

A Study on the Criteria for Investment in the Bond Market

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Abstract. This paper uses relevant information to illustrate some of the factors that influence investors' choice of bonds: by analyzing a cross-section of firms to conclude that insurance companies with stronger regulatory capital constraints tend to seek higher yields; according to the findings of a study into the added value of inflation-linked bonds in a portfolio, inflation-linked bonds widen the mean-variance efficient frontier for investors holding nominal bonds and stocks by simulating credit spreads that are more like those actually seen in the market and modeling leverage as a mean-reversion; and the findings indicate that market liquidity is neutrally or favorably impacted by portfolio trading transparency. This was established by using a controlled experiment to investigate the impact of transparency on the liquidity of the BBB bond market. In addition, some suggestions are put forward for some related investors, and the future research direction is also proposed at the end of the article.

Keywords: Bond market; yield; credit spread; inflation-linked debt; transparency and liquidity.

1. Introduction

From Crum's paper, it can be learned what factors investors need to consider when choosing between two different types of bonds (Tax-Exempt bonds and a comparable taxable bonds) [1]. One of these factors is the undifferentiated level of income, with investors preferring taxable bonds for a key bracket of taxable income below undifferentiated income and preferring tax-free for a narrow range above differentiated income.

Through a survey by Contel (2009), government securities are acknowledged to play a significant role in both developed and developing nations [2]. The entire term structure is a key source of information for monetary policy, and central banks traditionally rely on pricing data from these markets to evaluate inflation and output projections. For the private and corporate sectors, government securities are often the benchmark for pricing fixed income securities, but they are also often used to hedge interest rate risk or simply as risk-free investments or collateral. Government securities are the most important channel for developing domestic financial markets. These securities play a significant role in the market thanks to a variety of traits, including strong liquidity. Spreads in European and emerging markets have been extensively studied in the literature. The motivation for this research interest is different. The institutional reforms that have occurred in Europe over the past decade have led to significant changes in financial markets. Secondary sovereign bond markets have become increasingly integrated. Both investors and issuers have enjoyed the benefits of increased competition in public bond auctions and increased liquidity in the secondary market. Since 1999, yield gaps between EMU member countries have narrowed dramatically, although they have not disappeared completely. the introduction of the euro in 1999 eliminated the exchange rate risk component of spreads, leaving credit risk and liquidity risk as the main residual sources of market segmentation. Against this background, opportunities to test theoretical predictions proliferated.

In Harris and Piwowar's paper, the U.S. municipal bond market has very little transparency in trading prices and almost zero transparency in quotes [3]. Few municipal securities are regularly traded in the secondary market, despite the fact that there are over one million different types. Numerous of these instruments have intricate properties that make it challenging for untrained traders to determine their pricing. The lack of exceptional liquidity in the municipal bond market should not come as a surprise. This paper looks at secondary transaction costs in the U.S. municipal bond market and proposes and uses new methodologies for calculating transaction costs. These methods measure

secondary transaction costs by using information from these markets. The authors have specifically developed methods to measure transaction costs due to the unique market structure and extremely low transaction costs in the municipal bond market. The study's findings demonstrate that trading municipal bonds is significantly more expensive than trading stocks of the same size. Municipal bond real spreads typically amount to around 2% of a \$20,000 retail transaction's price and about 1% of a \$200,000 institutional transaction's price. While municipal bond market research shows that tiny transactions are much more expensive than large transactions, unit transaction costs in the equities market rise with transaction size. Blaming the absence of price transparency in these markets for this disparity. The analysis shows that actively traded bonds are not less expensive than bonds that are not frequently traded. This outcome could be attributed to the bulk of the sample's bonds having very good credit quality: It is possible to substitute bonds from issuers with similar credit ratings for one another. The absence of price transparency, which is anticipated to lower transaction costs for frequently traded bonds, is probably another factor in the outcomes. Therefore, by understanding the above information, it makes someone want to know what factors will influence different investors to make the final decision when facing the whole bond market, so the following section are this paper's investigation process and results.

2. Yield

From Becker and Ivashina (2015), it can be learned that this paper examines the tendency of investors to purchase riskier assets in the corporate bond market in order to obtain higher yielding returns [4]. Credit ratios are typically used to evaluate the risk of corporate bonds and fixed income bonds. Due to standardization and well-established scales, credit ratings have the advantage of being comprehensible and covering a wide range of fixed-income assets. The credit rating of a bond also excludes the risk premium related to default losses and other price variables, and instead focuses on the issue's capacity to default and the losses brought on by default. To determine the capital needs for credit risk, corporate bonds are rated in six categories (National Association of Insurance Commissioners (NAIC) risk categories 1 through 6) depending on their credit, with higher categories subject to greater capital demands.

