



An Introduction to the Fixed Income Securities and the Fixed Income Securities Market of Sri Lanka

By

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*This article will be published in two sections. The balance will be continued in the next publication of the Journal.
Part 1 of 2.*

1 Fixed Income Securities

Fixed Income Securities are tradable financial instruments that make up a series of pre-determinable future cash flows. By virtue of being securities, they acquire the ability to be traded, meaning, that the holder of a security can sell the security to another party thereby transferring all the rights and obligations. Typically, these are debt obligations where debt obligations unlike equity form pre-determinable future cash flows. These debt obligations are securities and not loans, where the securities can be traded, whereas the loans are not tradable.

2 Debt and Equity Securities

Debt securities are those securities issued in confirmation of debt obligations. A debt obligation arises between a borrower and a lender. A debt security typically carries a maturity value, and a series of interest payments that make up a series of pre-determinable cash flows. Hence, they make up Fixed Income Securities (FISs).

Equity Securities are those issued in confirmation of investments in the equity of a firm. While debt obligations create borrower and lender relationships, the equity securities result in ownership. Those who invest in equity securities become shareholders,

whereas those who buy debt securities being lenders become debt holders of the issuer concerned. The term investment is commonly used to represent investment in equity as well as debt securities.

Unlike a debt security, an equity security does not provide a pre-determinable series of cash flows. Hence, they are not Fixed Income Securities.

There are hybrid instruments such as preference shares and convertible debentures, or bonds that show both debt and equity characters, and can be classified as Fixed Income Securities depending on the extent to which the future cash flows can be pre-determinable.

3 Loans, Debt Securities, and Disintermediation

A loan is a financial obligation between a borrower and a lender. The transaction is on a one to one basis, and the settlement too is between the two parties. The loan does not result in a tradable security. Hence, under normal circumstances, the lender cannot sell the loans without the consent of the borrower, except where there are provisions for transfer and assignment.

A debt security too arises from a financial obligation between a borrower and a lender, but they create a tradable security as a result of the

transaction. Such security can be traded by the debt holder (lender), without the prior consent of the issuer (the borrower).

The foregoing analysis shows that there are two market segments arising from debt obligations viz. Debt Securities Market and Loan Market.

The debt securities market can also be identified as the Fixed Income Securities market as the debt securities form Fixed Income Securities. In this market, the party having funds to invest directly invests with the borrower. Such investment is facilitated by two types of market players viz. debt brokers and dealers.

In the loan market, the lending, typically, is done by a financial intermediary such as a bank or a finance company. The ultimate lender would be a depositor of such bank or the finance company. The intermediary assumes liability to the depositors, and raises funds which are in turn lent to the borrowers. Such borrowers are identified as 'Deficit Units,' whereas the depositors are identified as 'Surplus Units.' The financial institutions act as the intermediaries between the surplus units and deficit units.

In the debt securities market, however, there is no such intermediation, and the surplus units directly invest with the deficit units. The obligations of the deficit units are direct to the surplus units and not to the intermediary. This is the key difference between the intermediary driven loan market and the disintermediation through the debt securities market. However, even the securities market requires facilitation by market players such as dealers and brokers.

4 Key Features and Terminology of Fixed Income Securities

4.1 Bills and Bonds

A Bill is a security that, typically, has a short maturity period up to one year. Further, the Bill is issued at a discount, and there is no coupon interest attached to the Bill. Treasury Bills are the most common of Bills that represent a segment of the Fixed Income Securities market.

A Bond typically has a maturity in excess of two years. There is, of course, no hard and fast rule as to the definition of a period. The most common Bonds are those issued by the governments, being Treasury Bonds.

Debentures are also instruments similar to Bonds. In most markets, the two terms are used interchangeably. In certain markets, unsecured corporate debt is called debentures, whereas secured debt and government securities are referred to as Bonds. Different types of Fixed Income securities will be discussed later in the paper.

4.2 Par Value of a Bond

This is the value at which the instrument is recorded in the books of the issuer. This is most likely to be the maturity value and face value as well. Unless otherwise stated, a bond's par value is considered to be 100 units of the currency, e.g. LKR 100. Interest on a bond is calculated based on the par value.

