

A Reprint from *Tierra Grande*

Lordy, Lordy, look what's 40... and even 50...

By Harold D. Hunt

Move over 30-year loans! Mortgages offering even longer amortization periods have arrived.

The 30-year fixed-rate mortgage is the most common home loan in America today. But five percent of all new mortgages in the United States (25 percent in California) are now being written for a term of 40 years. And the 40-year mortgage, first introduced in 2005, has since been surpassed in length by the 50-year mortgage.

Do these long-term loans offer any benefits to residential borrowers in Texas? To find out, it is necessary to crunch some numbers.

Focus: Affordability

The question is, do longer-term mortgages markedly improve affordability?

Using the popular 30-year loan as the benchmark, monthly payments, outstanding loan balances and the amount of interest and principal paid on 15-year, 40-year and 50-year loans were compared.

The borrower's goal was assumed to be lower monthly payments rather than purchasing a larger home with the same payment amount. In this way, any offsetting effects from increased property taxes and insurance were eliminated. Monthly payments were calculated to include principal and interest only.

Fixed-rate mortgages that fully amortize in 15, 40 and 50 years were compared with the 30-year note. Known as "hybrid ARMs," the 40- and 50-year loans being offered in the

mortgage market begin as fixed-rate mortgages but must be converted to an annual adjustable-rate mortgage (ARM) after a specified term. Holding periods in the examples coincide with the three, five, seven and ten-year fixed-term options available with 40-year loans.

Most 50-year loans require conversion to an annual ARM either five or ten years after origination. The examples assume the 50-year loan remains fixed for ten years.

Lenders typically charge an increasing interest rate premium as a loan's amortization period is extended. No hard and fast rule exists to determine the amount of this premium. A reasonable premium is assumed to be 25 basis points or a quarter percent increase in the interest rate for each increment the loan's amortization period is extended.

These premiums theoretically compensate for the lender's money being tied up for a longer time, assuming the borrower keeps the loan through final maturity. In reality, most mortgages are refinanced or paid off when the home is sold, well before full amortization occurs.

Comparison One: Short-Term Gratification

Comparison 1 assumes a \$100,000 loan at 6.25 percent interest rate for 30 years, 6 percent for 15 years, 6.5 percent for 40 years and 6.75 percent for 50 years.

Based on the assumptions given, the 15-year mortgage is significantly less affordable than the 30-year, requiring a payment higher by \$228.14 per month. The 40-year note's monthly payment is \$30.26 less than the 30-year. Extending the amortization period from 40 to 50 years results in a mere \$2.83 in

further payment reduction. Clearly, the payment difference between a 40-year and a 50-year loan is negligible in this case.

The difference in interest paid on the four loans is noteworthy but not vastly different. Borrowers choosing the 15-year loan would pay 8.5 to 22.7 percent less total interest than a 30-year borrower depending on the holding period. The 50-year borrower would pay 9.5 to 14.4 percent more.

There is, however, a considerable difference in principal reduction between loans. A 15-year borrower pays in 257 to 261 percent more principal than a 30-year borrower, depending on the holding period. A 50-year borrower pays about 78 percent less principal than a 30-year borrower during the first ten years.

The result is a wide variation in outstanding balance. The most extreme results occur when loans are held for ten years. The 15-year loan's balance is paid down to \$43,648. By contrast, the 30-year and 50-year outstanding balances decline to only \$84,237 and \$96,564, respectively.

Comparison Two: Long-Term Loans Prove Costly

Comparison 2 increases the mortgage rate to determine whether longer-term loans can be more effective in increasing affordability in higher-interest-rate environments. The interest rates in this example are increased to 8.25 percent for the 30-year loan, 8 percent for the 15-year loan, 8.5 percent for the 40-year loan and 8.75 percent for the 50-year loan.

Under these higher interest rates, the difference between the 15-year and 30-year mortgage payments narrows slightly, resulting in a 15-year payment that is \$204.38 more per month. The 40-year loan becomes less effective in reducing monthly payments at only \$18.18 less than the 30-year.

