Impact of "Buy Downs" on Affordability and Home Prices

Various indexes suggest that prices of homes have held up fairly well in the current recession despite extremely slow sales. True, home prices have been growing lately at a slower rate than in previous years (Chart 1). But new home prices were still slightly higher in December 1981 than a year earlier, and existing home prices were about 6 percent higher at the end of 1981 than a year earlier. This is rather surprising considering that inventories have remained well above the normal six-month supply of sales for more than forty-two months (Chart 2).

Part of the stability of home prices, however, may be illusory. Of late, home builders and homeowners have displayed a lot of ingenuity in arranging new types of financing. This "creative financing" has frequently been used to reduce home buyers' monthly carrying costs without actually lowering contract sale prices. This indirect form of price discounting is not captured by the standard indexes of house prices. In contrast, when auto sales have been weak, automakers have offered price rebates on new cars and these lower sale prices have been reflected in price measures such as the consumer price index. Similarly, below-market auto financing offered by car manufacturers is reflected in the consumer credit costs incorporated in the index.

One newly popular form of creative single-family home financing is the "buy down". Under a typical arrangement, a home builder pays a lump sum to a financial institution, and in exchange that institution offers prospective home buyers a mortgage interest rate below the prevailing market rate for the first few years of the loan. Thus, a buy down amounts to a price discount which takes the form, not of a lower sale price, but of a lower mortgage interest rate. For a given home price, the seller's profits from a sale with a buy down are lower, as are the buyer's initial monthly debt-service payments.

Since buy downs amount to a price discount, they ought to be taken into account in figuring the effective price of houses. Based on our calculations, the level of the standard indexes of new house prices would be as much as 7 to 10 percent lower if buy-down price discounts were taken into account. Thus, new home prices would have shown a decline of between 5 and 8 percent during the twelve months ended December 1981 rather than an increase of 2 percent (Chart 1).

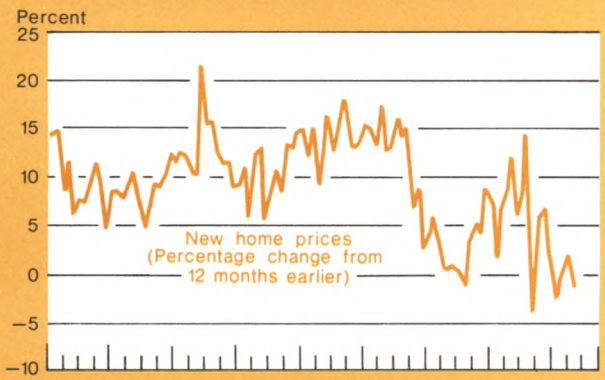
How "buy downs" work

Here is an example of how a buy-down arrangement works. For a $100,000 home a builder might pay $12,000 to a financial institution to buy down the mortgage rate. The bank would then lower the interest rate 5 percentage points for the first five years of the mortgage. The monthly payments for the first five years would be based on the bought-down rate. The remaining payments would be calculated using the market rate at the time that the mortgage was granted. In effect, the buy down is a prepayment of part of the interest cost of the mortgage made by the builder on behalf of the home buyer.

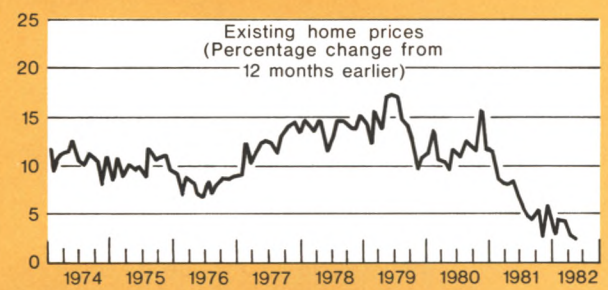
In general, the buy down is at least as great as

Chart 1

After slowing in 1980, the rate of increase in prices of new homes picked up in 1981 . . .



