

Refinancers Crave Cash on Top of Lower Monthly Payments

by James Follain, Vassilis Lekkas and H. Jane Lehman

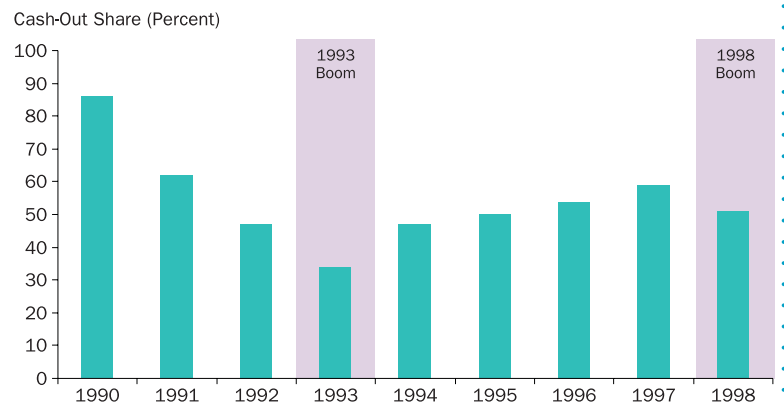
A MARKEDLY LOWER INTEREST rate was nearly all it took in the past to convince homeowners to refinance into less expensive loans. The most recent wave of mortgage refinancers, however, expected something more, something like a stack of cash.

In 1998, slightly more than half—51 percent—of all mortgage-swapping deals involved a **cash-out refinance**, wherein a borrower increased the size of the old mortgage by at least 5 percent (*Exhibit 1*). In contrast, during the previous 1993 spate of refinancings, only 34 percent of those borrowers did so.

Why are so many borrowers interested in increasing the size of their mortgages and will this trend continue? Arriving at an understanding of the role played by the rebalancing of individual household portfolios in the 1998 refinancing boom should provide some answers. That line of inquiry, though, raises other issues, such as whether the interest-rate differential needed to justify refinancing has declined

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EXHIBIT 1
Cash-Out Share of Total Refinancings



Note: Share estimates are computed from a sample of Freddie Mac's repeat-mortgage transactions. 1998 figures are estimated.

Source: Freddie Mac

Of those borrowers who refinanced in 1998, 51 percent obtained loans at least 5 percent larger than their existing mortgages through the cash-out refinancing process. Only 34 percent of those who switched loans in the last refinancing boom (1993) qualified as cash-out refinancers.

substantially since the last boom and, if so, whether it will continue to decrease in the future.

Two Factors Drive Refinancing

The impetus for increased refinancing activity, as always, remains twofold. Households refinance in order to reduce the cost of existing mortgage debt. Households also refinance to adjust the composition of their personal financial portfolios by taking equity out of their homes

to pay off debts, invest in other assets or finance consumption.

Both factors seemed to influence homeowners who refinanced in 1998. The new loans did not materialize until interest rates dropped and house-price appreciation rose by enough to support a larger mortgage amount than the existing loan balance.

However, the lower interest-rate motivation more strongly characterized the previous refinancing boom. When

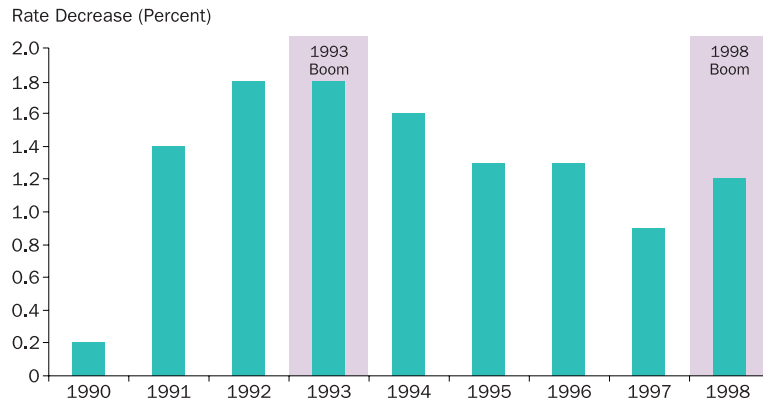
refinancing fever last gripped the country in 1993 (see “Refinance Boom or Bust,” *SMM*, 1994), borrowers benefited from an average rate drop of 1.8 percentage points in 30-year, fixed-rate conventional mortgage financing, according to a sample drawn from Freddie Mac’s database of repeat-mortgage transactions.