The new 50-year loan payment, although still lower than the 30-year, is now larger than the 40-year payment.

The quarter percent in extra interest premium increases the monthly payment more than extending the amortization term another ten years can reduce it.

This result can be expanded further to determine the outcome in an even higher interest rate environment. Assuming the interest premium spread holds as interest rates increase, the 50-year monthly payment would eventually surpass even the 30-year payment should interest rates ever reach 10.5 and 10 percent, respectively.

Although differences in interest paid vary only slightly from Comparison 1, the differences in the amount of principal paid in Comparison 2 are much more pronounced on a percentage basis. A 15-year borrower would pay 346 to 351 percent more principal than a 30-year borrower, depending on the holding period.

Alternatively, a 50-year borrower would pay about 85 percent less principal than a 30-year borrower during the first ten

Most 50-year loans require conversion to an annual ARM either five or ten years after origination.

Comparison One

\$100,000 Loan, 30-Year Fixed-Rate, 6.25%							
Loan Terms	Monthly Payment and Difference from 30-Year Loan	Category	Loan Terms	After 3 years	After 5 years	After 7 years	After 10 years
30-year @ 6.25%	\$615.72	TOTAL INTEREST PAID and percent difference from 30-year loan	30-year @ 6.25%	\$18,419.47	\$30,280.27	\$41,753.84	\$58,123.78
15-year @ 6%	\$843.86 +\$228.14		15-year @ 6%	\$16,852.86 -8.5%	\$26,640.51 -12.0%	\$35,097.44 -15.9%	\$44,911.79 -22.7%
40-year @ 6.5%	\$585.46 -\$30.26		40-year @ 6.5%	\$19,340.97 5.0%	\$32,032.59 5.8%	\$44,536.03 6.7%	\$62,880.42 8.2%
50-year @ 6.75%	\$582.63 -\$33.09		50-year @ 6.75%	\$20,173.91 9.5%	\$33,525.97 10.7%	\$46,787.10 12.1%	\$66,479.14 14.4%
		TOTAL PRINCIPAL PAID and percent difference from 30-year loan	30-year @ 6.25%	\$3,746.35	\$6,662.76	\$9,966.41	\$15,762.29
			15-year @ 6%	\$13,525.99 261.0%	\$23,990.90 260.1%	\$35,786.53 259.1%	\$56,351.03 257.5%
			40-year @ 6.5%	\$1,735.48 -53.7%	\$3,094.82 -53.6%	\$4,642.34 -53.4%	\$7,374.40 -53.2%
			50-year @ 6.75%	\$800.61 -78.6%	\$1,431.58 -78.5%	\$2,153.47 -78.4%	\$3,435.95 -78.2%
		OUTSTANDING BALANCE	30-year @ 6.25%	\$96,253.65	\$93,337.24	\$90,033.59	\$84,237.71
			15-year @ 6%	\$86,474.01	\$76,009.10	\$64,213.47	\$43,648.97
			40-year @ 6.5%	\$98,264.52	\$96,905.18	\$95,357.66	\$92,625.60
			50-year @ 6.75%	\$99,199.39	\$98,568.42	\$97,846.53	\$96,564.05

Source: Real Estate Center at Texas A&M University

years. The outstanding balance of a 50-year loan would only drop to \$98,197 after ten years, a reduction of about \$1,800.

Few Advantages for Texans

Mortgages with amortization periods longer than 30 years offer Texas borrowers little in terms of increased affordability. For a \$100,000 loan, the largest reduction in monthly payments is about \$33.

Although the amount of interest paid over ten years or less is not appreciably different, the 40-year and 50-year loans are substantially less effective at reducing the outstanding balance than is the 30-year loan.

It is natural to assume that a longer amortization period works in favor of the borrower if interest rates increase significantly. This analysis demonstrates that the exact opposite is true. Affordability would actually decline.

