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HOW TO BUILD A BOND PORTFOLIO 101

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WHY WE NEED TO HAVE A STRATEGY FOR FIXED INCOME PORTFOLIOS?

Want to learn how to build a cash flow machine using bonds? Then read on!

Investing in bonds is not rocket science and they are the perfect instrument in creating a cash flow machine. Firstly, what you need is a clear strategy to construct your portfolio. This paper will look into four different strategies to help you.

Implementing a portfolio strategy is like driving a car on a long road trip. Solid horsepower is important to climb the steep mountain highways and move across tough terrains, but you also want something reliable so it does not break down when you least need it to. Just imagine your car breaks down in the middle of a fjord in Iceland. Building a basket of bonds gives you that engine of reliability.

Below is a table of the common types of bonds you will find.

Types	Characteristics	Purpose
GOVERNMENT / QUASI-SOVEREIGN	US treasury, Singapore government bonds, German Bunds	Cash management solutions. Buying longer maturity bonds are a proxy bet against a fall in interest rates.
CORPORATE BONDS	Bullet bonds with a standard maturity date, semi-annual coupon.	This forms the bulk of your bond's portfolio, generating your alpha with lower volatility and risk.
PERPETUAL SECURITIES	Considered hybrid securities, not bonds. They rank below corporate bonds but above equity in a capital structure.	If we are confident of a company's financial standing, going down the credit structure to buy perpetual securities make sense.
CONTINGENT CONVERTIBLES DEBT	These are a special type of perpetual security issued by banks, which can be partially or wholly written down even though they rank higher than common equity.	Strong contender to enhance the yield of your portfolio. While there is a possibility of a write-down of your investment, the probability remains significantly low for top rated banks.

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DON'T WORRY ABOUT THE YIELD CURVE

"You don't command wind in the direction it blows, but you command a ship in the direction it sails."

DON'T WORRY ABOUT THE YIELD CURVE

The fear of rising interest rates affecting a bond portfolio is deeply exaggerated. We should not be worrying too much about where interest rates are heading. Making sure your bonds do not default is key.

We conducted a scenario test where we randomly purchased a basket of 15 bonds (with credit ratings between B+ and BBB+) with a maturity of up to five years during 2018.

Each bond holds an equal proportion in the portfolio and is denominated in USD.

Bond Securities	Yield to Maturity	Credit Ratings
Sino-Ocean Group 4.625% due 30 Jul 2019	3.96%	BBB-
African Export-Import Bank 4.75% due 29 Jul 2019	3.24%	BBB
National Savings Bank 5.15% due 10 Sep 2019	5.29%	B+
Turkiye Is Bankasi 5% 30 Apr 2020	7.05%	BB
Peking University Founder Group 4.575% due 20 Apr 2020	7.22%	Not Rated
Metallurgical Corporation of China 2.95% due 31 May 2020	3.94%	BBB+
Logan Properties 6.875% due 24 Apr 2021	7.80%	BB-
Tsinghua Unigroup 4.75% due 31 Jan 2021	6.60%	Not Rated
Yuexiu REIT 4.75% due 27 Apr 2021	4.51%	BBB-
Press Metal Labuan 4.8% due 30 Oct 2022	6.61%	BB-
Sberbank 5.125% due 29 Oct 2022	5.15%	BB
DAMAC Properties 6.25% due 20 Apr 2022	7.37%	BB
Bharti Airtel International 5.125% due 11 Mar 2023	5.30%	BBB-
Yanlord Group 6.75% due 23 Apr 2023	6.74%	BB-
Teva Pharmaceuticals 2.8% due 21 Jul 21 Jul 2023	5.90%	BB

We assumed interest rate increase of 1%, 3% and 4% between 2019 and 2023 in three scenarios.

The cumulative total returns (capital losses + coupon returns) would still have been positive after five years.