In 1998, however, all it took, on average, was approximately a 1.2 percentage-point drop in interest rates—a sacrifice of about one-half of a percentage point in interest savings compared to 1993—to inspire homeowners to act (*Exhibit 2*).

Coincidentally, plenty of borrowers found themselves well positioned to change mortgages in 1998—even those who had refinanced relatively recently—as the marketplace served up the lowest interest rates in three decades. In October 1998, the weekly average interest rate on a 30-year fixed-rate conventional mortgage sank to 6.5 percent, a low last matched in 1968.

The second refinancing motivation—to rebalance household investment decisions—likewise played a more pivotal role last year than during the previous boom. In 1998, one-half of all refinance transactions produced additional cash for the borrower. In 1993, however, deals motivated by lower interest rates outnumbered cash-out transactions by a margin of two to one. New

EXHIBIT 2 Refinancing Interest-Rate Spreads



Note: Calculations are based only on those borrowers who held fixed-rate mortgages before and after refinancing. 1998 figures are estimated.

Source: Freddie Mac

Those who refinanced in 1998 lowered their mortgage interest rates by about 1.2 percentage points, a significantly smaller amount than the average 1.8-percentage-point rate reduction realized by 1993 refinancers.

Freddie Mac research suggests that the difference in refinancing behaviors exhibited during the two boom times lies with the significantly higher amount of appreciation available to a borrower refinancing in 1998 than to a 1993 counterpart.

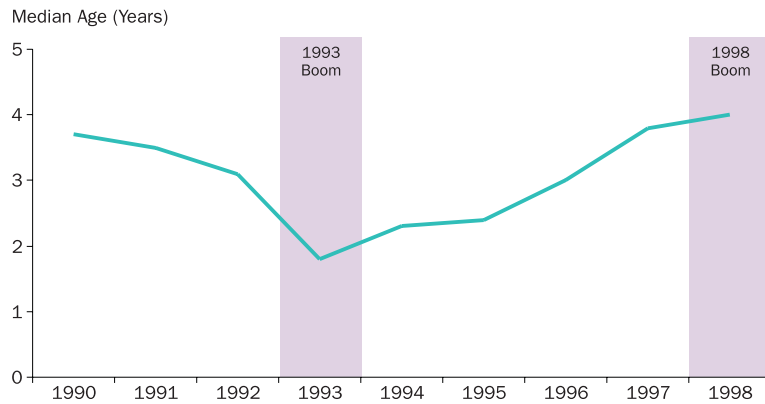
Although the refinancing motivations to reduce mortgage-debt costs and to cash out equity are not identical, they probably are closely related. For example, smaller rate declines may justify refinancing among householders enjoying substantial property-value gains compared to what it would take to mobilize households with little or no appreciation to exploit. The opposite can occur when borrowers experience property depreciation. Those owners, lacking sufficient equity,

may be unwilling or unable to obtain the additional cash necessary to satisfy refinancing requirements despite very attractive current interest rates.

More Borrowers Cashing Out Because They Can

An unusually high number of borrowers increased the size of their mortgages in the 1998 boom versus the 1993 boom, but the question is, why? Although information is unavailable to provide a definitive answer, repeat-mortgage business data gathered by Freddie Mac do afford some insights. Two factors—a pick-up in house-price appreciation coupled with a stronger propensity among these refinancers to go more deeply into mortgage debt—seem to

EXHIBIT 3 Mortgage Age When Refinanced



Note: 1998 figures are estimated.
Source: Freddie Mac

Last year's refinancers traded in their mortgages, on average, about four years after obtaining them. This allowed the 1998 refinancers to accumulate more house-price appreciation than their 1993 counterparts, who held their loans for less than two years before substituting in a lower-rate mortgage.

supply the best explanations.

