BONDS 101
WEBINAR
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Head of Fixed Income
Pru Life UK Investments
Summary

- Bonds Overview
- Basic Components of Bonds
- Coupon Setting
- Yield-to-maturity
- Returns and Risks of Bonds
- Why invest in bonds?
What are bonds?

A bond is a loan issued or sold by a **borrower** (bond issuer) and purchased by a **lender** (bond investor).

Borrowing by way of issuing bonds is one means governments and corporations use to obtain **resources/capital** to fund their projects or initiatives.
What are bonds?

Fixed Income is a broad term that refers to a type of investment – more commonly known as **bond investments** – that pays a fixed interest until its maturity date.

**Fixed Interest Rate**

- **Periodic Payout**
- **Set Maturity**
What are bonds?

What’s the difference between stocks and bonds?

**Stocks or Equity Investments**
- You own a part of ABC Company (Ownership). *Ikaw ay isa sa mga may aring kompanya (shareholder).*

**Bonds or Fixed Income or Investments**
- ABC Company owes you (Debt). *Ikaw ay inutangan ng kompanya (bondholder).*
What are bonds?

Basic Components of a Bond

- **ISSUER**
- **FACE VALUE AND PRICE**
- **COUPON AND FREQUENCY**
- **ISSUANCE AND MATURITY DATE**
Bond Issuer

The **Issuer** of the bond or the **Borrower** is the entity that promises to make the payments - both coupon and face value - to the bondholders.

Some examples of Issuers or Borrowers are:
1. Central Governments – **Republic of the Philippines**
2. Corporations – Metrobank, Ayala Corp, SM Group

No two borrowers/issuers are the same...
Bond Issuer

Credit rating agencies are independent rating agencies that analyze and publish ratings across all types of issuers.

They periodically review ratings based on factors such as but not limited to:
- Company history and recent developments
- Short and long-term corporate strategy
- Analysis of business and financial risks
- Analysis of the management team

They can upgrade or downgrade a credit’s ratings outlook (positive, negative, stable) and eventually the credit rating itself.
Bond Issuer

Issuer Profile
Republic of the Philippines
Emerging Market – South East Asia
GDP - $383 billion
Population - 108.31 million
GDP per Capita - $3,536.15
Debt to GDP - 41.50%

Credit Rating
S&P BBB+ stable 5/7/20
Fitch BBB stable 4/30/19
Moody’s Baa2 stable 12/11/14
***PHP, USD, JPY, CNY, EUR
Denominated Issuances

Philippine Government Bonds

- PHP Bonds 78%
- USD Bonds 18%
- Others 4%

PHP 7.343 Trillion Market
(total outstanding debt)

*as of June 2020 - Bloomberg
There are a total of 53 Corporate Issuers Listed in the Philippine Dealing Exchange or PDEX.

Top 3 Largest Issuers (PHP and USD)
- **SMCGL** – San Miguel Global Power (190b),
- **BDO** – BDO Unibank (125b),
- **ALI** – Ayala Land Inc. (119b)
**Bond Face Value (FV)**

The **Face Value** or principal of a bond is the amount of bonds bought by the bondholder.

The face value of the bond is also the amount to be received upon maturity.

The face value of the bond also determines the amount of coupons to be received by the bondholder.

**Example:**
Client A bought PHP 1 million Face Value of a 10-year ROP bond in the primary market.

- **Philippine Government**
- **To Fund Government Build x3 Projects**
- **Primary Market**
- **ROP 3.00% 2030 PHP 30bln**
- **10yr Bond maturing 2030**
- **3.00% Coupon Semi-Annual**
- **Client owns 1mio of the 10bln issuance**
- **Client borrows total PHP 10bln**
- **To Fund Government Build x3 Projects**
**Bond Price**

The **Price** represents the value of all the cashflows of the bond – coupons and maturity value.

During the primary issuance of the bond, most bonds are valued at par or at 100 or 100%. The price of the bond is affected by the general movements of interest rates.

**Example:**
Client A bought PHP 1 million Face Value at 100 Price or Par Value of a 10-year ROP bond in the primary market.
Investor bought PHP 1mio (Face Value) of ROP (Issuer) 3.00% 2030 at 100 or par (Price) with market value of PHP 1mio x 100% or PHP 1mio.
Coupon Setting

The **Coupon** of the bond is the set interest rate that the issuer promises to pay the bondholder. The coupon is an annual rate.

**Coupon Frequency** sets how many times the bondholder receives part of the coupon of the bond.

**Coupon Formula**
(per coupon payment date)
= coupon rate / frequency x face value
Coupon Setting

Example:
ABC Corp. issues a 2-year bond with a **2.5% coupon** (gross of tax) on July 1, 2020 (Issue Date).

