Fixed vs. Variable Interest Rates

Understanding the Advantages and Disadvantages of Each Rate Type

When shopping for financial products, there are a lot of factors to consider. Much has changed in the financial industry in recent years, and it can be tough to figure out which features best suit your individual needs for the various financial products you use in your everyday lives. Here are some insights into two of them: fixed and variable interest rates, how they work, why they may be different and when each of these rate types may be beneficial.

Definitions

Fixed Interest Rate:
"An interest rate that will remain at a predetermined rate for the entire term of the loan, no matter what market interest rates do. This will result in payments remaining the same over the entire term."[1)]

Variable Interest Rate:
"An interest rate that moves up and down based on the changes of an underlying interest rate index."[1)]

How Fixed and Variable Interest Rates Work

Fixed Interest Rates

When someone applies for a loan with a fixed interest rate, the rate they will receive is typically determined at the time of approval, and it does not change for the entire life of the loan. When lenders determine price points for their fixed interest rate products, they base them on market rates available at that point in time.

- Lenders who offer **credit-based pricing** will offer a range of rates on their fixed rate product, based on creditworthiness. In that case, the better the applicant's credit score is (or that of the cosigner/co-applicant), the better their chances for a lower rate.
- The **market rate**, on the other hand, depends largely on the length of the loan and other features, and can vary based on market conditions. This means that lenders may change the fixed rates they offer to new applicants as market conditions change – consumers should review the lender's current product offer before applying for a loan.

There are a variety of financing options with different market rates that lenders may use to fund a fixed interest rate product. Usually the market rate is based on financing vehicles that have a similar length as the average life of the loan product – for example, if a loan product has an average life of 5 years, the market rate may be based on the 5-year US Treasury Bond. Fixed interest rates are almost always higher than variable rates at the time the loan is originated.

Variable Interest Rates

When someone applies for a variable rate loan, the interest rate is also usually determined at the time of approval – however, the interest rate will fluctuate over time. Variable rates consist of two components: An **index** (which is publicly available and not controlled by the lender), plus a **credit-based margin** determined by the lender. Again, the applicants/co-applicants with the best credit scores would qualify for the lowest margins. The starting rate on a variable rate loan is usually lower than the rate on a fixed rate loan.

Index and Margin

The **index rate will vary** over time based on economic conditions. The **margin**, however, **is locked in at the time of credit approval,** meaning it will not change until the loan is paid off.

For example, if someone took out a loan with a variable rate of LIBOR + 5%, and LIBOR was at 3.58% at the time they took out the loan, then their variable rate would have been 8.58%. When the LIBOR rate changed to 1.82%, the variable rate then changed to 6.82%. The 5% margin remains constant throughout; only the LIBOR index changes based on market conditions.

Common Variable Rate Indices Used for Student Loans

LIBOR: An interest rate at which banks can borrow funds from other banks.

What it means: LIBOR stands for **London Interbank Offered Rate**. It's the rate of interest at which banks offer to lend money to one another in the wholesale money markets in London. It is a **standard financial index** used in U.S. capital markets and the rate is reported every day in the Wall Street Journal.

How it's used: LIBOR is an index that is used to set the cost of various variable-rate loans. Lenders use such an index to adjust interest rates as economic conditions change. They then add a credit-based margin, which does not vary, to the index to establish the interest rate charged on the loan. When this index goes up, interest rates on any loans tied to it also go up. It has traditionally been a reference figure for corporate financial transactions but is increasingly used for consumer loans as well.[2)]

WSJ Prime Rate: The prime interest rate, or prime lending rate, is largely determined by the federal funds rate, which is the overnight rate at which the federal reserve lends to banks.

