



Hybrid Financing Instruments – Analyzing Investors’ Reactions to the Issuance of Convertible Bonds

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Abstract

Title: Hybrid Financing Instruments – Analyzing Investors’ Reactions to the Issuance of Convertible Bonds

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Convertible bonds have become increasingly popular over the past years. However, there is still no clear consent about why companies issue convertible bonds and how investors perceive companies who issue them. This research aims to provide more insights into the investors’ perspective. Thereby, interviews with European convertible bond investors and an event study based in Europe are conducted. The findings make clear that investors have different perceptions and do not agree with all theories. Nonetheless, they provide more insights into investors’ reactions to the issuance of convertible bonds which can be helpful for companies as they can understand which signals they send. In particular, the research shows that green convertible bonds are becoming increasingly important for investors. Furthermore, the event study shows that there is a clear difference between mature and growth companies that issue convertible bonds. The market reacts negatively to the issuance of both companies, however for growth companies, this effect is only temporary while for mature companies it continues. Additionally, mature companies already performed worse before the issuance in terms of cumulative average abnormal returns than growth companies.

Overall, this research provides more insights into investors’ perceptions and helps companies to understand which signals their issuance of convertible bonds sends.

Key words: Convertible Bonds, Green Convertible Bonds, Investor, Event Study

Sumário

Título: Instrumentos de Financiamento Híbridos - Análise das Reações do Investidor à Emissão de Obrigações Convertíveis

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Os títulos convertíveis têm-se tornado cada vez mais populares nos últimos anos. Contudo, ainda não existe um conhecimento explícito sobre as razões que levam as empresas a emitirem obrigações convertíveis, assim como a forma como os investidores veem as empresas que as emitem. Esta investigação tem como objetivo fornecer mais informações sobre a perspectiva do investidor. Assim, são realizadas entrevistas com investidores em obrigações convertíveis, bem como um estudo de evento. As conclusões indicam que os investidores têm percepções diferentes e, como tal, não concordam com todas as teorias. No entanto, estas fornecem informações adicionais sobre as reações dos investidores à emissão de obrigações convertíveis que podem ser úteis para as empresas. Assim, as mesmas podem compreender alguns dos sinais que enviam. Em particular, a investigação mostra que as obrigações convertíveis verdes estão a tornar-se cada vez mais importantes para os investidores. Além disso, o estudo de evento mostra uma clara diferença entre empresas maduras quando comparadas com empresas em crescimento. Embora o mercado reaja negativamente à emissão de ambos os tipos de empresas, este efeito é apenas temporário para empresas em crescimento. Em sentido contrário, é consideravelmente mais permanente para empresas maduras. Além disso, as empresas maduras tiveram um desempenho pior antes da emissão em termos de rendimentos médios acumulados anormais do que as empresas em crescimento.

Em geral, esta pesquisa fornece mais informação sobre as percepções dos investidores e ajuda as empresas a compreender os sinais enviados pelas suas emissões de obrigações convertíveis

Palavras-chave: Obrigações convertíveis, Obrigações Convertíveis Verdes, Investidor, Estudo do evento

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List of Abbreviations

AAR	Average Abnormal Returns
AR	Abnormal Returns
CAAR	Cumulative Average Abnormal Returns
ESG	Environmental, Social and Governance
ID	Identifier
OSL	Ordinary Least Square
U.S.	United States

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1. Introduction:

1.1 Problem Statement and Research Objective

Convertible bonds are a hybrid financing instrument that hold equity and straight debt (Del Viva, El Hefnawy, 2020). In the past years, convertible bonds have become more popular again after a decline followed due to the global financial crisis. In the years from 2009 to 2019, the yearly issued convertible bonds increased from 25 billion US\$ to 54 billion US\$ in the United States (US). In 2020 this number increased to 109 billion US\$. Furthermore, also in Europe, the number of issued convertible bonds increased (Dutordoir, Merkoulova, Veld, 2020). In 2020, non-US convertible bond issuance reached its high since 2007, with Europe accounting for most of it (Calamos, Sr, 2021).

