A NEW MARKET REALITY:

Investing in a Rising Rate Environment

FOR SCHOOL BUSINESS OFFICIALS,

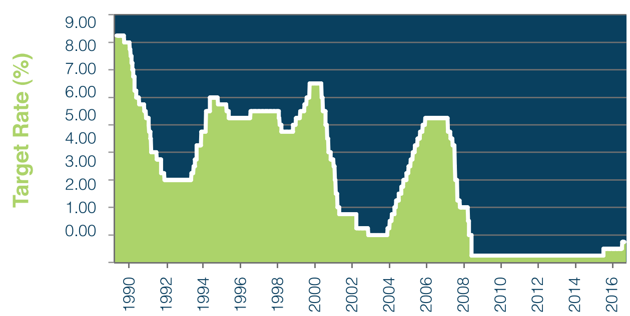
rising interest rates represent an opportunity to generate greater interest income for their school districts. However, with interest rates having been so low for so long, rising market rates are unfamiliar and can present risks. The question becomes, “How should our district’s investment strategy change in a rising rate environment?” The answer begins with developing a plan and investing with purpose.

We are emerging from a long period of extraordinarily low interest rates. In December of 2008, the Federal Reserve’s Federal Open Market Committee reduced its benchmark interest rate to a historic low of between zero and a quarter percentage point.[1] During this unprecedented period, many government investors found that a suitable investment plan was to leave much of their cash in accounts such as money market funds or checking accounts paying an acceptable earnings credit.

As interest rates rise, this short-term investment strategy may no longer be optimal for certain school districts. In December of 2015, the Federal Reserve increased interest rates a quarter of a percentage point due to sustained improvement in market and economic conditions. The Federal Reserve boosted rates another quarter of a point in December 2016 while also announcing plans to hike rates three more times in 2017, reflecting positive projections for the U.S. economy.

FEDERAL FUNDS RATE (FIGURE 1)