If interest rates rose 1% between 2019 and 2023, cumulative total returns would have been:

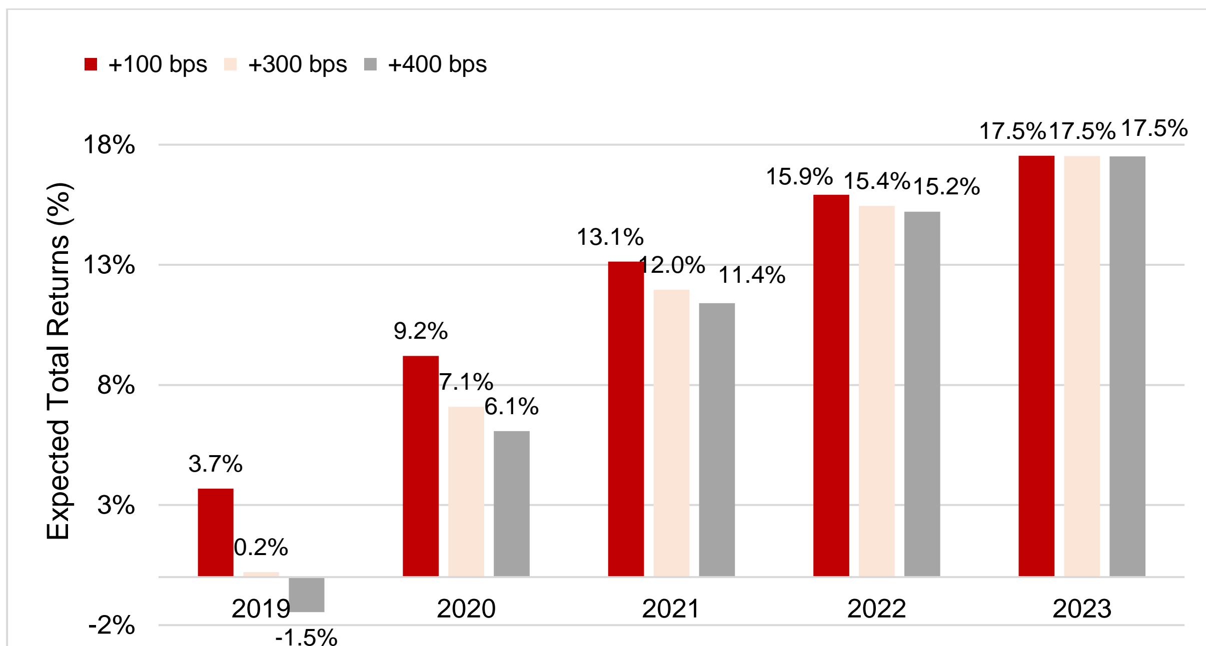
2019	2020	2021	2022	2023
3.7%	9.2%	13.1%	15.9%	17.5%

If interest rates rose 3% between 2019 and 2023, cumulative total returns would have been:

2019	2020	2021	2022	2023
0.2%	7.1%	12%	15.4%	17.5%

If interest rates rose 4% between 2019 and 2023, cumulative total returns would have been:

2019	2020	2021	2022	2023
-1.5%	6.1%	11.4%	15.2%	17.5%



FOUR BASIC PORTFOLIO STRATEGIES

"You need to think what your next ten steps are in chess if you want to win the game."

CASH MANAGEMENT PORTFOLIO

We can use very high-quality securities to create a cash-like portfolio. These securities include fixed deposits, government, quasi-sovereign (e.g. Land Transport Authority, Housing Development Board, World Bank, export-import type banks etc.) and high-quality (BBB rating and above) corporate bonds.

Since these instruments have a maturity of less than two and a half years, the portfolio allows investors to redeem their cash quickly and reinvest again. Having no defaults is mission critical. Having strong liquidity and safety of principal are key criteria for a cash management strategy.

This strategy is also very useful for companies looking to improve the returns on their cash in their treasury function.

HOW TO DETERMINE PORTFOLIO ALLOCATION?

We can breakdown our allocation between bonds' fixed deposits in a 50-50 or even a 70-30 split respectively. Some examples of securities to use can be found in the table below.

KEY TIPS

Use high-quality securities such as government bonds, quasi-sovereign bonds and top-rated corporate bonds.