Although, convertible bonds are a valuable source of financing, there has been no complete consent on why companies issue them. There are several theories, such as asymmetric information (Nyborg, 1995), agency problems (Isagawa, 2000), rationing in the equity market (Lewis, Rogalski, & Seward, 2001) and sequential financing (Mayers, 1998). In addition, there is little research on how investors perceive the issuance and if they believe in these theories. Consequently, further research is needed to analyse convertible bond investors' reactions.

The emphasis of this research is to focus on the investors' perspective. Thereby, multiple convertible bond investors are interviewed, and an event study is conducted to understand the perspective of equity investors. Furthermore, the research is focused on the European Market as even fewer studies have evolved around it, although the asset class is becoming increasingly important.

Overall, the research aims to answer the following research question:

How do European investors react to the issuance of convertible bonds, and what is their perception of the issuing company?

The research question is assessed by analysing the following sub-questions:

1. Do investors believe that convertible bonds help postpone equity dilution that arises under an equity offering?

2. Do investors perceive companies as receiving equity "through the backdoor" through convertible bonds?
3. Do investors believe that companies use convertible bonds for sequential financing purposes?
4. Do investors believe that convertible bonds reduce investment problems associated with straight bonds?
5. Do investors believe that convertible bonds are beneficial when information asymmetry arises and issuers and investors have different perceptions about the company's risk?
6. Does it matter to investors if a company issues a green convertible bond?
7. Does the perception differ for growth and mature companies?

1.2 Managerial and Academic Relevance

Although, convertible bonds are becoming increasingly popular, the asset class is still comparatively small compared to others, such as equity or traditional bonds. As a result, previous research focuses more on other asset classes than convertible bonds. Furthermore, most past research focuses mainly on the United States (U.S.) market than the European market since the U.S. issues significantly more convertible bonds than Europe.

In particular, further research needs to focus on understanding why companies issue convertible bonds and how investors react and perceive the issuance. Therefore, this research aims to provide more insights into European investors' perceptions. Additionally, the event study focuses specifically on understanding if there is a difference between mature and growth companies that issue convertible bonds. Thereby, the research adds further academic insights on convertible bonds and investors' perceptions. Moreover, it can help companies understand the signals they give to investors when they issue a convertible bond.

1.3 Dissertation Outline

The dissertation is divided into five chapters, following a classical structure.

First, the dissertation defines the research question and its managerial and academic relevance.

Second, the dissertation gives an overview of existing literature. The literature review starts with a general introduction to convertible bonds and then continues with the motivations to issue convertible bonds from a company's and investors' perspective.

Third, the methodology outlines the research approach and explains how the interviews and the event study were conducted.

Fourth, the analysis follows and analyzes the interviews and event study outcomes. This part also includes the limitations and points for future research.

Last, the dissertation finishes with the overall conclusion of the research.

2. Literature Review

2.1 Introduction to Convertible Bonds

Convertible bonds are a debt instrument issued by a firm to attain financing. They combine the features of traditional bonds and stocks. Similar to traditional bonds, convertible bonds may pay interest, have a fixed date to maturity, and failure to pay the interest or principal is the starting point toward company bankruptcy. Thereby ensuring principal protection, which is highly important for bond investors. Before the late 1990s and early 2000s, convertible bonds were mainly issued as subordinated debt. Afterwards, most were issued as senior unsecured debt, which impose default risk. Thereby, they are only subordinated to secured debt (Calamos, Sr, 2021).