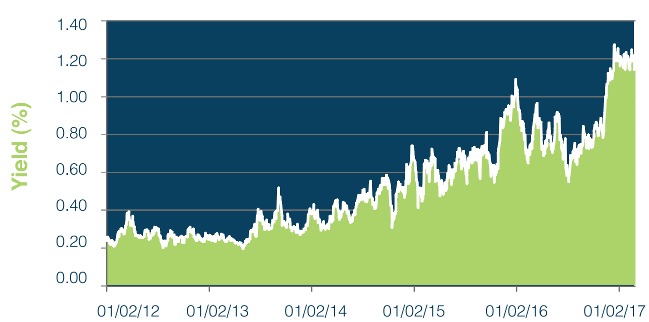
SOURCE: BLOOMBERG

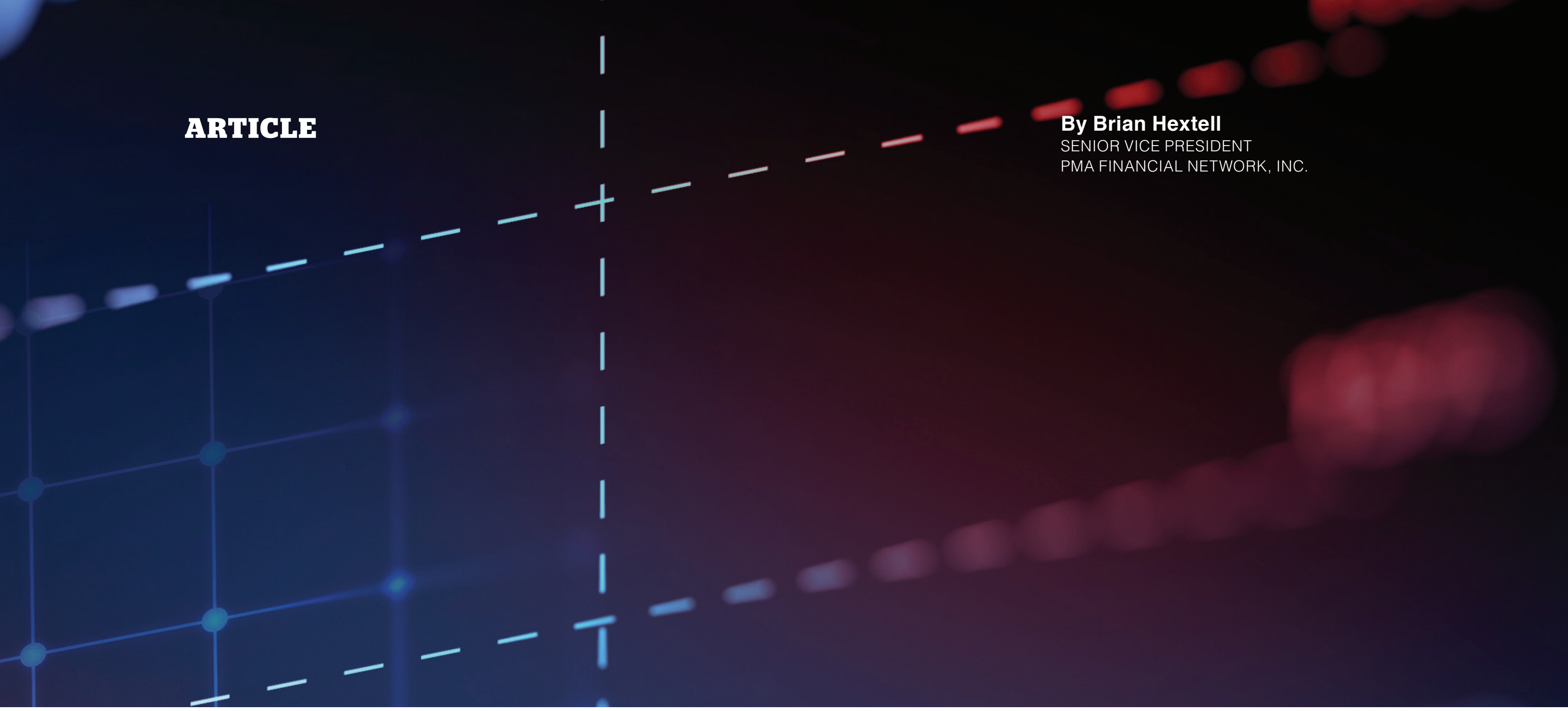


The Effective Federal Funds Rate remains very low by historical standards, as can be seen in Figure 1. However, the Fed’s target rate does not tell the entire story because markets are forward looking. Figure 2 shows that two-year Treasury rates began increasing well in advance of the Fed’s December 2015 rate hike. Furthermore, two-year Treasury rates have increased by more than the 0.50% that the Federal Reserve has raised rates since 2015. Rising Treasury rates reflect the market’s expectations for future economic and market conditions.

TWO-YEAR TREASURY (FIGURE 2)

SOURCE: BLOOMBERG





ARTICLE

By Brian Hextell
SENIOR VICE PRESIDENT
PMA FINANCIAL NETWORK, INC.

INVESTING WITH PURPOSE

For most school districts, the investment objective can generally be described as maximizing investment income while first investing in assets that protect principal and provide sufficient liquidity to meet cash expenditures. This is the axiom: **Safety, Liquidity and Yield**.

SAFETY

Protection of principal is of primary concern to all school district investors. Discussing all facets of credit analysis and proper collateralization is a complex topic of its own and would require another article to explore in greater detail. *For the purpose of this article, it should be emphasized that each investment vehicle carries unique risks that must be thoroughly understood and analyzed.* All investments should be aligned with state statute and your school district's investment policy. This includes ensuring that all deposits are properly collateralized.

LIQUIDITY

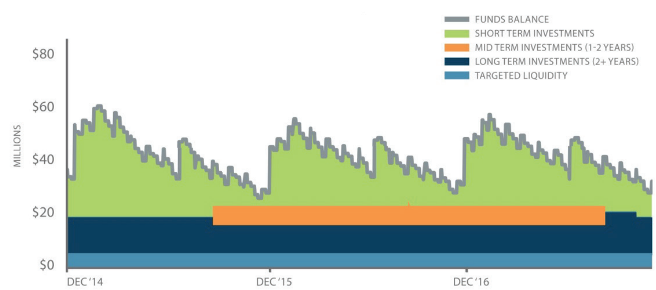
Understanding your district's liquidity needs is where planning becomes the priority. An investment plan begins with preparing a cash flow analysis. Such an analysis can be highly detailed or relatively simple. A cash flow analysis should map out such items as payroll and accounts payable dates and amounts and debt schedules. A detailed, daily cash flow should incorporate specific information such as the accounts payable cycle, payroll cycle and summer payroll to ensure an accurate plan.