These securities must mature within two and half years to ensure short term liquidity.

Having no defaults is mission critical.

Examples of Securities	Issuer Description
China Construction Bank Singapore Branch	CCB 2.643% Sep 2020
Ascendas Pte Ltd	JTCSP 2.68% May 2021
BNP Paribas	BNP 2.765% Aug 2020
CapitaLand Commercial Trust	CCTSP 2.98% Feb 2021
China Development Bank Financial Leasing	CDBLFD 2.625% Aug 2020
CapitaLand Treasury Ltd	CAPLSP 4.3% Aug 2020
Housing and Development Board	HDBSP 3.008% Mar 2021
China Huarong	HRINTH 3.2% Apr 2021
Indonesia Eximbank	BEIAIJ 4.135% Nov 2020
Danga Capital Berhad	KNBZMK 3.725% Aug 2020

Table 1

LADDER PORTFOLIO

This is a popular strategy for starters. The portfolio buys into the same amount of bonds which mature across different periods. Refer to Table 2 for illustration.

The key benefit of a well-laddered portfolio is that we can invest in bonds which have a far longer maturity (10-30 years) without having to worry about duration risk.

What is duration risk? To recall, bond prices move inversely with interest rates. If interest rates go up, bond prices drop. The longer the maturity of a bond, the farther the price will drop as interest rates rise.

Because the portfolio has an equal number of bonds maturing across different periods, the impact of interest rates on the overall portfolio value is mitigated. This allows us to buy longer maturity bonds with a much higher yield, while lowering the impact of duration risk. We also have to worry less about forecasting the shape of a yield curve.

In a rising interest rate environment, redemptions from matured bonds can be reinvested at a higher yield, benefiting the overall future returns of the portfolio.

KEY TIPS

The key benefit of a ladder portfolio enables us to seek higher yields from longer maturity bonds.

A ladder portfolio mitigates duration risk.

A well-laddered portfolio will have an equal number of bonds maturing across different periods.

HOW TO DETERMINE PORTFOLIO ALLOCATION?

A rule of thumb is to invest in low quality of shorter maturities (1-5 years) and higher quality bonds of longer maturities (7-30 years).

Keep most of your low-quality bonds within BB credit rating while high quality bonds are kept between BBB and A credit ratings.

An illustration below. Assume we build a $5 million portfolio, each million-dollar capital is allocated to a “maturity wall” (i.e. 1-3 years wall, 3-5 years wall, 5-7 years wall and so on).

We should ideally have around 20 bonds in the portfolio to maintain diversification.

