

**Key Findings** | CROSS ASSET Investment Strategy

# Facts and Fantasies about the Green Bond Premium

Confidence  
must be earned

**Amundi**  
ASSET MANAGEMENT

Material reserved for professional investors only

---

# Introduction

---

**Green bonds are debt instruments aimed at channeling capital towards green projects. Unlike their conventional counterparts, green bond proceeds are earmarked exclusively for new or existing projects with an environmental purpose.**

The Green Bond market has increased exponentially since the first issuance in 2007. Since then, green bonds have attracted a wide range of buyers, from agnostic to ESG-focused investors. This rise in interest has put focus on the characteristic pricing of green bonds, questioning whether the “green” feature entails a yield premium with respect to conventional bonds.

The purpose of the paper is to study the green bond yield premium, or “greenium”. This refers to green bonds being priced above or below conventional bonds of similar characteristics. Although active investors should not be dissuaded by a negative premium – as it can be offset by future excess returns, market participants have been wondering to what extent green bonds price differently than the rest of the bond market.

**From an issuer’s point of view**, a green bond issuance is more expensive than a conventional issuance due

to the need for external review, regular reporting and impact assessments.

**From an investor perspective**, financially speaking, there is no fundamental difference between a green and a conventional bond; green bonds ranking *pari passu* with similar bonds have no additional rights for the underlying project. Hence, a **green premium should be considered as a market anomaly**.

The paper studies this issue using two different methodologies:

- 1) **A Top-Down approach:** An overall green portfolio is compared to an equivalent conventional bond portfolio.
- 2) **A Bottom-Up approach:** Takes the definition of an intra-curve green bond premium, comparing a green bond to a hypothetical conventional bond of the same issuer, currency and seniority.

---

# Key Findings

---

By employing both approaches, the authors find that:

- Investors have been rewarding a negative premium to green bonds compared to conventional bonds of similar characteristics. However, with a limited amplitude.
- The Bottom-Up approach shows that both EUR and USD denominated green bonds have a statistically significant negative premium; -1.6bps and -3.7bps respectively.
- The Top-Down approach shows that green bonds have an average negative premium of -4.7bps.
- By sector, Supranationals, Sovereigns and Agencies (SSAs), and Non-Financial corporates show a statistically significant negative premium at a 99 and 90% confidence level respectively, according to the Bottom-Up approach.

# The Top-Down Approach

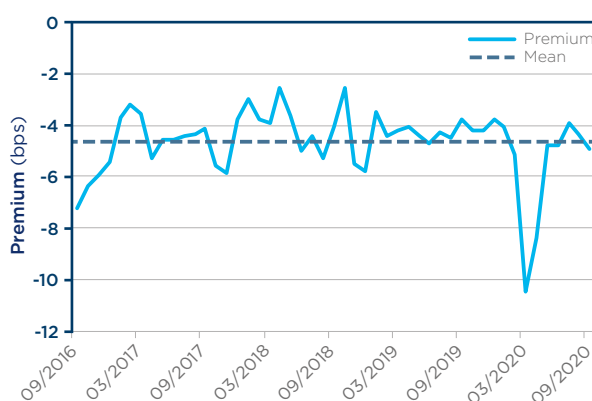
## Methodology

In the first method of analysis, **the authors compare a “Green Index”** (the Bloomberg Barclays MSCI Global Green Bond Index) to a conventional bond index, or “benchmark” (the Bloomberg Barclays Global Aggregate Bond Index) from September 2016 to September 2020. In order to compare the performance of both portfolios, the “benchmark” is weight-adjusted to mimic the currency, sector, credit quality and maturity features of the Green Index.

## Results

The results show that **on average, green bonds have a negative premium**. The mean value being -4.7 bps, and the maximum value -2.5 bps. The premium was the lowest, -10.5 bps, during the first weeks of the COVID-19 crisis.

Figure 1: Green Bond Premium (2016-2020)



Source: Amundi

Additionally, comparing the performance of both portfolios highlights an **identical Sharpe Ratio** over the period despite lower excess returns of the green portfolio, which is due to **its lower volatility**.

It is interesting to highlight the fact that the green portfolio outperformed during two periods of extreme stress: 2018 and 2020. This could be explained by:

- **The nature of green bond issuers:** historically large institutions with well-established governance structures, hence more resilient. E.g. Multilateral Development Banks.
- **The nature of green bond investors:** mainly large pension funds and insurance companies with buy-and-hold strategies. i.e. less likely to move away from investments in times of crisis.