Investors are engaged in a cyclical hunt for pricing credit risk that is fueled by principal-agent issues brought on by inadequate risk management, which is why they seek yield (called yield seeking). However, shifts in risk factors, changes in the environment or changes in interest rate regimes may reduce the attractiveness of yield. In an unregulated financial industry, one may be able to gain. The method risk is taken in regulated businesses is often clear; for insurers, this is a need for risk-based capital. Additionally, insurers generally gauge risk by looking at credit ratings. Another benefit is that insurer asset values are liquid and observable, making it easier to identify this configuration from an empirical standpoint. However, making a distinction between revenues resulting from regulatory arbitrage and those resulting from other reasons is crucial. Regulators change the primary agency conflict for insurers from one between the end investor and management to one involving either management or regulators. But the same limitations are in contracting (or regulating) risk-taking is a determining factor in reaching returns, which currently still exist. In contrast to the fundamental, government guarantees introduce incentives for risk transfer in the United States, as long as the price of the guarantee is not fair [5]. As a result, insurers may wish to take on additional risk due to the existence of guarantees. End These channels are not all mutually exclusive; rather, they share the feature that investment managers are subject to varied incentives from owners or regulators. It would be an intriguing occurrence in this regard, but one that would be far more obvious if there was a principal-agent issue. Analyzing a cross-section of insurance businesses provides evidence in support of this tendency. Consistent with risk transfer, it is found that insurers with stronger regulatory capital constraints tend to pursue higher rates of return.

By looking at the investments made by insurance companies, whose capital needs are associated with the credit ratings of their holdings, the pursuit of returns in the corporate bond market is studied.

The major institutional investors in this industry are insurance firms. According to the authors' research, insurance portfolios have a consistent preference for high yield, high CDS bonds, depending on the bonds' ratings. This outcome is true both at the time of issuance and in the aftermarket. The results are given a variety of interpretations. One problem is that bonds with high yields often have additional attributes that insurers could find appealing. Such an interpretation would have to be consistent with the recorded changes in the time series of reaching yields. In addition, when examining secondary market transactions, bonds are tracked over time, thereby precluding any differences in cross-sectional characteristics. Another worry is that insurance companies could be able to make superior fixed income investments ("alpha generation"). If high-yield bonds are underpriced on average, this ability to invest will cause a portfolio tilt toward them. An easy assessment of portfolio "alpha" demonstrates that, overall, yield-seeking insurers do not provide stronger performance, despite the appearance that they hold riskier bonds and bonds with greater exposure to systematic risk factors. On the causes of yield-seeking, some evidence is given. In particular, the analysis reveals that more aggressive return capture is related to inadequate regulatory capital and poor corporate governance. It is determined that frictions in private covenants and regulations may be what motivates this conduct. It is thought that yield-seeking can cause cyclicity in the loan supply and, consequently, in the real economy. The real economy experiences cyclicity as a result of the cyclicity of the credit supply. Additionally, there is proof supporting two ways that yield-chasing might influence the overall economy. Specifically, the study shows that insurers that pursue yield experienced greater equity losses in the recession. It also shows that periods of yield-seeking by insurers appear to have led to firms issuing more risky assets.

3. Credit Spreads

Credit spreads will represent the issuer's current risk in an efficient market, as demonstrated by Flannery, Nikolova, and Ztekin [6]. Credit spreads show how the issuer's current risk and investors' expectations of risk will change over time in an efficient market. Merton's credit spread model, which he created in 1974, makes the assumption that a company's outstanding debt will remain constant until maturity. Given that the expected return on assets is positive, this implies a gradual drop in expectations over time, which results in a credit spread that is reasonably low. The risk of a company's multi-period debt obligations may change as a result of changes in its future outstanding debt. They model leverage as a mean reversion and imitate credit spreads that are more comparable to those observed in the market. Bondholders learn that future changes in leverage depend on current leverage and short-term risk-free rates, thus they anticipate future changes in leverage as a result of changes in outstanding debt and equity.