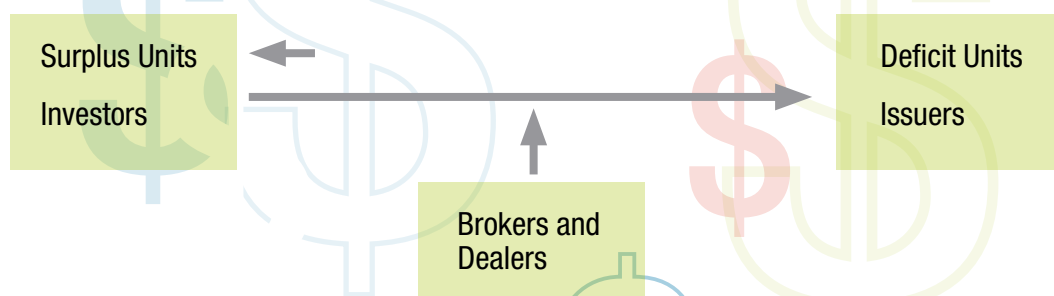
4.3 Maturity Value

This is the value paid at the maturity of the bond. Generally, this is the same as the par value. This could

Figure 1. Loan Market with Intermediation



Figure 2. Securities Market with Disintermediation





also be the redemption value which is the value at which the bond will be redeemed.

4.4 Face value

This is the value stated on the face of the bond. It is most likely that the face value is the same as the par value and also the maturity value.

4.5 Coupon rate

The coupon rate is the rate at which interest is calculated on a Bond. The value of the interest payment is equal to the par value multiplied by the coupon rate.

4.6 Interest Coupons

The interest payments on a Bond are calculated based on the par value and the coupon rate as stated above. A bond will carry the interest coupons for the purpose of claiming the interest payments by the holders. The value of the interest coupon is the par value multiplied by the coupon rate. This value is called the coupon value.

4.7 Coupon Frequency

A bond may have interest payments taking place either semi-annually or annually. Some issuers do have interest payment made quarterly or monthly.

4.7.1. Annual Coupon Bonds

These bonds will pay interest once a year.

4.7.2 Semi-Annual Coupon Bonds

These bonds will pay interest once in six months. The value of the semi-annual coupon will be calculated by multiplying the par value by the coupon rate, and then taking half of the value as applicable for six months.

4.8 Term to Maturity

This is the period to maturity from a given point of time. In other words, it is the unexpired period to maturity.

4.9 Issue Price

This is the price at which a security is issued to the market. The issue price is normally decided by the issuer, or allowed to be market determined where an auction process will determine the issue price.

4.10 Market Price

This is the price at which a bond is traded in the market. The bond price will vary according to the demand for and supply of bonds. This, in turn,

would be a function of the interest rates. The price of a Bond is equal to the present value of its future coupon payments and the maturity proceeds. The rate of return applicable for discounting to arrive at the present value is the prevailing interest rate. If it is a government security, then, it is the risk free return applicable for the term of the bond. If it is any other type of bond, a credit risk premium may be applied over and above the risk free return.

When interest rates go up, the present value of future cash flows will go down. Similarly, when interest rates go down, the present value goes up. Accordingly, the price of a bond will go down or up in the opposite direction to that of the change of the interest rates. Hence, the Bond prices have an inverse relationship to the changes of the interest rates.

4.11 Discounts and Premiums

A bond is traded at a discount, if the bond price is below par value. The difference between the par value and the price is the discount.

A bond is traded at a premium, if the market price is above the par value. The price less the par value is the premium.

A bond is supposed to sell at par if the price is equal to par value.

4.12 Yield to Maturity (YTM)

A bond has a series of cash flows associated with it. The bond holder pays the price to acquire it, and the price paid is the outflow. Then, he receives the regular coupons as a series of inflows, and finally, the maturity proceeds. The effective return that the bond holder gets, considering the outflow and the series of inflows calculated and considering the timing of the cash flows as well, is the Yield to Maturity (YTM) of the bond. The Yield to Maturity is the IRR (Internal Rate of Return) of the investment in the bond. When the market interest rates go up, the YTM demand of a bond goes up. When the YTM goes up, the price goes down, as explained, given the inverse relationship.

4.13 Fixed Rate v Floating Rate Bonds

A fixed rate bond is a bond of which the coupon rate applicable for the entire tenure of the bond is fixed at the time of issue. Therefore, the coupon value will not change in the future.