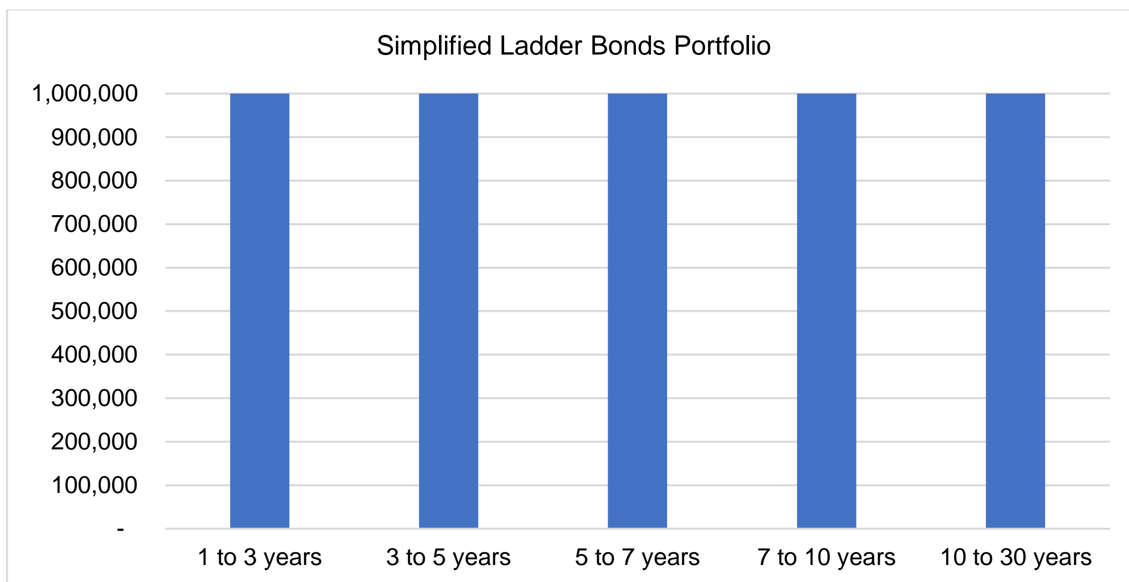


Table 2

BARBELL PORTFOLIO

Investors who have a view on interest rates and are more aggressive in their strategy can build a barbell portfolio. This strategy is a bifurcation between short maturity bonds of between 1-5 years and longer-maturity bonds of 10 – 30 years, which thus looks like a barbell.

If interest rates increase, one can sell off some of the short-term bonds and buy into the long-term, higher yielding bonds at a deeper discount. Recall, rising interest rates will cause a farther drop in prices for bonds with longer maturities.

Key here is to wait for a fall interest rates to capitalize on the gains of longer maturity bonds.

HOW DO YOU CONDUCT ASSET ALLOCATION?

The short end of the barbell should typically have higher yielding bonds of BB credit rating while the long end of the barbell should include higher quality securities (at least BBB credit rating and above0 including government bonds, quasi-sovereign bonds and even high-quality perpetual securities.

KEY TIPS

Barbell is a bifurcation between short maturity bonds and longer maturity bonds.

When interest rates fall, longer maturity bonds will enjoy the highest capital appreciation.

Rule of thumb is to buy short maturity junk bonds and high-quality longer maturity bonds.