They build three proxies for anticipated future changes in leverage based on the trade-offs, rank ordering, and credit rating theory, three theoretical viewpoints on corporate capital structure, to study this. Bond investors found these three metrics to be complementary and used all but the potential future influence of the typical firm on expectations. However, the average of the future leverage trade-off proxy was found to be more robust than the other two. While there is some empirical support for all three capital structure theories, the trade-off theory appears to be more widely applicable than the other two.

4. Market Inflation

Despite the long history of inflation-related bond issuance in several emerging nations, as was discovered through Swinkels' research, the magnitude of the issuance has been modest and not immediately accessible to investors [7]. Figure 1 demonstrates, however, that since 2003, the amount of outstanding government debt tied to inflation has grown significantly.

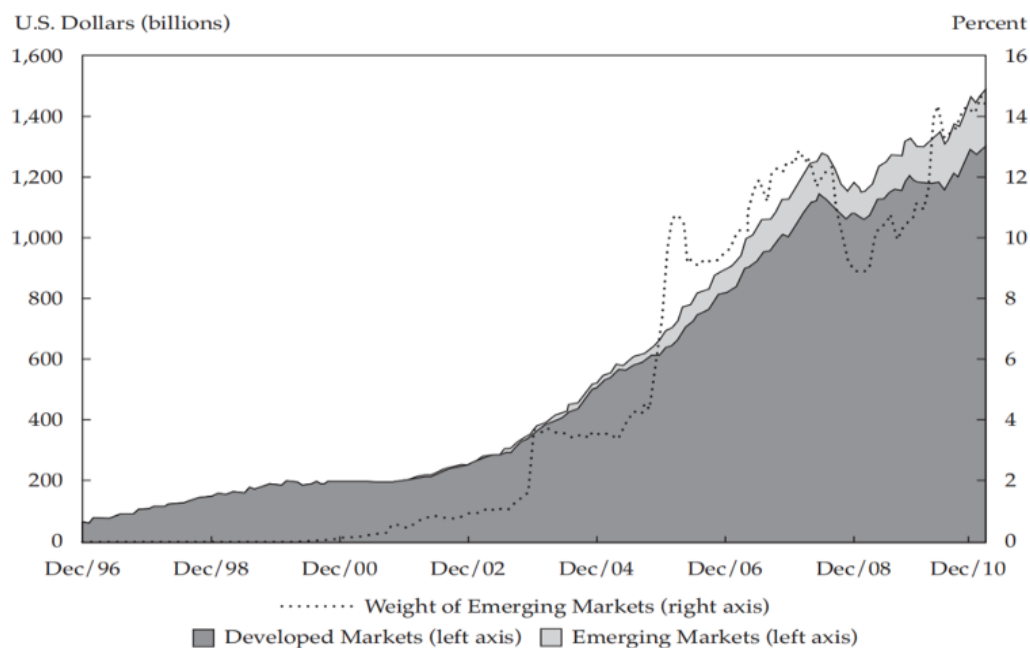


Figure 1. Outstanding inflation-linked public debt from December 1996 to January 2011 [7]

The authors evaluate the added value of inflation-linked bonds in a portfolio and question the added value of inflation-linked bonds in several empirical studies. The authors, who expand the universe of these countries, claim that the introduction of inflation-linked bonds has improved the risk-return characteristics of the portfolio for many emerging market countries. The authors also provide evidence that, even in the short term, returns on inflation-linked bonds have a higher correlation with realized inflation than do returns on nominal bonds. As a result, holders of nominal bonds and stocks should also invest extensively in inflation-linked securities. Furthermore, results from mean-variance spanning tests suggest that foreign investors who already own nominal emerging market bonds and stocks may benefit from increasing their holdings of inflation-linked emerging market bonds.

According to the findings, inflation-linked bonds for investors holding nominal bonds and stocks broaden the mean-variance efficiency frontier for the majority of nations. Investors should allocate capital as a result. They convert a portion of their bond holdings to inflation-linked securities. For nominal frameworks with monthly holding periods, this advice is appropriate. Furthermore, compared to bonds that are tied to inflation, nominal bonds are fewer effective hedges against realized inflation. Therefore, inflation-linked bonds may be more desirable than nominal bonds for long-term investors with attainable goals.