A Floating rate bond (A Floater) is a bond of which the coupon rate is linked to some kind of a reference rate with or without a margin. The reference rate has to be a transparent, and readily determinable rate. For example, a five-year floating rate bond may be issued with the rate stated as two percentage points over

the six months Treasury Bill Rate. Accordingly, the coupon rate applicable on this bond will be re-priced every six months based on the prevailing Treasury Bill rate with the margin. The advantage of a floater is that the holder gets interest that varies based on the market interest rates. The disadvantage would be that the holder cannot fix the rate of return for the entire duration.

In a floater, the coupon adjusts according to the market return. Therefore, when determining the price, both the coupon as well as the required interest rate are changed at the same time. If the rates go up, then the coupons go up, and also, the required return go up too. Hence, the present value of the future cash flows of the bond tend to be around the par value. Therefore, floating rate bonds have less price volatility. This is in contrast with the fixed rate bonds where the coupons are fixed, and hence, the cash flows are fixed. When the required return changes due to changes in the market interest rates, the bond price will keep changing.

4.14 Zero Coupon Bonds

A zero coupon bond is a bond of which the coupon rate is zero, and hence, no coupon payments. Treasury Bills are zero coupon instruments. A zero coupon bond is issued at a sufficient discount such that the value of the discount makes up the required return on the bond.

4.15 Deep Discount Bonds

These are bonds issued at significant discounts to the par value. The reason for the deep discount would be a very low coupon. The return not compensated by the coupon rate will be compensated by the deep discount.

4.16 Secured v Unsecured Bonds

A secured bond is issued with the backing of collateral so that in the event of default by the issuer the bond holder could take steps to realise the security. An unsecured bond does not have such backing of collateral.

4.17 Redeemable v Irredeemable Bonds

Typically, bonds are redeemable. The maturity value is paid at maturity. However, there are also bonds that may not be redeemable. They would be similar to shares issued by the company with no provision for buy back. The holder can convert the bond into cash by selling in the secondary market. Irredeemable bonds are extremely rare and not popular.

5 Bond Sectors by Issuers

Bonds are issued by different types of issuers. The bond will acquire a particular identification depending on the issuer. The following are the typical bond issuers and the terms applicable to the respective bonds as prevalent in the Bond market of the United States America, the largest bond market in the world.

- Sovereign Bonds
- US Semi Government (Federal Agency) Bonds
- Municipality Bonds
- Corporate Bonds

5.1 Sovereign Bonds

Sovereign Bonds of USA are those that are issued by the federal government. Similarly, sovereign bonds are issued by all the governments around the world including Sri Lanka. These bonds have the full faith and credit of the central government so that they are considered the least risky of all the assets in the economy.

5.2 US Semi-Government (Federal Agency) Bonds

These are bonds issued by the US government agencies. They are of two types.

5.2.1 Federally Related Institutions

These are arms of the Federal Government. Some examples are Export Import Bank of USA, Tennessee Valley Authority, The Commodity Credit Corporation, Farmers Housing Administration, General Services Administration, Government National Mortgage Association (Ginnie Mae), The Maritime Administration, The Private Export Funding Corporation, the Rural Electrification Administration, The Rural Telephone Bank, etc.

5.2.2 Government Sponsored Enterprises (GSEs)

These are publicly chartered entities not owned by the Government. Some examples are Federal National Mortgage Association (Fannie Mae), Federal Home Loan Mortgage Corporation (Freddie Mac), Federal Agriculture Mortgage Corporation (Farmer Mac), Federal Farm Credit Association, Federal Home Loan Bank system, Student Loan Marketing Association (Sallie Mae).

5.3 State and Local Government Bonds (Municipality Bonds)

These are Bonds issued by the local governments. The bonds are serviced through the collection of local government taxes and other revenue streams. There is credit risk involved in these instruments as they are not fully backed by the guarantee of the central



government. Hence, these instruments would yield returns higher than the yields of Sovereign bonds.

5.4 Corporate Bonds

Corporate Bonds are issued by companies or large corporations. These instruments do carry credit risk, and the extent of credit risk varies depending on the financial strength of the issuer. Credit Rating Agencies assign ratings to the instruments so that the level of credit risk can be identified by referring to the credit rating.