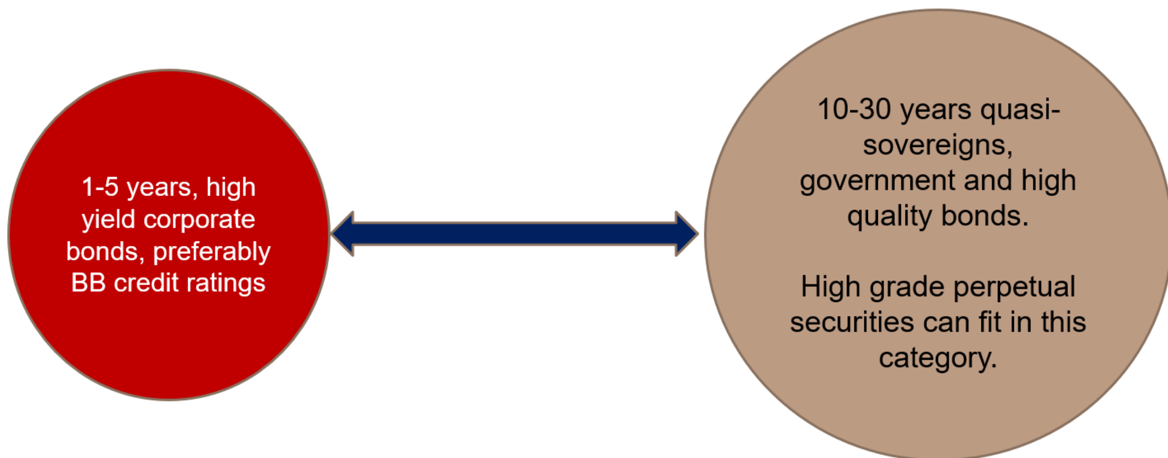


Table 3

BENCHMARK HUGGING PORTFOLIO

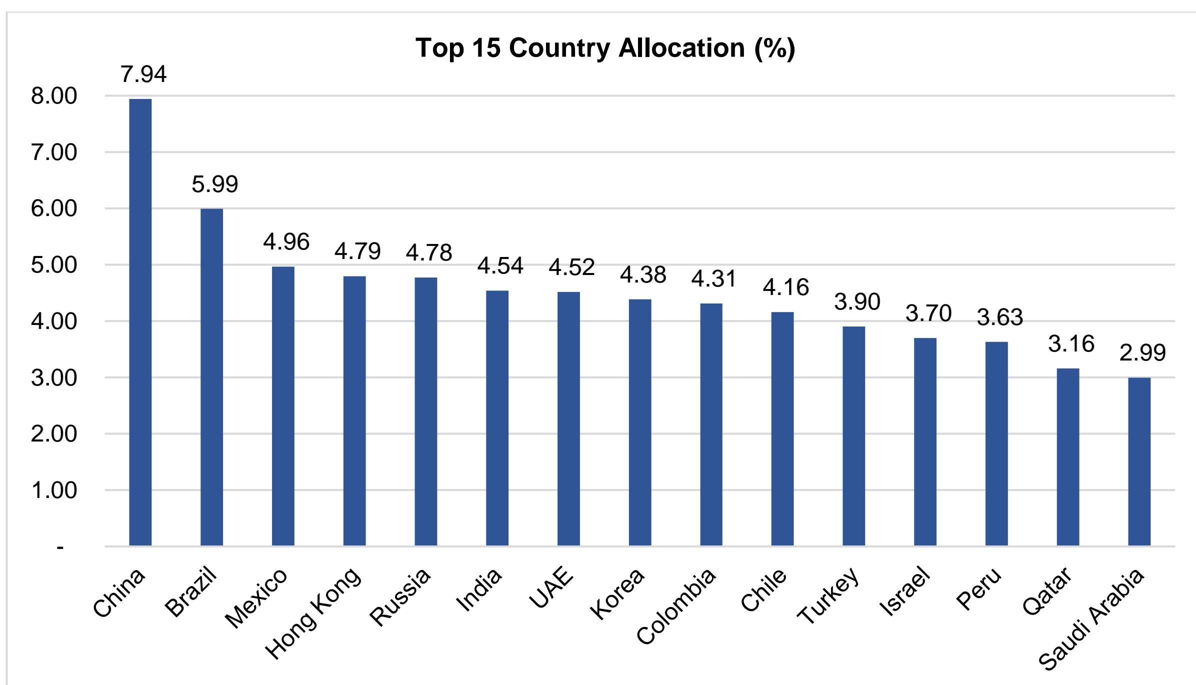
As the name suggests, the portfolio mimics the constituents of a well-known bond index (e.g. J.P. Morgan Corporate Emerging Market Bond Index).

The advantage of referencing the portfolio to an index is that institutions typically trade bonds within the index. This gives a high assurance that the bonds we buy are tracked by institutions, traded by institutions, which have greater price transparency and better trading volume.

Common criteria to use:

- Credit rating
- Maturity
- Country/Geographical Weighting

We can construct a portfolio with similar credit rating, maturity and weightage across countries and geographies. An example of an index we can follow is the J.P. Morgan Corporate Emerging Market Bond Index. Below is an excerpt of the index's country allocation, credit ratings of its bond constituents and geography breakdown.