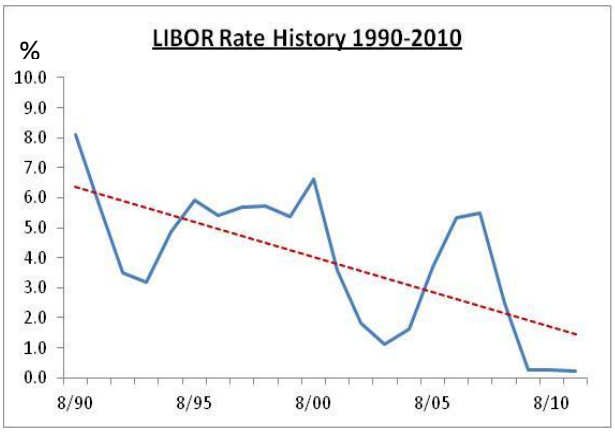
What it means: The initials "WSJ" stand for the ***Wall Street Journal***, which surveys large banks and publishes the consensus prime rate. The WSJ surveys the 30 largest banks, and when three-quarters of them (23) change, the WSJ changes its rate, effective on the day the **Journal** publishes the new rate. It's the most widely quoted measure of the prime rate, the rate at which banks will lend money to their most-favored customers. The prime rate will move up or down in lock step with changes by the Federal Reserve Board.

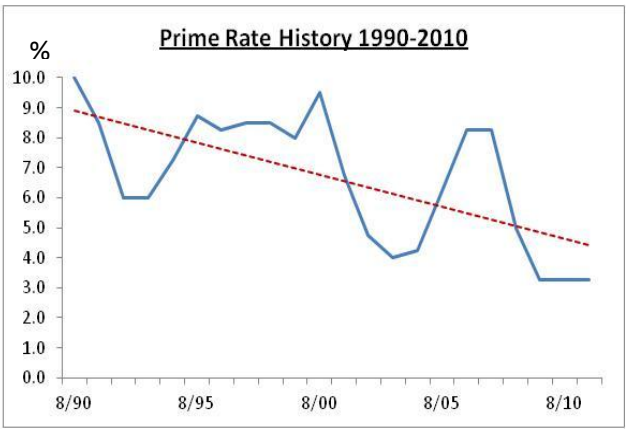
How it's used: The prime rate is an important index used by banks to set rates on many consumer loan products, such as credit cards or auto loans. If you see that the prime rate has gone up, your variable credit card rates will soon follow.[2)]

Historical Interest Rates – Past 20 Years[3)]

Time Period	1-Month LIBOR		Prime Rate	
	Ending	Net Change	Ending	Net Change
Sep 1990 – Aug 1991	5.75	-2.38	10.00	-0.50
Sep 1991 – Aug 1992	3.5	-2.25	8.50	-1.50
Sep 1992 – Aug 1993	3.2	-0.30	6.00	-2.50
Sep 1993 – Aug 1994	4.88	1.67	6.00	0.00
Sep 1994 – Aug 1995	5.91	1.03	7.25	1.25
Sep 1995 – Aug 1996	5.43	-0.48	8.75	1.00
Sep 1996 – Aug 1997	5.68	0.25	8.25	-0.50
Sep 1997 – Aug 1998	5.73	0.05	8.50	0.25
Sep 1998 – Aug 1999	5.37	-0.36	8.50	0.00
Sep 1999 – Aug 2000	6.63	1.26	8.00	-0.50
Sep 2000 – Aug 2001	3.58	-3.04	9.50	1.25
Sep 2001 – Aug 2002	1.82	-1.76	6.75	-2.75
Sep 2002 – Aug 2003	1.12	-0.70	4.75	-1.75
Sep 2003 – Aug 2004	1.65	0.53	4.00	-0.75
Sep 2004 – Aug 2005	3.69	2.05	4.25	0.25
Sep 2005 – Aug 2006	5.33	1.64	6.25	1.75
Sep 2006 – Aug 2007	5.5	0.17	8.25	1.75
Sep 2007 – Aug 2008	2.47	-3.03	8.25	0.00
Sep 2008 – Aug 2009	0.27	-2.20	5.00	-3.25
Sep 2009 – Aug 2010	0.28	0.01	3.25	-1.75
Sep 2010 – Aug 2011	0.21	-0.06	3.25	0.00
Average:	**3.71**	**-0.42**	**6.82**	**-0.39**

Over the last two decades, variable rates have decreased slowly with slight temporary movements in both directions





Primary Consumers' Concern: Payment Impact

The primary reason consumers are concerned about a variable rate is a fear of rising interest rates and lack of predictability, and the resulting potential impact to their monthly payment.