An investor bought **PHP 1 million face value** of the bond.

The bond would pay the bondholder **PHP 25,000** of coupon in total annually or **PHP 50,000** in total for the duration of the bond.
## Coupon Setting

### Coupon paid on issuance anniversary

<table>
<thead>
<tr>
<th>Date</th>
<th>Face Value</th>
<th>Coupon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 1, 2020</td>
<td>(1,000,000)</td>
<td></td>
</tr>
<tr>
<td>Jul 1, 2021</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>Jul 1, 2022</td>
<td>1,000,000</td>
<td>25,000</td>
</tr>
</tbody>
</table>

### Coupon paid every 6 months

<table>
<thead>
<tr>
<th>Date</th>
<th>Face Value</th>
<th>Coupon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 1, 2020</td>
<td>(1,000,000)</td>
<td></td>
</tr>
<tr>
<td>Jan 1, 2021</td>
<td>12,500</td>
<td></td>
</tr>
<tr>
<td>Jul 1, 2021</td>
<td>12,500</td>
<td></td>
</tr>
<tr>
<td>Jan 1, 2022</td>
<td>12,500</td>
<td></td>
</tr>
<tr>
<td>Jul 1, 2022</td>
<td>1,000,000</td>
<td>12,500</td>
</tr>
</tbody>
</table>

### Coupon paid every quarter or every 3 months

<table>
<thead>
<tr>
<th>Date</th>
<th>Face Value</th>
<th>Coupon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 1, 2020</td>
<td>(1,000,000)</td>
<td></td>
</tr>
<tr>
<td>Oct 1, 2020</td>
<td>6,250</td>
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<tr>
<td>Jan 1, 2021</td>
<td>6,250</td>
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<tr>
<td>Apr 1, 2021</td>
<td>6,250</td>
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<tr>
<td>Jul 1, 2021</td>
<td>6,250</td>
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<tr>
<td>Oct 1, 2021</td>
<td>6,250</td>
<td></td>
</tr>
<tr>
<td>Jan 1, 2022</td>
<td>6,250</td>
<td></td>
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<tr>
<td>Apr 1, 2022</td>
<td>6,250</td>
<td></td>
</tr>
<tr>
<td>Jul 1, 2022</td>
<td>1,000,000</td>
<td>6,250</td>
</tr>
</tbody>
</table>

**Return**

- Annual Coupon: 50,000
- Semi-Annual Coupon: 50,000
- Quarterly Coupon: 50,000
Coupon Setting

What determines the level of interest rates/coupons issuers pay when they issue bonds in the primary market?

- Credit Rating
- Economic Conditions
- Liquidity + Supply & Demand
- Tenor
Credit Rating

The higher the credit risk, the higher the interest rate. Investors should be compensated for the credit risk they are exposed to.

Generally set by comparing similar credits as well as using credit ratings as a basis.

**Example: 5yr USD bonds**
- USA AA+ Stable 0.20%
- South Korea AA Stable 1.15%
- Philippines BBB+ Stable 1.00%
- Vietnam BB Stable 2.00%
- Sri Lanka B- Stable 12.00%
- Lebanon CC Negative 60.00%
Economic Conditions

The higher the inflation rate, the higher the return investors would require to compensate their deferred spending.

The higher the expectation of economic growth the higher the interest rate and the more return investors will demand from bonds.
Economic Conditions

Given *lower growth*
from 6-7% to -3%-6.5%
and *slower inflation*,
from 2.5%-3.5% to 2.0-3.0%
coupon rates for new bonds issued will be lower than they were start of the year.
Liquidity

The higher the liquidity of the bond, the lower the interest rate investors would require.

Liquidity is measured by the **breadth** (number of participants)

and **depth** (volume available in both the bid and offer side) of the bond.
Supply & Demand

**Supply** – Amount / Face Value to be Issued. Set with a schedule called a borrowing schedule (government issuers).

Primary issuances are normally announced beforehand to check which tenor and yield would have demand.

**Demand** – Amount of Bids in a primary issuance. Can influence the coupon setting. The greater the demand the greater the ability of issuer to lower borrowing cost.

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**Philippine Government**

**Primary Market**

**Bids PHP 60bln**

**ROP 3.00% 2030 PHP 30bln**

**To Fund Government Build x3 Projects**

**Bidding Schedule**

**10yr Bond maturing 2030**

**3% Coupon Semi-Annual**

**2x Bid to Cover**
Issuance and Maturity Date

The **Issuance Date** of a bond is the start date of the agreement of the bondholder and issuer.

This is when the bondholder turns over his principal to the issuer.

The **Maturity Date** is when the issuer repays the principal of the bond and ends the agreement.