In comparison to traditional bonds, convertible bonds offer the investors the option to convert the bond before or at maturity for a predefined number of common stocks. This opportunity becomes attractive to the investors if the stock price increases above the conversion price. The investors can then either sell the stock or hold it. However, this is only an option for the holder and is not mandatory (Spiegeleer et al., 2011). In contrast, if the stock price is below the conversion price, it is more profitable for the investors to keep the bond and receive the principal. As a result, investors face a limited downside and an equity upside as they can benefit from capital appreciation (Calamos, Sr, 2021). In addition, convertible bonds offer multiple benefits for issuers. These include lower payments and the opportunity to tailor the convertible bond to the issuer's needs. Lower payments are accepted because of the limited downside for investors compared to traditional bonds. Tailor-made solutions include embedment of options such as calls and puts (Spiegeleer et al., 2011). As a result of the advantages for investors and issuers, convertible bonds have become increasingly popular over recent years.

2.2 History and Development of Convertible Bonds

Convertible securities were introduced much later than traditional bonds and stocks. They were first issued in the nineteenth century to raise capital in the United States. It was difficult for companies to attain financing since the country was rapidly growing, which proposed various challenges. Therefore, the convertible clause was created to give investors more incentives to invest. It was first introduced by J.J. Hill in 1881, who issued a mortgage bond to finance the development of railroads since he could not find investors to invest in equity (Spiegeleer et al., 2011). Afterwards, it was soon adopted by other companies in different industries.

In the following years, convertible bonds became increasingly popular and were a global asset class by the 1990s. This was displayed by the growth of the Japanese market, which emerged as the biggest issuer of convertibles. In addition, the convertible market increased substantially in the European market. The global convertible market increased from \$386.4 billion (USD) in 2000 to \$525.2 billion (USD) in June 2021. In June 2021, North America accounted for 65.8% of the convertible bond market, EMEA for 20.5%, Asia (excluding Japan) for 9.9%, Japan for 2.8% and 0.9% other markets. From this it can be seen that North America has become a key player for convertible securities, while the Japanese market significantly decreased, which was due to the deflationary malaise. Nonetheless, emerging markets are becoming increasingly crucial as convertible bonds offer them the possibility to grow without relying on bank financing. As of June 2021, emerging markets accounted for \$69 billion (USD) of the global market. Moreover, the history of the convertible bond market has shown that convertible securities are driven by various macro factors, which will also be essential for the future development of the global convertible bond market (Calamos, Sr, 2021).

2.3 Macro Factors influencing the Convertible Market

The capital market is closely related to economic growth, thus influencing the convertible market. Volatile markets impact investors' decisions to invest and make them more cautious. Convertible bonds offer investors more security as they provide an upside opportunity while mitigating the downside risk. As a result, investors are keener to invest in convertible rather than traditional bonds in volatile times. This trend can be observed in the early 1980s recession when investors were inclined to buy convertible bonds rather than traditional bonds. Furthermore, the past has shown that the convertible markets are one of the fastest to increase after crises. Convertible securities give investors more security and, thus, lower the yield investors can ask for, making it easier for companies to raise capital. The same reasoning applies to why convertible bonds become more appealing in times of high-interest rates. Therefore, making economic growth one of the most critical drivers of convertible bonds. In addition, fiscal policy is also vital for issuing convertible bonds. It can either create a stimulating or detrimental environment (Calamos, Sr, 2021).

2.4 Types of Convertible Bonds

Over the years, different types of convertible securities have evolved. There is no formal classification, but the most common ones are vanilla convertible bonds.

Vanilla convertible bonds:

The structure of vanilla convertible bonds is the simplest and most common. They are similar to traditional bonds and may offer regular coupon payments and have a fixed date to maturity. Moreover, investors have the right to convert the bonds into a predefined number of stocks either before or at maturity. Compared to traditional bonds and equity, they possess the following features: Conversion price, conversion ratio, conversion value and conversion premium (CFI, 2022).

Conversion price:

The conversion price is predetermined at issuance and is mentioned in the bond documents. It is the price at which the bond at par can be converted into stock. Additionally, the issuance of the convertible bond states the exact common-stock price at which the value of the bond is equal to its par value (Calamos, Sr, 2021).