It is important for consumers to understand these key points:

1. While a variable rate can go up, it can also go down.
2. Over time, a customer will see movement in both directions, and the net effect over time is fairly small.
3. The impact on a customer's monthly payment is relatively moderate

Example: Two consumers took out a $10,000 loan in 1997. The first opted for a fixed rate at 9.0% and the other chose a variable rate of L+3.0% (8.73% at the time, assuming no rounding up or down). Both loans had a 10-year repayment period. Here is what their payments would have looked like:

Repayment Period	Monthly Payment Fixed Rate Loan @ 9%	Monthly Payment Variable Rate Loan	Variable Rate @ L+3.0%: Changing every 12 months
Year 1	$126.68 for 120 months	$125.22	L=5.73% +3.0% = 8.73%
Year 2		$123.45	L=5.37% + 3.0% = 8.37%
Year 3		$129.08	L=6.63% + 3.0% = 9.63%
Year 4		$117.11	L=3.58% + 3.0% = 6.58%
Year 5		$111.36	L=1.82% + 3.0% = 4.82%
Year 6		$109.47	L=1.12% + 3.0% = 4.12%
Year 7		$110.62	L=1.65% + 3.0% = 4.65%

Year 8		$114.05	L=3.69% + 3.0% = 6.69%
Year 9		$115.94	L=5.33% + 3.0% = 8.33%
Year 10		$116.03	L=5.50% + 3.0% = 8.50%
Total Repaid:	**$15,201**	**$14,068**	**Average Rate: 7.04%**

The starting interest rate and payments were very similar for both customers. While there were changes in the monthly payment with the variable rate loan, these were not dramatic – the largest upward jump happened in year 3, when the monthly payment increased by $5.63. Overall, the customer choosing the variable rate loan saved $1,133 in total loan costs in an environment where rates moved noticeably in both directions over time. Keep in mind that historical performance is no guarantee of future performance. It's also important to note that LIBOR is currently at historic lows so there is much more room to go up than down.

Additional Key Points

Stability and Familiarity Concerns

- Fixed interest rates appeal to consumers who place a high value on stability.
- The Federal Reserve announced on January 25, 2012, that it would leave rates unchanged and does not plan any changes until late 2014. Therefore, variable rates are **likely to remain stable** for the next two years.
- Many private student loans today are based on the LIBOR rate. Many consumers are not very familiar with this index but it is commonly used because it is closely tied to the lender's cost of funding loans. Becoming familiar with variable rates indices and historical insights into changes over time should help consumers become more comfortable with LIBOR-based loans.

Total Cost Concerns

- Whether a fixed rate loan is better for an individual than a variable rate loan will depend on the **interest rate environment** when the loan is taken out, the **duration of the loan, and the value the consumer places on predictability**. [1]
- Although there are no guarantees, studies have found that, over time, the borrower is likely to pay less interest overall with a variable rate loan versus a fixed rate loan. [1]
    - Borrowers should strongly consider the **amortization period** of a loan. **The longer the amortization period of a loan, the greater the potential impact of a change in interest rates.**
    - Many families view gap funding for college education through private loans as a **short-term** financing solution, which means the potential impact of a change in variable interest rates is mitigated by them paying off the loans within a reasonable timeframe.

- Schools already encourage graduating students to prioritize paying down their private student loans over their federal student loans in an effort to reduce loans with higher cost potential. When students prioritize paying off their loans, the highest-rate loan should be the primary focus. Depending on the factors cited above (rate environment and duration of loan) this is usually the case even if it is at a fixed interest rate.

What is an APR?

The Annual Percentage Rate (APR) is the total cost to the borrower expressed as a single percentage number. It represents the actual yearly cost of borrowing over the term of a loan, including fees or additional costs associated with the loan.

- Why is the APR lower on a deferred loan and higher on a loan with immediate interest or principal and interest payments?
  - When a loan is structured to pay the accruing interest immediately, a consumer realizes the full cost of borrowing upfront when making the payments, which covers the accrued interest. Therefore, the APR is very close to that of the interest rate.
  - In the case of a deferred loan, the borrower does not make any payments during the interim; thus, the cost is deferred until repayment begins, which lowers the APR.
- Fees will increase the APR as they add to the total cost of borrowing.

Before making borrowing decisions of any kind, consumers should **consider all available options**, educate themselves on terminology and pricing elements they do not fully understand, and carefully weigh their needs against the product offer and total loan cost. When in doubt, it's always a good idea to consult a financial advisor.

1) Source: www.investopedia.com
2) Source: www.bankrate.com
3) Source: http://www.wsjprimerate.us