### Semi-Annual Coupon

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<td>12,500</td>
<td></td>
</tr>
<tr>
<td>Jul 1, 2022</td>
<td>1,000,000</td>
<td>12,500</td>
</tr>
<tr>
<td>Return</td>
<td>-</td>
<td>50,000</td>
</tr>
</tbody>
</table>
Tenor

The Tenor of a bond is the difference of the Maturity Date and the Issuance Date.

The longer the tenor of the bond, the greater the risk attached to it.

An investor will demand a higher coupon for a longer-term bond compared to a short-term bond.

<table>
<thead>
<tr>
<th>Yr</th>
<th>Yield</th>
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</thead>
<tbody>
<tr>
<td>1y</td>
<td>2.150</td>
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<tr>
<td>2y</td>
<td>2.200</td>
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<tr>
<td>3y</td>
<td>2.262</td>
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<tr>
<td>4y</td>
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<td>5y</td>
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<td>6y</td>
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<td>10y</td>
<td>2.797</td>
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<td>12y</td>
<td>2.893</td>
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<tr>
<td>15y</td>
<td>3.245</td>
</tr>
<tr>
<td>20y</td>
<td>3.500</td>
</tr>
<tr>
<td>25y</td>
<td>3.586</td>
</tr>
<tr>
<td>30y</td>
<td>3.589</td>
</tr>
</tbody>
</table>

A difference of 1.30% in investing in 2yr and 20yr bond.

PH GS Yield Curve

Yield Curve June 2020

20yr 3.50%

2yr 2.20%

A difference of 1.30% in investing in 2yr and 20yr bond.
Components Summary

- Bond Issuer/Borrower
  - Government Corporation

- Primary Market

- Bond/Debenture
  - Pays Periodic Interest
  - Repays Principal at Maturity

- Secondary Market

- Bond Holder/Lender
  - Banks
  - Asset Managers
  - Individuals
Components Summary

Philippine Gov't

Primary Market

ROP 3.0% 2030

10yr Bond maturing 2030
3.0% Coupon Semi-Annual

Secondary Market

Investor

To Fund Gov't Build x3 Projects

Banks
Asset Managers
Individuals
What is Yield-to-Maturity?

While the coupon of the bond is set or fixed upon issuance of the bond, the yield-to-maturity or YTM of the bond is ever changing, depending on market circumstances.

When yields rise, the price of the bond decreases.

When yields fall, the price of the bond increases.

This is the inverse relationship of yield and price in bonds.
What is Yield-to-Maturity?

Example:
Investor A bought a 10yr bond at 100 or par with a 3.00% annual coupon on issuance date.

After 1 year...

Scenario 1: YTM Lower
The YTM of the now 9yr bond is 2.50% or 0.50% lower.

The price of the bond is now 104 or an unrealized gain of 4%.

Scenario 2: YTM Higher
The YTM of the now 9yr bond is 3.00% or 0.50% higher.

The price of the bond is now 96.20 or an unrealized loss of 3.8%.

Premium Bond

Discount Bond
Returns and Risks of Bonds

Sources of Return

**Coupon Income** – Investors expect to gain from the regular fixed income of bond investments.

**Capital Gains** – Investors can also gain from the capital appreciation of the bond should they sell the bond when the *yield to maturity (YTM) of the bond is lower* from when they bought the bond

OR if when they sell the bond when the *price is higher* from when they bought it.
Returns and Risks of Bonds

Sources of Risk

**Default Risk** – Investors may incur loss should their issuer default from their obligations, particularly in the return of the face value.

**Capital Loss** - Investors can also incur loss from the capital depreciation of the bond should they sell the bond when the *yield to maturity (YTM)* of the bond is higher from when they bought the bond.

OR if when they sell the bond when the *price is lower* from when they bought it.
Why Invest in Bonds?

**Capital Preservation**: You get your face value (principal) so long as the issuer does not default.

**Fixed Income**: Coupon is fixed until the maturity of the bond.

**Capital Appreciation**: The bond’s price increases as the YTM decreases.

**Diversification**: Bond’s have different risk and return characteristics.
Why Invest in Bonds?

PH Financial Assets 5yr Returns

- Fixed Income: +38.4%
- Equities: -17.9%

PH Financial Assets 10yr Returns

- Fixed Income: +134.3%
- Equities: +84.1%
Final Points

Bonds are built on **trust** and **commitment**.

The issuer promises 2 things:

1. **Pay Principal** - To repay back the principal or capital at a predetermined date or what we call the maturity date.

2. **Pay Interest** - To pay regular and periodic interest payments known as the coupon rate throughout the life of the loan.
Final Points

Bonds Investments should be part of every portfolio — either through direct bond investments or through Fixed Income UITFs or Mutual Funds.
End of Presentation

Thank you!