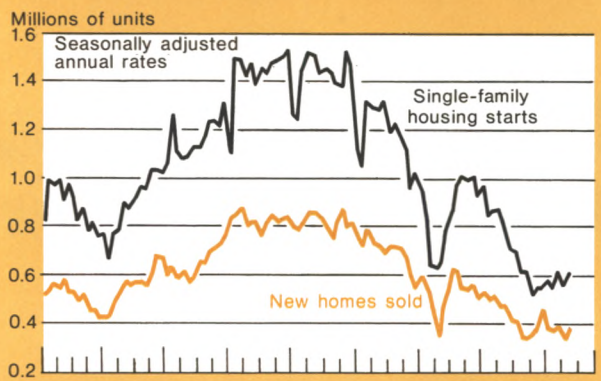
. . . while increases in prices of existing homes slowed down.



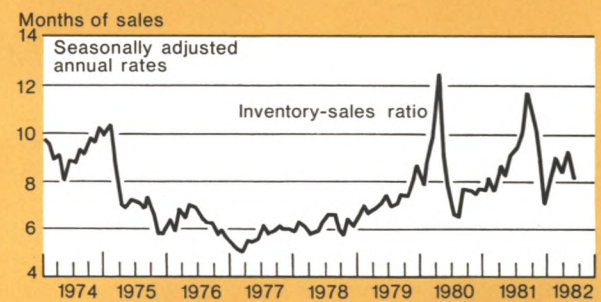
Sources: United States Department of Commerce, National Association of Realtors.

Chart 2

Sales of new one-family homes have declined. New construction has been cut back . . .



and the ratio of unsold units to sales has remained high.



Source: United States Department of Commerce.

the present value of the income stream lost to the bank because of the decrease in the mortgage rate over the first few years of the loan.[1] (The financial institution expects to receive the same effective yield on the mortgage with the buy down as on a conventional mortgage of the same size and maturity extended at the market interest rate.) A typical 5 percentage point buy down of the mortgage rate for five years costs about 15 percent of the mortgage value. This amounts to 10 to 15 percent of the home price, depending on the down payment.

Buyers benefit from buy downs because these arrangements make mortgage loans more affordable. The lower initial monthly payments enable more buyers to meet standard mortgage qualification rules.[2] As can be seen in Table 1, the initial monthly payment for a $100,000 home with a $75,000 mortgage and a buy down from 18 percent to 13 percent is $830. If the cost of the buy down goes toward lowering the price of the home, the monthly payment for the smaller loan at 18

[1] For example, the difference in the monthly payment between 18 percent and 13 percent for a $75,000 mortgage on a $100,000 home is $300. The present value of a stream of $300 monthly payments for five years at a market discount rate of 18 percent is $11,813.

[2] Although the bank expects to receive the same yield from either a mortgage with a buy down or a conventional mortgage, there is some risk that the buyer cannot adjust to the higher monthly payments. To mitigate this risk, some banks gradually adjust the interest rate over the period of the buy down to raise the monthly payment to the higher level. Mortgage qualification in these examples is assumed to be based only on the monthly payment. If real estate taxes and insurance are assumed to add 15 percent to the monthly payment with both types of loans, the results are the same.

percent with a 25 percent downpayment is $995 (Table 2). In general, the monthly payment with the five-year buy down is about 83 percent of the monthly payment for the lower priced home regardless of the original home price. Consequently, the income needed to qualify for the bought-down mortgage is 83 percent of that needed to qualify for the smaller loan at the higher rate.

In addition to the people who become eligible for loans because of buy downs, builders may also attract some buyers who find buy downs appealing because of lower initial payments. These home buyers may even be willing to pay a higher sale price for the home with a buy down than for the same home offered in the traditional manner. The conventional fixed-rate mortgage in an inflationary environment creates a redistribution of the real cost of borrowing over the term of the loan. While the nominal monthly payments remain the same, in real terms, borrowers make larger payments at the outset than in later years. Buying down the early payments reduces this real cost, smoothing the cash flow stream and allowing a closer match of current income and current monthly payments.