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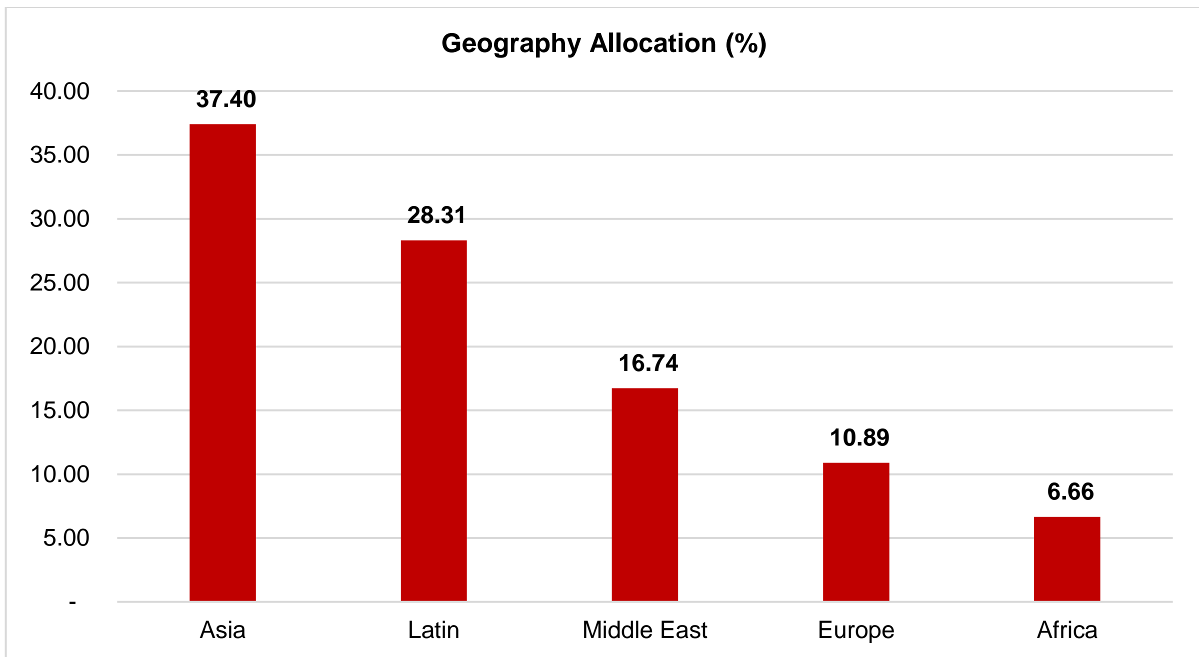

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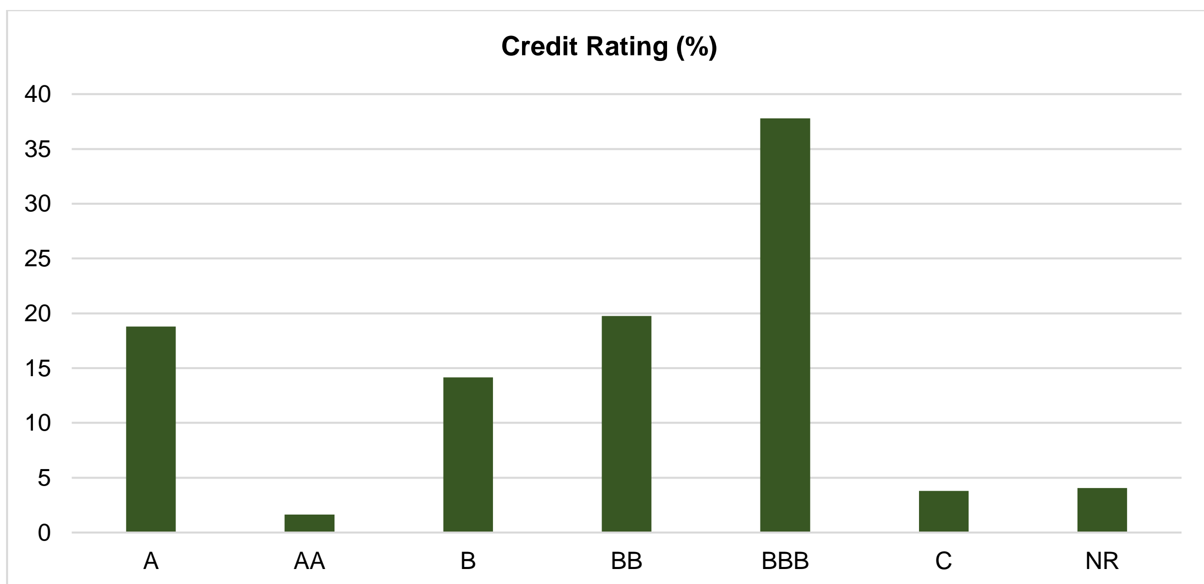

Table 6