A breakdown by currency, time-to-maturity, sector and credit rating shows the following:

- **Euro-denominated green bonds (majority of portfolio) have a negative premium** with an average of -7.3 bps. Meanwhile, USD-denominated green bonds fluctuated from a 10bps premium in 2018 to -21bps during the recent crisis.

- **Only maturities between 5 and 10 years have a significant negative premium.** Most of the time, premia of lower maturity trend above premia of longer maturities.
- **All sectors except industrials and local authorities exhibit negative premia,** although they are only significant for financials and agencies.
- **Lower ratings (A, Baa) exhibit a significant negative premium.** In addition, the lower the rating, the lower the premium and the higher the volatility.

The green premium defined in this method includes a potential “green bond issuer premium” often referred to as “green halo” i.e. the lower yield an issuer gets on all its bonds from having issued some as green bonds.

# The Bottom-Up Approach

## Methodology

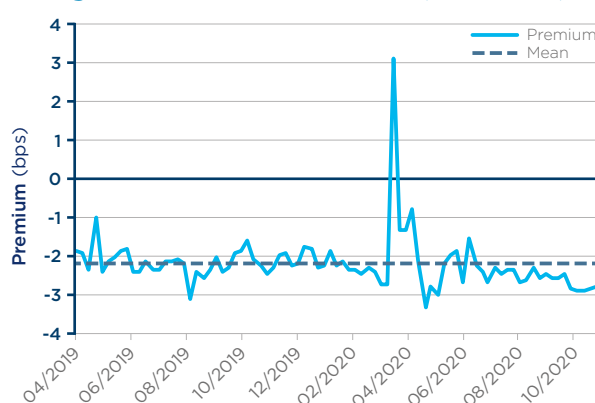
In this case, **each green bond is when possible, compared to two conventional bonds**. Thus, the spread of the green bond is compared to the spread of a theoretical interpolated conventional bond of the same duration. The green premium will therefore be the difference in spread between the green bond and a comparable bond with the same issuer, currency, seniority and modified duration.

Compared to the first approach, this method only focuses on the intra-curve green premium, and intends to assess the difference coming solely from the green bond format. The weekly data is aggregated over the period April 2019 to September 2020.

## Results

- The results show that on average, the green bond premium is negative (mean of -2.2bps) and with a high number of outliers (+/- 4 sigmas), exacerbated by the effect on liquidity of the COVID-19 crisis..

Figure 2: Green Bond Premium (2019-2020)



Source: Amundi

- By sector the average premium is the following:

Figure 3: Average Premium and Spread in Overall Universe

Sector	Average premium (bp)	Average spread (bp)	Statistical significance
Supranational, Sovereign and Agencies	-2.2	41	99%
Non-Financial Corporates	-3.6	85	90%
Financial Corporates	-1.2	74	
Covered Bonds	-0.2	4	

Source: Amundi

Figure 4: Average Premium and Spread in EUR Universe

Sector	Average premium (bp)	Average spread (bp)	Statistical significance
Supranational, Sovereign and Agencies	-1.2	44	90%
Non-Financial Corporates	-3.4	71	
Financial Corporates	-1.2	66	
Covered Bonds	-0.3	3	

A breakdown by currency, time-to-maturity, sector and credit rating shows the following

- Both EUR and USD green bonds have a statistically significant negative premium (respectively -1.6bps and -3.7bps) USD premium is also twice as volatile.
- Within Credit, Utilities show the more negative and statistically significant premium (-3.9bps).
- All credit rating categories exhibit negative premium, with their mean ranging from -3.13bps for A-rated issuers and -1.38bps for Aa-rated issuers.
- All regions exhibit a negative premium but only Europe's is statistically significant.

- **Finally, the authors find that that the premium and its significance increases with the ESG quality of the issuer**, i.e. beyond the use of proceeds, green bond investors reward a more negative premium to issuers with better extra-financial standards at the company level.

The authors also perform a linear regression of the green bond premium against the following variables: age, duration, size, currency, seniority, sector, country, certifications and Amundi E-ratings. They find that:

- **Domestic bonds and bonds certified by the CBI<sup>1</sup> tend to show low premia.**

- **All sectors except sovereigns exhibit a more negative premium than the financial sector.**

- **The premium lowers with smaller sized bonds as well as with age although not significantly.**

Finally, to check whether the different liquidity features of the green bond market can explain part of the green bond premium, the authors filter the universe to retain bonds with similar liquidity characteristics. They find that **the green bond premium is not a consequence of a liquidity premium**, as the premium is even lower after neutralizing liquidity.