Analyzing historical cash flow data can help build a foundation from which to base investment decisions. An effective analysis should isolate anomalies and identify trends. Combined with other district data, a cash flow analysis can provide a complete and reliable financial picture.

Key characteristics of a cash flow investment plan:

- Match all liabilities with an investment maturity.
- Extend investments to benefit from higher rates.
- Plan for cash shortfalls.
- Identify long-term investment potential.
- Maximize interest income.

SAMPLE CASH FLOW ANALYSIS (FIGURE 3)



The analysis or information presented here is based on hypothetical projections and/or past performance that have certain limitations. No representation is made that is accurate or complete or that any results will be achieved.

YIELD

Executing a successful investment plan requires diligence. Simply identifying future liabilities does not result in higher interest income. The value of cash flow analysis is realized when appropriate investments are located and purchased with maturity dates matching the future liabilities, or expense dates.

Investors who, over the past decade, have become accustomed to holding available cash in short-term accounts will find that liability driven investing requires more time and work. The benefits, though, are easy to see.

INDICATIVE INVESTMENT RATES (FIGURE 4)

SOURCE: PMA FINANCIAL NETWORK, INC.

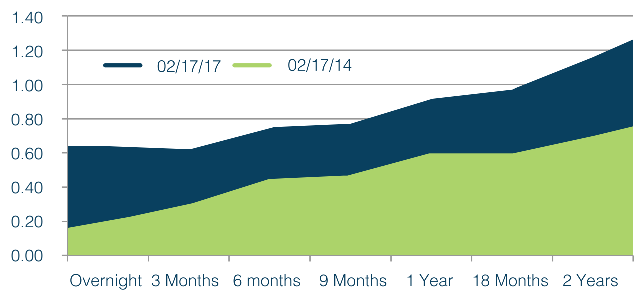


Figure 4 depicts the yield curve today and three years ago. After ensuring short-term liabilities can be met, investors can maximize interest earnings by investing to match liabilities further out the yield curve.

In the past, we have seen that rising interest rates can cause some investors to delay executing investments or invest for shorter terms than their cash flow analysis would indicate. Such investors may conclude that since rates are rising, they are better off waiting to invest until rates rise further. Figure 5 compares a one-year investment to two six-month investments.

1YR VS. 6MO INVESTMENT (FIGURE 5)

Investment Amount		$10,000,000
		INCOME
1-YEAR RATE	0.92%	$ 92,000
6-MONTH RATE	0.75%	$ 37,500
BREAK-EVEN RATE	1.09%	$ 54,500
		$ 92,000

The investor who sticks to his or her cash flow investment plan by investing to the expected liability date one year in the future will earn $92,000 of interest at current interest rates. The amount of interest earned by the investor who chooses the six-month term is only $37,500. To break even, the six-month rate will need to increase by 0.34% to 1.09% in six months. Will this occur? Maybe. Can we plan for this? No.

Attempts to time the market are frequently a losing effort because we live in a world full of uncertainty. However, if we identify an objective and gather and analyze data to formulate a plan, we can reduce investment risks. Planning is not about predicting the future, but rather preparing for it.