Conversion ratio:

The conversion ratio is calculated by dividing the par value by the conversion price. It is determined at issuance and usually protected against dilution and adjusted for dividends and stock splits. Compared to the conversion price, the conversion ratio is not mentioned in the bond documents and stays the same, independent of the bond price. (Calamos, Sr, 2021).

Conversion value:

Conversion value is defined as the equity upside of convertible bonds. It is calculated by multiplying the current share price times the conversion ratio. The conversion value is the minimum price at which the convertible bond can sell to avoid arbitrage opportunities (Calamos, Sr, 2021).

Conversion premium:

Investors are willing to pay higher interest rates on convertible bonds since they are more secure due to their equity upside and limited downside. This difference is called the conversion

premium and evaluates the downside versus the upside risk. The conversion premium is calculated by taking the current market price of the convertible bond and calculating the difference between it and the conversion value. The final value should then be expressed as a percentage. The conversion premium decreases as stock prices increase because of the conversion into equity. On the other hand, the conversion premium increases as stock prices decrease (Calamos, Sr, 2021).

2.5 Motivations to issue Convertible Bonds

The Modigliani-Miller theorem states that capital structure should be irrelevant to a company and that it would not make a difference if a company raises debt or equity (Modigliani & Miller, 1958). However, in real world applications, there are several external factors that contradict this theory. As a result, there are multiple considerations a company must be aware of before issuing equity or selling debt. These also drive the motivations as to why companies issue convertible bonds (Spiegeleer et al., 2011).

2.5.1 Companies' Motivations to issue Convertible Bonds

Most of the analyzed research sub-questions try to find out how investors perceive a company who issues convertible bonds. Therefore, most of the sub-questions were derived from theories about companies which were then converted into the point of view of the investor.

Several studies have been conducted to identify the motivations why companies would issue convertible bonds. Calamos, Sr. (2021) argues that one of the most significant advantages for companies is that they typically have to pay lower interest on convertible bonds than on traditional bonds. Investors are willing to accept a lower payment because of the lower risk profile of convertibles as they are compensated by the conversion premium. Moreover, convertibles take less time to issue since they do not require an official rating. This is especially important for companies that are not rated yet and companies that need quick access to capital. Additionally, it enables companies to maintain their debt-to-equity ratio. If stock prices increase, investors will convert their bonds to equity which clears the company's balance sheet. Afterwards, the company can issue a new convertible to maintain the ratio. Furthermore, companies that have a more volatile stock price can benefit from lower interest rates on convertibles than on traditional bonds. This is because they are usually perceived as riskier.

While banks recognize this as unfavorable, investors perceive this as an opportunity since the embedded conversion feature becomes more valuable and investors hope to benefit from a steep increase in the underlying security (Spiegeleer et al., 2011).

Another benefit of convertible bonds is that they can be tailor-made. Issuers can decide how they would like to structure the bond. Thereby, they can benefit from features such as embedded call options. These give the issuer the right to call back the bond, pay the investor and refinance the debt at lower interest rates. This can be beneficial for companies if the opportunity for lower interest rates arises. Nonetheless, this also makes the bond harder to understand for companies, imposing higher knowledge barriers (Spiegeleer et al., 2011).

Another motivation is the dilution of equity because it is postponed until the conversion of the convertible bond. The issuance announcement has a smaller effect on the share price than the announcement of issuing new equity. According to Spiegeleer et al. (2011), a straight equity issue impacts the stock price between -2% and -4% in the US market, while for convertibles, the decrease is sometimes so small that it is insignificant. However, this effect is directly dependent on the conversion feature. Thus, a high conversion ratio will have a more significant impact on the share price. Moreover, the avoidance of equity dilution is supported by a study by Dutordoir et al. (2019), who surveyed 34 Australian convertible bond investors of which 69% found it either important or very important for a company.