6 A Comparison of Bond Sectors and the Sri Lankan Fixed Income Securities Market

Sri Lankan bond market is by and large dominated by the Government securities market. The Government is the single largest issuer of fixed income securities. The key reason for this is nothing but continuous fiscal deficits encountered by successive governments that make it necessary to go to the public to raise funds by way of borrowings.

The following Table illustrates the total domestic government securities outstanding at the end of 2006. As indicated in the table the total outstanding local currency securities was Rs 1,143.7 bn. Of this, Rs 257.7 bn was in the form of Treasury Bills, while Rs 885.9 bn was in the form of Treasury Bonds. The total domestic public debt of Rs 1,475 bn also

comprised of other forms of borrowings including Rupee Loans 116.7 bn which are non tradable loans that do not come under the fixed Income securities category.

The total Treasury Bills outstanding as of December 26, 2007 was Rs 300.2 bn, whereas the total Treasury Bonds outstanding was Rs 1060.3 bn, totalling to Government Securities of Rs 1,360.5 bn.

There are hardly any reported instances of government agencies or government corporations raising funds by issuing bonds in the domestic market. This, in fact, is a serious vacuum in the bond market and lost opportunities for the government agencies that have the potential to raise funds in this manner.

In Sri Lanka, there are also no debt issues by the local governments. Hence, the Municipality Bonds are another missing sector.

The Corporate Bond market in Sri Lanka is confined to a very limited number of issues of securities particularly the listed debentures issued by commercial banks to raise funds for capital adequacy purpose. The total outstanding amount of listed debentures is estimated to be around Rs 25 bn at the end of 2006.

The above table illustrates the insignificant size of the Corporate Debt market particularly in relation to the Government Securities market. While the total Government Securities outstanding at the end

Table 1: Government Debt - Annual (1990-2006)

Year	Treasury Bills	Treasury Bonds	Domestic			Total	Foreign	Total	Total Debt as % of GDP
			Rupee Loans	Other					
1990	67,968	0	54,676	11,253	133,897	176,883	310,780	96.6	
1991	72,968	0	66,823	12,328	152,119	214,579	366,698	98.5	
1992	87,096	0	69,180	13,744	170,020	235,539	405,559	95.4	
1993	97,196	0	105,707	10,782	213,685	270,224	483,909	96.9	
1994	98,896	0	137,554	12,669	249,119	301,812	551,906	95.1	
1995	113,771	0	157,928	17,711	289,410	346,286	635,696	95.2	
1996	124,996	0	205,975	25,732	356,703	359,390	716,388	93.3	
1997	114,996	10,000	239,475	23,269	387,740	376,331	764,071	85.8	
1998	119,996	48,915	250,570	43,945	463,426	461,273	924,699	90.8	
1999	124,996	104,867	262,056	51,546	543,465	507,866	1,051,331	95.1	
2000	134,996	204,124	263,888	73,652	676,660	542,040	1,216,700	96.9	
2001	170,995	229,174	292,813	122,983	815,965	636,741	1,452,706	103.2	
2002	210,995	347,128	287,701	102,562	948,386	721,956	1,670,342	105.4	
2003	219,295	483,107	248,414	69,153	1,019,969	843,882	1,863,851	105.8	
2004	243,886	643,349	164,758	91,396	1,143,389	996,138	2,139,526	105.5	
2005	234,174	751,569	140,563	139,415	1,265,721	956,620	2,222,341	93.9	
2006	257,732	885,972	116,713	215,103	1,475,520	1,131,074	2,606,594	93.0	

Source : Central Bank of Sri Lanka

Table 2: Corporate Debt Market – Some Key Data

	2006	2005	2004
Turnover Rs Mio (?)	405	206	199
No of Trades	321	625	1,362
No Of debentures Traded	2,421	2,211	2,193
Market Capitalisation	N/A	24.6	12,471
No of Issues	7	8	14
No of Issuers	2	2	4
Amount Raised Rs Mio (?)	1,257	350	3,163
No of New New Listings	0	1	0

Source: Publications of the Colombo Stock Exchange

of December 2006 was Rs 1,143 bn, the total listed Corporate Debt at the end of December 2006 is estimated to be around Rs 25 bn.

End of part 1 of 2.

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