On the first score, borrowers who refinanced in 1998 benefited from a steeper climb in property values over the period they held their existing mortgages. They headed into refinancing transactions with an average 11-percent rise in appraised values. That significantly outweighed the average 2-percent appreciation available to 1993 refinancers.

Some of the increase was due to the relatively advanced age at which the existing mortgages were retired by the 1998 refinancers. On average, borrowers that year traded in four-year-old mortgages, while 1993 borrowers canceled mortgages that were less than two years old (*Exhibit 3*). That gave the 1998 refinancers nearly

twice as long to grow the equity stake in their properties.

Some of the upward spurt in housing values also was due to more rapid appreciation in the five-year period preceding the 1998 boom than before the 1993 boom. Between the second quarter of 1993 and the second quarter of 1998, housing values nationwide appreciated by more than 21 percent, according to the Conventional Mortgage Home-Price Index maintained by Freddie Mac. In contrast, the index changed by less than 8 percent in the five years prior to the second quarter of 1993.

A second and more subtle factor also may help explain the cash-out proclivities of the two groups of refinancers. Last year's borrowers seemed more willing

to leverage their equity, as indicated by the difference between the average **loan-to-value ratios (LTVs)** just prior to and immediately after refinancing. As captured in *Exhibit 4*, borrowers who redeemed equity went deeper into debt by an additional 11 percentage points, pushing the LTV on the new financing to an average 72 percent. In 1993, cash-out refinancers ran up their relative level of property-value indebtedness by a mere 6 percentage points, on average. Looked at another way, the 1998 refinancers sacrificed a 39-percent equity stake for a 28-percent stake in order to obtain cash. Those who refinanced in 1993 acted less aggressively, trading in a 37-percent equity stake for a 31-percent stake to arrange the replacement financing.

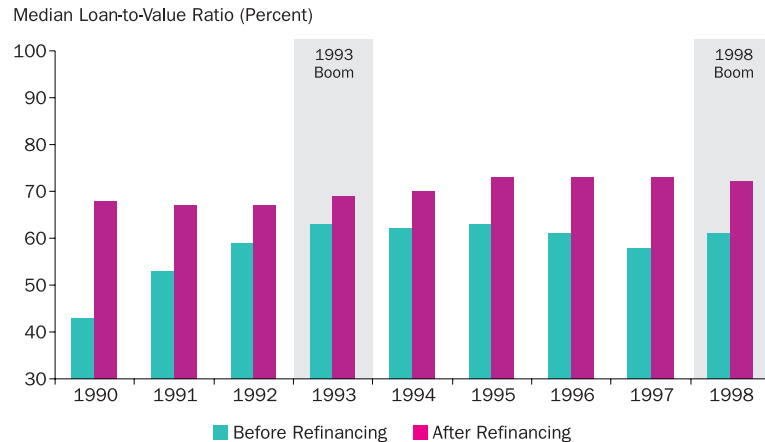
Even stronger statistical evidence exists as to the connection between increased property appreciation and increased mortgage size. The results are obtained by using **regression analysis** to control for the age of the pre-existing mortgage as it relates to the interest-rate savings possible through new financing. From this vantage point, 1998 refinancers went more deeply into debt relative to the size of their old mortgages than 1993 borrowers did. The regression analysis for all but the 1998 cohort finds that a 10-percent increase in the amount of property-price

appreciation leads to about a 4.5-percent increase in the size of the new mortgage relative to the old mortgage. The average 1998 refiner, in contrast, responded to the 10-percent jump in appreciation by taking out a 7-percent larger replacement mortgage than the typical 1993 borrower.

