## WHAT CAUSES INTEREST RATES TO VARY?

## I. TERM STRUCTURE OF

 INTEREST RATESHave you ever wondered why different investments offer varying rates of return? There are numerous factors which are taken into consideration when determining interest rates. It is essential to understand what causes interest rates to differ as it can help you, as an investor, as well as businesses, banks and insurance companies, determine which investments to purchase and which ones to sell.

The relationship between interest rates and different terms or maturities is known as the term structure. It is also known as a yield curve, and it plays a central role in an economy.

A yield curve is a line that plots the relationship between the interest rates and time to maturity (at a set point in time) of securities that are of similar credit quality.

The shape of the yield curve gives an idea of future interest rate changes and economic activity.

## Normal Yield Curve

The curve slopes gently upwards as longer-term yields are higher than shorter-term yields, reflecting a gradual increase in interest rates as maturities lengthen out.


Maturity


Maturity

## Inverted Yield Curve

Shorter-term yields are significantly higher than longer-term yields, which is often an indication of an upcoming recession.

On a monthly basis, the Central Bank of Trinidad and Tobago publishes a yield curve in which the interest rate is plotted against the tenor for government-issued securities. The Trinidad and Tobago Treasury Yield Curve (TTTYC) is used as a benchmark for other debt in the market, such as mortgage rates or bank lending rates, and it is also used to predict changes in economic output and growth.

This can be very useful to investors as it can be used to determine the price of securities that are not currently traded. For example, if the newest issue to market has a tenor not previously issued, investors can use the curve to determine the approximate yield and by extension, price, by locating the time to maturity on the $x$-axis and reading the corresponding yield from the $y$-axis at the point where the line intersects the curve. This is especially beneficial when placing bids for Central Bank auctions.

This, however, is not just limited to government securities but it can also be manipulated to determine prices for corporate securities. This is a more subjective process as the yield needs to be adjusted to account for the level of risk associated with the corporate entity.

## Flat Yield Curve

The yields on short and long-term securities are almost identical, which is a predictor of an economic transition.

## Maturity

Trinidad and Tobago Treasure Yield Curve Sep-2017


Source: Central Bank of Trinidad and Tobago

## - Default Risk

The probability that a borrower will not pay the pledged interest and/or principal is known as default risk. Normally, the larger the default risk, the higher the interest rate.

## - Liquidity

The cost required to convert a financial instrument into cash is generally a top consideration for many investors. As such, increased liquidity makes an investment more desirable to potential investors, who will then accept a lower rate of return. Therefore, assets which are less liquid (or illiquid) must pay a higher yield in order to compensate investors.

## - Taxation

The investment's interest rate is also affected by whether or not it is exempted
from taxation for interest payments or capital gains. Generally, instruments that are tax exempt, are able to offer lower interest rates.

## - Information Costs

In order to obtain information, resources, (which have an attached cost,) are required and will therefore reduce the expected return on an investment. If the borrower is not very well known, the information costs increase as research needs to be conducted before potential lenders are willing to buy bonds from such borrowers.

Government-issued securities usually have the lowest interest rates because they are considered low risk as they are backed by the taxing power of the government and default is very unlikely. An example of government -issued securities are Treasury bills.


## 3. TREASURY BILLS

## Purchase Price = Face Value - Discount

Treasury bills (or T-bills as they are commonly known as) are short-term, governmentissued debt instruments. In Trinidad and Tobago, T-bills are issued for periods of three months or six months. They are sold by the Domestic Market Operations Department of the Central Bank of Trinidad and Tobago and are available to both companies as well as individuals.

T-bills are classified as discount instruments, so there isn't an interest rate but rather a discount rate. This means that they are purchased and sold below par and mature at par. Therefore, if an investor decides to invest $\$ 10,000$ in T-bills, the purchase price would equal the price the investor would pay to get $\$ 10,000$ at maturity, which in most cases would be less than $\$ 10,000$. So, instead of calculating principal plus interest, you calculate the face value minus the discount.

For example, if you decided to purchase \$10,000 worth of Treasury bill issue number I 543 on December 13, 2017 which matures on March 18, 2018, and the annualized discount rate is $2.72 \%$, the number of days between the purchase date and the maturity date is 91 .

## Discount $=$ Principal $\mathbf{x}$ Rate $\mathbf{x}$ Time

Discount $=\$ 10,000 \times 2.72 \% \times 91 / 365=\$ 67.81$
Purchase Price $=\$ 10,000-\$ 67.81=\$ 9,932.19$

However, if instead you used the three-month rate from the TTTYC, the discount rate would have been $1.28 \%$, and the purchase price would have been calculated as follows:

$$
\begin{gathered}
\text { Discount }=\$ 10,000 \times 1.28 \%=\$ 128 \\
\text { Purchase Price }=\$ 10,000-\$ 128=\$ 9,872.00
\end{gathered}
$$

As you can see, it is essential to understand the difference in how interest rates are calculated as it can help you in your investing decisions.


## Investment Checklist

Every investor has a unique approach to choosing their investments. This overarching strategy is known as an investment style. A basic understanding of the major investment styles is one of the fastest ways to make sense out of the numerous investments available in today's market. Do you know yours? Consider the following options below and determine what best describes your style as it will help you choose investments that you will be comfortable with in the long term.

## - Active or Passive Investing

Passive investors usually invest for the long haul and they limit the amount of buying and selling within their portfolios, which is very cost-effective. On the other hand, active investing has a more hands-on approach

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and is more expensive as it usually requires a portfolio manager who is regularly trading to gain larger returns for investors.

## - Growth or Value Investing

Growth investors are attracted to companies that are expected to grow faster (by revenues, cash flows, and profits in the future) than the rest. For these companies, growth is the priority so they reinvest their earnings in order to expand, in the form of new workers, equipment, or acquisitions and usually do not pay dividends. On the other hand, value investing is focused on buying a strong firm at a good price. Value investors seek businesses trading at a share price that's considered a bargain. As time goes on, the market will properly recognize the company's value and the price will rise.

## - Small Cap or Large Cap Companies

Market cap - or market capitalization refers to the total value of all of a company's shares of stock. It is calculated by multiplying the price of a stock by its total number of outstanding shares. Some investors think that small cap companies should be able to deliver better returns because they have greater opportunities for growth and are more agile. However, this potential also comes with greater risk as they have fewer resources and often have less diversified business lines. Conversely, large cap stocks tend to be more dependable and appeal to the more riskaverse investors. As these companies are already quite large, they may be unable to grow as quickly but the likelihood of going out of business without warning is very low.

## About the Advisory Services Department

The Advisory Services Department of the Trinidad and Tobago Unit Trust Corporation was established to serve our valued clients seeking financial and investment advice and solutions from a trusted service provider. We will assist you in enhancing your personal wealth and financial well-being by providing you with financial counselling, investment advice and solutions.

