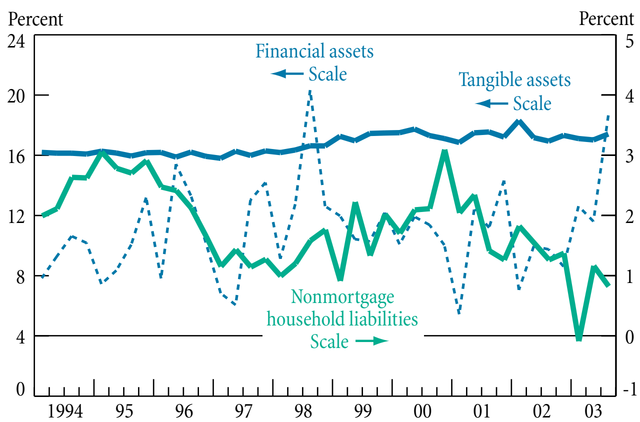
Sources: U.S. Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System, Flow of Funds Accounts.

Note: The shaded area indicates a period designated a recession by the National Bureau of Economic Research.

assets and accumulated liabilities. The fact that it remained in positive territory over the period of rapid home equity withdrawal indicates that, at least from a flow perspective, the accumulation of assets continued to outpace the accumulation of liabilities.[8]

Chart 4

Household Assets and Liabilities as a Percentage of Disposable Personal Income



Sources: U.S. Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System, Flow of Funds Accounts.

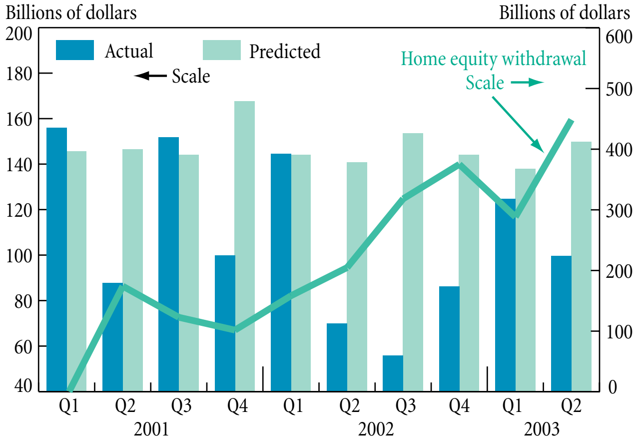
How can we reconcile the conservative behavior of consumer spending and saving in the last couple of years with the sharp rise in home equity withdrawal over the same period? That is, if the large increase in mortgage debt did not fuel a substantial increase in spending, what was it used for?

A closer look at other components of the household balance sheet may provide some answers (Chart 4). We see that households' net acquisition of financial assets, expressed as a percentage of disposable personal income, tended to increase as home equity withdrawal increased. At the same time, the net increase of nonmortgage liabilities—credit card debt and other forms of consumer credit—declined. Finally, the pace at which households acquired tangible assets such as consumer durable goods has been relatively constant as a percentage of disposable personal income.

The picture that emerges from Chart 4 is one of financial prudence rather than profligacy. It appears that households in the aggregate have been using mortgage debt to restructure their balance sheets. Although households continue to purchase consumer goods at roughly the same rate as in the past, we conclude that they have been funding those purchases with relatively inexpensive mortgage debt rather than drawing down their financial assets or using expensive nonmortgage debt. As a result, household net worth on a flow basis has not been impaired by the increase in debt stemming from home equity withdrawal.

To test our hypothesis that the slower rate of nonmortgage debt accumulation means that consumers are substituting low-cost mortgage debt for high-cost consumer credit, we conduct a simple statistical exercise. Specifically, we estimate the historical relationship between consumer spending on durable goods and the pace of household acquisition of nonmortgage debt (both considered as a percentage of disposable personal income). We then predict the net acquisition of nonmortgage debt consistent with this historical relationship and the recent pace of spending on consumer durable goods.[9] In other words, given the pace of consumer spending that has prevailed over the last two years, what would we

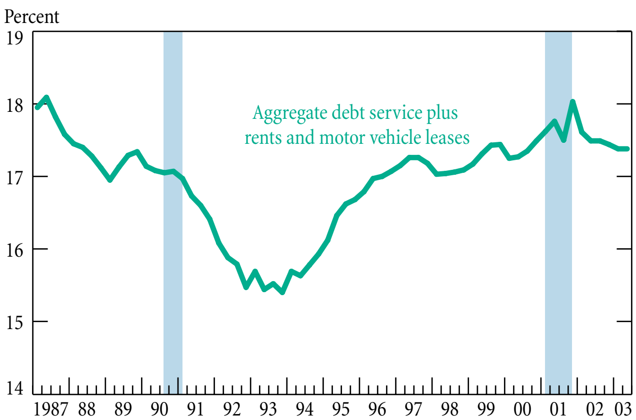
Chart 5
Net Change in Nonmortgage Liabilities: Actual versus Predicted