High house-price inflation over a longer period, along with a greater willingness to go into debt, therefore led 1998 borrowers to increase the size of their mortgages by more than borrowers in the 1993 boom.

An obvious question is why did the borrowers in 1998 choose to increase the LTVs on their homes more than the 1993 borrowers? For example, was the additional cash used to consolidate other forms of debt, finance investment in the booming stock market or finance other types of investment or consumption? Unfortunately, the Freddie Mac data do not provide direct evidence on this; however, some insights are suggested by external data. Notably, the amount of outstanding home equity loans held by domestically chartered commercial banks actually *decreased* during the last four months of 1998 by more than \$1 billion, according to Federal Reserve Board data. This suggests the new debt was used, at least in part, to consolidate other types of home-mortgage debt, including home-equity loans. Consequently, the total

EXHIBIT 4 Leverage Ratios Before and After Refinancing



Note: Loan-to-value (LTV) figures are determined by dividing the appraised value of the house at the time of refinancing into the unpaid balance on the existing mortgage and the size of the new mortgage. 1998 figures are estimated.

Source: Freddie Mac

With the 1998 refinancing boom, borrowers increased their loan-to-value ratios (LTVs) by 11 percent to a median 72 percent. Those who joined in the 1993 refinancing wave went into additional debt by only 6 percentage points, pushing their LTVs to an average 69 percent.

amount of mortgage debt secured by the existing stock of owner-occupied housing may have increased by less than this article suggests, in that this analysis focuses exclusively on first mortgages.

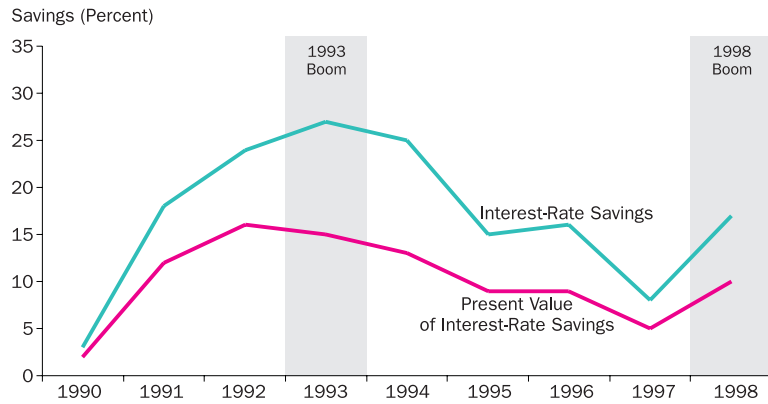
Pulling the Refinancing Trigger with Less Provocation

Whether a cash take-out transpires or not, far less provocation appears necessary these days to set off a wave of refinancing (see “Housing Markets Continue to Roll with the Good Times,” page 19). This apparent willingness among recent refiners to settle for lower savings than their past counterparts means that the

financial incentive that instigates discretionary refinance activity is shrinking. A sample of Freddie Mac’s repeat-mortgage business showed that 1998 borrowers waited, on average, for interest rates to fall about 1.2 percentage points before refinancing. In 1993, borrowers refinanced after the rates for 30-year, fixed-rate conventional mortgage financing had fallen by an average 1.8 percentage points.

Traditionally, the **refinancing incentive** is measured as the ratio of the interest rate on the old mortgage to the interest rate on the new, refinanced mortgage. However, the age of the pre-existing loan can skew the results when differences exist between a

EXHIBIT 5
Two Measures of the Refinancing Incentive



Note: Amount of interest-rate savings is determined by subtracting the new interest rate from the older interest rate and dividing by the new interest rate. Present value of interest-rate savings is the discounted present value of the difference between the old mortgage payments and payments on a new mortgage of the same size. The discount rate equals the new mortgage interest rate, and the discount period is the smaller of either 10 years or the remaining life of the old mortgage.
Source: Freddie Mac

Two different but related measures of the financial incentive to refinance show substantial reductions in the amount of savings enjoyed by those who refinanced in the 1998 refinance boom relative to the 1993 refinance boom.

refinancing the existing mortgage, then refinancing typically is more financially beneficial to a borrower. Transaction costs include monetary costs—such as lawyer fees, transfer taxes, appraisal fees and application fees—and the nonmonetary costs associated with the process itself, such as search costs and anxiety.