Income taxes are an important consideration in evaluating the impact of buy downs on monthly carrying costs. The reduction of monthly costs after taxes is greatest for home buyers in the lower tax brackets. Since mortgage interest payments are tax deductible, decreasing the interest cost decreases the deduction, which is a greater proportion of the payment for those

Table 1

Before-tax Monthly Mortgage Payments at Different Interest Rates

In dollars

Original home price	Thirty-year conventional mortgage*	Monthly mortgage payments with interest rates (in percent) at: 9.5	11.5	13	15.5	18
55,000	41,250	347	408	456	538	622
70,000	52,500	441	520	581	685	791
85,000	63,750	536	631	705	832	961
100,000	75,000	631	743	830	978	1,130
150,000	112,500	946	1,114	1,244	1,468	1,695

* Assumes that the buyer makes a downpayment of 25 percent of the home price.

Table 2

Before-tax Monthly Mortgage Payments for Homes with Sale Prices Lowered by the Amount of a Buy Down

In dollars

Original home price	Lower home price*	Thirty-year conventional mortgage†	Monthly payment at 18%	Lower home price‡	Thirty-year conventional mortgage†	Monthly payment at 15.5%
55,000	48,400	36,000	547	49,500	37,125	484
70,000	61,600	46,200	696	63,000	47,250	616
85,000	74,800	56,100	845	76,500	57,375	748
100,000	88,000	66,000	995	90,000	67,500	881
150,000	132,000	99,000	1,492	135,000	101,250	1,321

* Home price is lowered by the amount of an average buy down of the mortgage interest rate from 18 percent to 13 percent for the first five years.

† Assumes that the buyer makes a downpayment of 25 percent of the lower home price.

‡ Home price is lowered by the amount of an average buy down of the mortgage interest rate from 15.5 percent to 11.5 percent for the first five years. This example illustrates the effects of the proposed Federal mortgage subsidy program.

Table 3

Ratio of Aftertax Monthly Payment with Builder's Buy Down to Conventional Aftertax Monthly Payment

Builder's buy down	Monthly payment ratio for income tax rates (in percent) of: 20	35	50
From 18% to 13%	.75	.76	.79
From 15.5% to 11.5%	.77	.79	.81

in higher tax brackets. For a low income buyer, the aftertax monthly payment with a buy down is 75 percent of the conventional monthly payment. For a high income buyer, the aftertax payment with a buy down is 79 percent of the conventional payment (Table 3).[3]

Despite these advantages, buy downs can be more costly for home buyers than homes priced lower by the amount of buy downs. The benefit of larger income tax deductions, associated with higher interest costs, is deferred during the years that the bought-down mortgage rate prevails. The buy down reduces income tax deductions proportionately more than lowering the price of the home. In general, the net present value of the difference in total cost between the mortgage with the buy down and the mortgage with the lower home price favors purchasing the lower priced home with a smaller mortgage and higher interest rate. The loss to the buyer taking the buy down is a small percentage of the contract sale price, increasing with tax bracket and decreasing with the implicit discount rate. The buy-down home buyer obtains smaller interest cost deductions and incurs a larger debt than the buyer of a lower priced home in exchange for current affordability and a more even stream of real payments. Thus, the buyer who chooses the buy-down arrangement pays more later for the ability to qualify now for the loan and the convenience of lower monthly payments at the outset.

Although a buy down decreases the profit made on the sale of a home just as lowering the price would, the buy down improves the chances of selling the house by expanding the pool of eligible buyers. Considering that bank loans to builders involve rates averaging 2 percentage points above the prime rate, builders have a strong incentive to take any action—including measures that will cut into their profits—to encourage buyers to purchase homes.

The impact of buy downs on housing prices

Buy downs and other forms of creative financing are not included as discounts in measures of home prices because home price statistics are derived from samples of contract sale prices. For example, the Bureau of the Census publishes a quarterly price index of new one-family houses sold. This index is based on the price the builder receives from the buyer and does not reflect the discounted mortgage interest rate paid by the buyer.