## Conclusion

The authors find that **investors have been rewarding a negative premium to Green Bonds compared to conventional bonds of similar characteristics. However, with a limited amplitude.**

There are arguments that could justify a negative premium, including the punctual imbalances between supply and demand of green bonds, though a green bond buyer bears

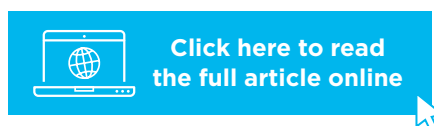
- 1) The exact same Credit and ESG risks as the owner of a non-green bond of similar financial characteristics.
- 2) A controversy risk arising from a misalignment between the actual use of proceeds and reporting, and the commitment at issuance.

The primary market has been left outside the scope of this study, although the idea of a green bond premium has been popular among investors due to the lower average new issue premium offered by green bonds at issuance. For instance, according to Bloomberg, the €1 billion 10-year green bond issued by automaker Daimler AG priced more than 13 basis tighter than its conventional spread curve. At issuance, **a green bond issuer provides to the whole market a signal about**

**its green strategy.** Meanwhile, research has shown that markets are increasingly integrating ESG into bond prices and credit premia.

All things considered, we wonder whether the green premium stands at the issuer level, rather than at the green bond level. This would be financially more acceptable as the ESG risk related to an issuer would not depend on the format. The discrepancies observed between the method that calculates the premium of the green portfolio and the one focusing on the intra-curve green premium are somewhat consistent with this hypothesis.

These observations suggest the following question: is the negative green premium a more general premium on green bond issuers, whether the particular issuance is green or not? In other words, does the green premium accrue to the entire issuer curve or is it restricted to the green bonds only?



*1. Climate Bonds Initiative is a London-based NGO that tracks green bonds and works to mobilize bond markets in favor of sustainable debt instruments.*

Important Information The MSCI information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for or a component of any financial instruments or products or indices. None of the MSCI information is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Historical data and analysis should not be taken as an indication or guarantee of any future performance analysis, forecast or prediction. The MSCI information is provided on an “as is” basis and the user of this information assumes the entire risk of any use made of this information. MSCI, each of its affiliates and each other person involved in or related to compiling, computing or creating any MSCI information (collectively, the “MSCI Parties”) expressly disclaims all warranties (including, without limitation, any warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall any MSCI Party have any liability for any direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) or any other damages. ([www.msциbarra.com](http://www.msциbarra.com)). In the European Union, this document is only for the attention of “Professional” investors, as defined in Directive 2014/65/EU dated 15 May 2014 on markets in financial instruments (“MIFID”), to investment services providers and any other professional of the financial industry, and as the case may be in each local regulations and, as far as the offering in Switzerland is concerned, a “Qualified Investor” within the meaning of the provisions of the Swiss Collective Investment Schemes Act of 23 June 2006 (CISA), the Swiss Collective Investment Schemes Ordinance of 22 November 2006 (CISO) and the FINMA’s Circular 08/8 on Public Advertising under the Collective Investment Schemes legislation of 20 November 2008. In no event may this material be distributed in the European Union to non “Professional” investors as defined in the MIFID or in each local regulation, or in Switzerland to investors who do not comply with the definition of “qualified investors” as defined in the applicable legislation and regulation. This document is solely for informational purposes. It does not constitute an offer to sell, a solicitation of an offer to buy, or a recommendation of any security or any other product or service. Any securities, products, or services referenced may not be registered for sale with the relevant authority in your jurisdiction and may not be regulated or supervised by any governmental or similar authority in your jurisdiction. This document is solely for informational purposes. This document does not constitute an offer to sell, a solicitation of an offer to buy, or a recommendation of any security or any other product or service. Any securities, products, or services referenced may not be registered for sale with the relevant authority in your jurisdiction and may not be regulated or supervised by any governmental or similar authority in your jurisdiction. Furthermore, nothing in this website is intended to provide tax, legal, or investment advice and nothing in this document should be construed as a recommendation to buy, sell, or hold any investment or security or to engage in any investment strategy or transaction, There is no guarantee that any targeted performance or forecast will be achieved. Unless otherwise stated, all information contained in this document is from Amundi Asset Management S.A.S. and is as of 3 June 2021. Diversification does not guarantee a profit or protect against a loss. The views expressed regarding market and economic trends are those of the author and not necessarily Amundi Asset Management S.A.S. and are subject to change at any time based on market and other conditions, and there can be no assurance that countries, markets or sectors will perform as expected. These views should not be relied upon as investment advice, a security recommendation, or as an indication of trading for any Amundi product. This material does not constitute an offer or solicitation to buy or sell any security, fund units or services. Investment involves risks, including market, political, liquidity and currency risks. Past performance is not a guarantee or indicative of future results.

Composition: Art6 - Photo credit: Getty Images