Applying the time-adjusted measure of the refinancing incentive to the 1998 borrowers makes use of the mortgage-age information previously illustrated in Exhibit 3. Within that framework, then, 1998 refinancers reduced their mortgage costs by about 10 percent, saving about one-third less than their 1993 counterparts, who cut their costs by an average 15 percent of their unpaid balances.

The two refinancing-incentive measures in this particular case tell a similar story: The savings obtained from refinancing in 1998 appear to be substantially lower than in 1993. A substantial body of anecdotal evidence provides a probable explanation by suggesting that refinancing has become less expensive and easier. If true, then borrowers nowadays can work with a narrower interest-rate differential and still refinance cost effectively. That stands to reason, given that information technology is reducing the cost both of searching among lenders and of processing loan applications (see “Online Mortgage Business Puts Consumers in Driver’s Seat,” page

simple interest-rate differential and a time-adjusted interest-rate differential. In other words, the interest savings obtained from refinancing older, **seasoned loans** are lower than the savings from trading in newer loans, all else equal.

A more accurate measure of the refinancing incentive, then, compares the **present value** of the remaining payments on the existing mortgage—discounted by the new loan’s interest rate—to the unpaid balance on the existing mortgage (*Exhibit 5*). If this measure—which determines the refinancing savings to the borrower over the remaining term of the existing mortgage—exceeds the transaction costs of

2). Many consumers, especially those who refinanced in the last boom, should find the process much easier to negotiate; they probably are more knowledgeable about mortgage refinancing and less intimidated by the prospect of refinancing, thus reducing the nonmonetary costs associated with refinancing.

Sizing Up Future Appetites for Cash-Out Refinances

Given the documented decline of about one-half of a percentage point in the interest-rate savings obtained by 1998 refinancers compared to 1993 refinancers, a question arises that is of critical importance to those in the business of mortgage finance: Does this drop represent a fundamental and permanent increase in the responsiveness of mortgage refinancing to the interest-rate environment? Alternatively, was the 1998 behavior perhaps driven by the significant house-price appreciation somewhat unique to last year's economic environment? The short answer is that there is evidence to support both propositions.

Serious students of mortgage refinancing are well aware that the magnitude of mortgage-refinancing activity in response to interest-rate drops depends not just upon the size of the interest-rate decline relative to existing mortgage **contract rates** but also on the amount of housing equity available to a

Some of the interest-rate-spread decline among last year's refinancers reflects 1998's unusually strong house-price appreciation.

borrower. Refinancers who have accrued more appreciation appear to react to smaller differentials than borrowers who have accumulated less, as evidenced by the 1993 and 1998 experiences. Some of the interest-rate-spread decline among last year's refinancers reflects 1998's unusually strong house-price appreciation. However, some of the decline undoubtedly captures the increased consumer education, aggressive marketing by lenders and information technology advances in mortgage underwriting and servicing since the last refinance boom, all of which have permanently lowered the transaction costs of refinancing.

Will the interest-rate spread

continue to decline over the next few years? Freddie Mac's analysis suggests that the answer depends on what happens to the economic environment in the broadest sense. If the economy continues to grow at a brisk clip and inflation remains in the 2-percent to 4-percent range, then the differential at which people refinance seems destined to shrink further. After all, the average 1998 interest-rate spread still exceeded transaction costs by a comfortable margin.

If, on the other hand, the economy slows down or enters a recession and inflation lessens (or deflation appears), then constraints on house-price appreciation will inhibit the desire and the ability of many borrowers to refinance. Under that scenario, the average interest-rate decline experienced by refinancers in the next few years may show little change, if any. SMM