The 40-year and 50-year loans have provided minimal affordability relief to homeowners in markets outside Texas. A significant number of these borrowers have originated interest-only loans or “exotic” loans that can negatively amortize and actually increase loan balances. However, until recently the high rate of home appreciation had been outweighing their loans’ lack of principal reduction. These loans offer

little advantage to Texas borrowers and should be viewed with skepticism by anyone intending to keep a mortgage ten years or less.

Finally, the 40-year and 50-year loans make even less sense if a borrower intends to retain the mortgage more than ten years. A 30-year loan’s interest rate is locked in over the whole 30-year term while the 40- and 50-year loans must eventually convert to an ARM.

This exposes the borrower to the risk of future payment increases should interest rates rise above the level they were when the loan was originated. Considering today’s historically low interest rates, that risk is not insignificant. 📌

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THE TAKEAWAY

Contrary to what most homebuyers would expect, under certain conditions, longer-term hybrid ARM mortgages may be less affordable than the popular 30-year conventional loan.

Comparison Two

\$100,000 Loan, 30-Year Fixed-Rate, 8.25%							
Loan Terms	Monthly Payment and Difference from 30-Year Loan	Category	Loan Terms	After 3 years	After 5 years	After 7 years	After 10 years
30-year @ 8.25%	\$751.27	TOTAL INTEREST PAID and percent difference from 30-year loan	30-year @ 8.25%	\$24,451.01	\$40,359.97	\$55,889.76	\$78,322.03
15-year @ 8%	\$955.65 \$204.38		15-year @ 8%	\$22,689.29 -7.2%	\$36,105.39 -10.5%	\$47,875.66 -14.3%	\$61,809.51 -21.1%
40-year @ 8.5%	\$733.09 -\$18.18		40-year @ 8.5%	\$25,380.09 3.8%	\$42,142.39 4.4%	\$58,751.12 5.1%	\$83,312.84 6.4%
50-year @ 8.75%	\$738.61 -\$12.66		50-year @ 8.75%	\$26,202.79 7.2%	\$43,608.95 8.1%	\$60,954.05 9.1%	\$86,831.16 10.9%
		TOTAL PRINCIPAL PAID and percent difference from 30-year loan	30-year @ 8.25%	\$2,594.58	\$4,716.03	\$7,216.63	\$11,829.96
			15-year @ 8%	\$11,714.19 351.5%	\$21,233.74 350.2%	\$32,399.11 349.0%	\$52,868.74 346.9%
			40-year @ 8.5%	\$1,011.29 -61.0%	\$1,843.25 -60.9%	\$2,828.78 -60.8%	\$4,658.45 -60.6%
			50-year @ 8.75%	\$387.28 -85.1%	\$707.84 -85.0%	\$1,089.46 -84.9%	\$1,802.43 -84.8%
		OUTSTANDING BALANCE	30-year @ 8.25%	\$97,405.42	\$95,283.97	\$92,783.37	\$88,170.04
			15-year @ 8%	\$88,285.81	\$78,766.26	\$67,600.89	\$47,131.26
			40-year @ 8.5%	\$98,988.71	\$98,156.75	\$97,171.22	\$95,341.55
			50-year @ 8.75%	\$99,612.72	\$99,292.16	\$98,910.54	\$98,197.57

Source: Real Estate Center at Texas A&M University



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Tierra Grande (ISSN 1070-0234) is published quarterly by the Real Estate Center at Texas A&M University, College Station, Texas 77843-2115. Subscriptions are free to Texas real estate licensees. Other subscribers, \$20 per year. Views expressed are those of the authors and do not imply endorsement by the Real Estate Center, Mays Business School or Texas A&M University. The Texas A&M University System serves people of all ages, regardless of socioeconomic level, race, color, sex, religion, disability or national origin. Photography/Illustrations: E. Joseph Deering, pp. 1, 2, 5.