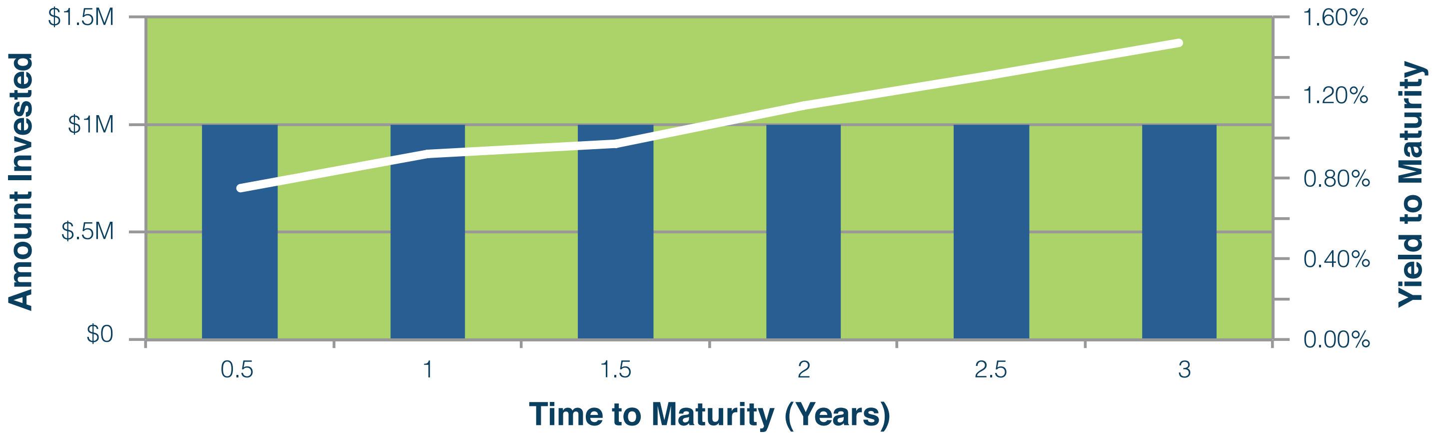
INVESTMENT LADDER

Antoine de Saint Exupéry, a French writer and aviator said, "As for the future, your task is not to foresee it, but to enable it." This quote represents the essence of a disciplined, laddered investment strategy. By investing to future expense dates, a multi-maturity investment strategy, or ladder,[2] is created. This ladder contributes to investment diversification and also reduces reinvestment risk.

What about funds for which there is no known future liability? These are referred to as reserves. A laddered portfolio of evenly spaced bond maturities (every six months for example) is a compelling investment strategy for reserve funds as well.

Figure 6 depicts a three-year ladder for $6 million of reserves. In this example, a $1 million investment matures every six months from 0.5 years through three years. The yield to maturity increases with the time to maturity. Once the ladder is constructed, one investment will mature every six months. If in six months there is no need to spend the maturity amount and the funds remain reserves, the maturity proceeds may be invested to the end of the ladder. In a normal interest rate environment, this three-year investment should represent the highest yield

INVESTMENT LADDER (FIGURE 6)



available between six-months and three years. The three-year investment should not only provide the highest yield, it also protects the investor from a decline in interest rates. Another benefit of a ladder is that it creates regular liquidity in the event of unforeseen expenses.

POTENTIAL RISKS OF RISING INTEREST RATES

Overall, rising interest rates benefit school districts and other short-term investors through higher interest income potential. However, higher interest rates can also present risks. The strategy and investment products chosen can exacerbate or minimize the risks related to rising interest rates.

TIMING THE MARKET

As previously discussed, attempting to time the market is a chief risk. A good adage to remember is time in the market is more important than timing the market. The premise is that staying fully invested should allow you to earn greater interest income. There is an opportunity cost to waiting to invest.

INTEREST RATE RISK

Marketable securities such as government bonds must be marked to market. When interest rates rise, bond prices fall, which can result in unrealized losses. Bond funds consisting of marketable securities can also endure reduced periodic returns as a result of increases in interest rates. Interest rate risk should be measured and understood by the investor.

Duration is a measure of interest rate risk and it represents the approximate percentage change in price for a 100 basis point change in rates. For example, if a portfolio has a duration of two and a half years and interest rates increase by 1.00%, the portfolio is expected to decrease in value by 2.50%. Generally, bonds or portfolios of bonds with longer maturities have greater sensitivity to changes in interest rates. Extending investment maturities longer than your cash flow or investment objectives require can present risks in a rising interest rate environment.

A NEW MARKET REALITY

Market conditions have changed considerably over the last two years. We have moved from a period of historically low, stable interest rates to an environment marked by rising and more volatile interest rates. Professionals responsible for the investment of school district funds must adjust to this new market reality. An investment strategy predicated on cash flow analysis, creditworthy investments and a disciplined investment plan should result in higher interest income for your school district.

Footnotes:

1. https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm
2. http://investinginbonds.com/learnmore.asp?catid=6&id=386