Buy downs became particularly prevalent in early 1981, when mortgage rates stayed above 15 percent. The widespread acceptance of buy downs is further illustrated by the recent liberalization of Federal National Mortgage Association guidelines for buy-down mortgage arrangements.[4] Estimates of the number of new homes sold with buy downs are not readily available. However, acccording to recent surveys by the National Association of Home Builders, at least two thirds of the member builders are offering buy downs.

If two thirds of the builders use buy downs of 10 to 15 percent of the sale price of homes rather than lower the prices by an equivalent amount to sell homes, recorded prices would be inflated by 7 to 10 percent over what they would have been if builders simply lower prices by that amount. With this correction, new home prices, as measured by the quarterly Census index, would have fallen slightly between the fourth quarters of 1980 and 1981 rather than rising 9 percent. Similarly, the monthly prices of new homes used to compute this index would have fallen 5 to 8 percent between December 1980 and December 1981 rather than rising 2 percent (Chart 1).

Buy downs impart an upward bias to the consumer price index. There are four separate components representing homeownership in this index: home prices, financing, insurance, and taxes. The first two components depend upon home prices, though they have not been adjusted for creative financing discounts such as buy downs. The first component—the contractual purchase price—is biased upward because of buy downs in the same way as the price used in the Census index. The extent of upward bias in this component depends upon the proportion of new home sales in the sample of home prices used to compute the index (one third) as well as the proportion of buy-down arrangements of new home sales (two thirds).

[3] If the price of the home were lowered by an amount equivalent to the buy down to sell the home, no tax deductibility would be lost by the buyer. The ratio of monthly payments for the lower priced home to conventional monthly payments does not vary with tax bracket.

[4] See Federal National Mortgage Association, *News Release*, Thursday, February 18, 1982.

If the 22 percent (one third of two thirds) of all sale prices in the sample represent buy-down home sales, the home purchase component of the consumer price index would be 2 to 3 percent higher than if prices were lowered to sell homes. (In other words, rather than rising 1 percent over the year ended November 1981 as reported, the home purchase component would have fallen 1 to 2 percent.) In turn, the total index would be 0.2 percent to 0.3 percent higher inasmuch as the home purchase component carries a weight of 0.1 in the consumer price index.

The financing part of the homeownership component is obtained by multiplying the index of home prices used in the home purchase component by a weighted average of contractual interest rates. Usually the reported interest rate for a mortgage with a buy down is the rate that prevails after the first five years. The lower effective cost to the buyer is not reflected in the calculation of the interest cost. The price portion of this component is subject to the same upward bias as the prices in the home purchase component because it is exactly the same. Since the weight assigned to home financing in the consumer price index is 0.07, the bias noted for the home purchase component nearly doubles the upward bias in the overall index.

Although buy downs are not used frequently in sales of existing homes, other forms of creative financing such as seller financing have an analogous effect on measures of existing home prices. The National Association of Realtors recently reported that the median price of an existing home sold in 1981 would have been $54,000 rather than the observed price of $66,400 if sellers had reduced prices by the cost to them of creative financing. If sellers had lowered prices, the median price of existing homes in 1981 would have been 13 percent lower than the median price in 1980 (Chart 1).

While the consumer price index and other measures of home prices fail to account for effective price discounts, the newly proposed version of the consumer price index eliminates this problem. The rental equivalent form of the index substitutes a rental value measure for the traditional home purchase component, so that it is not subject to the bias attributable to buy downs and other types of creative home financing.

Concluding remarks

Aside from the obvious disadvantages of measuring home price trends inaccurately, the upward bias in recorded home prices may affect economic behavior. For example, consumers may overestimate their net worth because of an inflated view of the amount of equity in their homes, causing them to spend and to borrow more than they would had they recognized the overstatement. Furthermore, price movements alter expectations of future prices, which in turn may motivate consumers to change their spending plans.

Robin DeMagistris