Sources: Board of Governors of the Federal Reserve System, Flow of Funds Accounts; Federal Reserve Bank of New York.

expect the increases in nonmortgage liabilities to have been? Chart 5 shows the actual and predicted values for the net change in nonmortgage liabilities from our simple exercise, along with home equity withdrawal. It is clear that for the majority of quarters over the last two years, households were acquiring less nonmortgage debt than we would expect given the pace of their spending. This is particularly evident in the last five quarters shown in the chart, a period during which home equity withdrawal was quite strong.[10]

Chart 6
Household Debt Service as a Percentage of Disposable Personal Income



Source: Board of Governors of the Federal Reserve System, Flow of Funds Accounts.

Note: The shaded areas indicate periods designated recessions by the National Bureau of Economic Research.

Our last piece of evidence, presented in Chart 6, shows that a comprehensive measure of the household debt service burden has been declining over the period of unprecedented home equity withdrawal. The standard measure of debt service burden, tracked by the Board of Governors of the Federal Reserve System, is aggregate debt service payments divided by disposable personal income. We have modified that measure by adding to debt service what consumers pay for rents and motor vehicle leases.[11] These adjustments make the series consistent over time given changes in the aggregate home-ownership rate and the changes in the mix between vehicle purchases and leases. Thus, despite the rapid accumulation of mortgage debt, debt service is absorbing a smaller share of household after-tax income. The implication is that the boom in home equity withdrawal has actually left households in a better position to spend in the future.

Conclusion

Many analysts have expressed concern that the recent surge of home equity withdrawal has put consumers in a precarious financial position that will hinder their ability to spend once the refinancing boom comes to an end. Our findings suggest just the opposite. Consumers have chosen to finance a moderate pace of spending with mortgage debt priced at historically low mortgage interest rates while at the same time increasing their acquisition of financial assets. As a result, household net worth is increasing at about the same rate as it was before the boom in home equity withdrawal while aggregate household debt service burdens are declining.

Interest rates will eventually rise and bring an end to the refinancing boom. But this uptick in rates will be the result of a pickup in the overall level of income in the economy; therefore, there will be other factors driving consumer spending. Thus, we do not expect a significant retrenchment in consumer spending once the refinancing boom comes to an end.

Notes

1. For a discussion of factors contributing to the surge in refinancing activity, see Bennett, Peach, and Peristiani (2001).

2. See, for example, Goldman Sachs (2003).

3. Freddie Mac regularly publishes data on prevailing mortgage interest rates and some key characteristics of refinanced mortgage loans. The interest rate declines cited here were estimated by multiplying the median ratio of the old interest rate over the new interest rate for loans refinanced during 2001, 2002, and the first half of 2003 by the average thirty-year fixed-rate mortgage rate available over those same periods.

4. At least in the first round of effects, this equality is offset to the extent that the investors in mortgages are foreigners.

5. If a refinancing household elected to shorten the maturity of its loan, as many do, its monthly principal and interest payments might go down very little or even go up. The faster repayment of principal in such cases would cause the personal saving rate to rise.

6. All of the information needed to construct this measure of home equity withdrawal can be obtained from the Flow of Funds Accounts maintained by the Board of Governors of the Federal Reserve System.

7. See Canner, Dynan, and Passmore (2002) for more detailed information about the survey.

8. This measure of the saving rate does not take into account changes in asset or liability valuation and hence does not allow us to say what happened to household net worth over this period.

9. The data for this exercise are taken from the Flow of Funds Accounts. The variable we wish to predict is "credit market instruments minus home and commercial mortgages." Our methodology is a simple linear regression of this variable (scaled by disposable personal income) on a constant and consumer durables (scaled by disposable personal income). All data are nominal.

10. In both the late 1980s and more recently, the increase in home equity extraction has been associated with a pronounced slowing in the rate of growth of nonmortgage liabilities. For the late 1980s, the generally accepted explanation for this phenomenon is straightforward. The Tax Reform Act of 1986 phased out the deductibility from taxable income of interest on nonmortgage debt. To lower their total after-tax interest expenses, households replaced nonmortgage debt with mortgage debt. It appears that during the more recent period of rapid equity extraction a similar process is at work. Mortgage interest rates are quite low, particularly relative to rates on credit cards and especially on an after-tax basis.

11. In this year's October issue of the *Federal Reserve Bulletin* (Dynan, Johnson, and Pence 2003), the staff of the Board of Governors introduced a new measure called the financial obligation ratio. In addition to including automobile leases and rents, this measure includes homeowners' property taxes and property insurance in the numerator of the ratio.

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