5. Market Liquidity

In their study, Goldstein et al. (2012) used a controlled experiment to investigate how transparency affected the BBB bond market's liquidity [8]. A control sample of non-diffusible bonds is also chosen in order to evaluate the impact of transparency on bond liquidity. Greater transparency has been found to have a neutral or positive effect on market liquidity, as seen by trading volume or expected bid-ask spreads, depending on the size of the trade. The impact of openness is assessed by contrasting the volume of trading before and after bonds became public in April 2003. As previously mentioned, it is unclear if the implementation of transparency was linked to an increase or decrease in liquidity. As two measures of trading activity, it considers the average daily trading volume and the average daily trade volume.

Diffusion and the intensity of trade, as measured by daily trading volume, typically decline or remain flat. Using both alternatives, the authors find evidence of a decrease in diffusion. The effect is strongest for those bonds whose prices become transparent for medium trade sizes. The fact that

investors can negotiate better trading conditions with dealers and have access to a larger variety of bond price data is consistent with the decline in transaction costs for such trades. The transparency of very thinly traded bonds has no effect, favorable or negative, according to the authors. Overall, the results point to a neutral or favorable impact of p trade transparency on market liquidity. Rarely are structural shifts in transparency, such those that take place during tracking, seen. The corporate bond market is still not as transparent as many other markets, despite the introduction of openness. Although the magnitude of the results differs, it ensures that the findings are consistent with those of Bessembeind et al.'s paper [9]. Each study implies that the introduction of transparency through tracking is connected with decreased transaction costs for at least certain bonds, although using essentially different methodology and sample chronologies.

6. Discussion

Through Abe et al. (2013)'s paper, it is understood that convertible bonds should be considered as a separate asset class whose returns cannot be easily replicated [10]. For some investors, like insurance firms and public employee pension funds, they therefore have benefits [11]. Such investors, who originally held mainly fixed income securities and real estate, convertible bonds offer them the benefit of diversification and indirect participation in equity investments. Also, convertible bonds provide hedging opportunities for stocks that do not have a liquid options market, such as small-cap stocks and stocks that are difficult to short. In addition to comparing the return on convertible debt to a combination of direct loan and options, they point out that the value of convertible debt represents the interplay between the debt and equity components, not just their sum.

Investor preferences for these typical convertible debt-related characteristics fluctuate over time, and companies issue convertible bonds to meet this time-varying investor preference. Bond arbitrage hedge funds, the level of market risk aversion, the use of over-allotment options, and market demand for option-like features are all significantly and positively related to total convertible debt issuance. After accounting for firm-specific traits and broad economic metrics of financing costs, this remains the case. The authors also show that most proxies for time-varying convertible bond demand do not affect direct bond or equity issuance. This result further supports the hypothesis that convertible bonds are a separate asset class that meets specific customer needs. Thus, for some investors, convertible bonds are a good choice.

7. Conclusion

This paper uses relevant information to illustrate some of the factors that influence investors' choice of bonds: an analysis of a cross-section of businesses reveals that insurers with tighter regulatory capital requirements tend to seek higher yields, which is in line with the idea that investors seek returns because they are engaged in a cyclical quest for pricing credit risk; by discovering that future changes in leverage in the market depend on existing leverage and short-term risk-free rates by simulating credit spreads that are more similar to those seen in the market and modeling leverage as a mean reversion; credit spreads will take into account both changes in investors' perceptions of risk and the issuer's existing level of risk. One can also figure out the added value of inflation-linked bonds by looking at their added value in a portfolio and noticing that the outstanding inflation-linked government debt has increased dramatically since 2003. The results suggest that inflation-linked bonds expand the mean-variance effective frontier for investors holding nominal bonds and equities since the impact of transparency is measured by comparing the change in trading volume before and after bonds became transparent in April 2003. The relationship between the introduction of transparency and an increase or decrease in liquidity is not evident, as was already mentioned. By evaluating the effects of transparency on market liquidity in the BBB bond market using a controlled experiment, the study's findings show that p trade transparency has a neutral or positive effect. Recommendations for investing in convertible bonds are also made for a select group of investors.

Such investors, who originally held mainly fixed income securities and real estate, convertible bonds provide them with the benefit of diversification and indirect participation in equities, as well as hedging opportunities for equities without a liquid options market. The study also confirms that bond arbitrage hedge funds, the level of market risk aversion, the use of over-allotment options, and market demand for option-like features are all significantly and positively related to total convertible bond issuance.

However, this paper also has some limitations, and there are some other influencing factors to be tested. This paper is mainly from the perspective of investors themselves, and does not involve the level of consideration of national policies and laws, which will also be taken into account in future studies.

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