Furthermore, Stein (1992) proposes that another motivation for companies is to attain equity “through the backdoor”. This might arise under information asymmetric regarding the value of the company. He argues that this is relevant for companies who want to avoid straight debt because of financial distress but who also cannot issue stock because the market perceives it as overvalued. Therefore, a convertible bond is a good trade-off. This theory is supported by research from Brounen et al. (2006) and Bancel and Mittoo (2004), who surveyed CFOs.

Other theories are that companies issue convertible bonds for sequential financing purposes and to mitigate investment problems. Rastad (2016) argues that shareholders and management usually have higher incentives to invest in risky projects at the cost of bondholders. Which results in an underinvestment equilibrium. Green (1984) found that convertible bonds can mitigate this as bondholders also benefit from a rising stock. Furthermore, according to Mayers (1998), convertible bonds can help a company to match financing options with investment

options and thereby, solve future financing problems. Otherwise, upfront funding may lead companies to invest too much in non-profitable projects directly, because managers might feel the urge to spend the money before the profitability of a project becomes clear. Convertible bonds address this issue by ensuring that when an investment option is profitable also the underlying stock will rise and therefore, leading the conversion option to be in the money. The conversion will then leave room on the balance sheet to issue new bonds. Furthermore, this makes evident that with traditional bonds there might arise investment conflicts between managers and bondholders to invest in non-profitable projects (Rastad, 2016).

Although, there are several theories on why companies issue convertible bonds, this research focuses on the most prominent ones in the research sub-questions one to five which are avoidance of equity dilution, attaining equity “through the backdoor”, sequential financing purposes, reduction of investment problems and information asymmetries.

2.6 The Importance of ESG

The sixth sub-research question focuses on the surge in green convertible bonds and how investors perceive companies who issue them.

Green bonds are becoming increasingly popular. Braga et al. (2021) argue that in comparison to traditional bonds, green bonds have lower volatility and higher risk-adjusted returns. Furthermore, they can protect investors from the impact of business cycle movements and make them less dependent on the oil price. Overall, this can help investors to stabilize their portfolios. This is supported by a study by Löffler et al. (2021), who analyzed the bond performance of traditional and green bonds in the primary and secondary markets. They find that green bonds trade on average 15-20 bps lower on both markets. While there are currently more traditional green bonds issued than green convertible bonds, investors can still see an increase sparked by the COVID-19 crisis (Semmler et al., 2021)

For example, Edenred issued two green convertible bonds in 2021 worth in total 900EUR million. These were linked to a sustainability-linked bond framework, enabling the company to get a negative yield to maturity of -0.12% (Edenred, 2021).

2.7 Types of Firms who issue Convertible Bonds

The seventh research sub-question focuses on the difference between growth and mature companies to investigate if investors' perceptions differ.

Convertible bonds are particularly interesting for growth companies. Growth companies typically need large sums of capital to grow their business and establish their position in the market. However, while growing, they often suffer from negative net operating cash flows. Convertible bonds are an attractive source of capital for growth companies because it enables them to pay considerably low-interest payments compared to traditional bonds. Investors accept these payments as they believe that the company will grow in the future, increasing the company's share price and thus making the equity upside appealing for them (Calamos, Sr, 2021).

In contrast, mature companies have multiple ways to access capital. They can either issue stock or traditional bonds with a much lower coupon than growth companies. However, they can diversify their capital sourcing and benefit from getting access to new investors. Furthermore, issuing convertible bonds usually does not affect their rating as much as issuing traditional bonds. Too much debt might lead rating agencies to downgrade a company's rating. In contrast, convertibles usually have a lower impact on the rating depending on the structure, the bond might not have a maturity date and thus no obligations to repay the investor. However, this is highly dependent on how the convertible is structured and shows again, the endless possibilities for a company to tailor convertibles (Spiegeleer et al., 2011). Overall, there are many features of convertibles to consider.

The money raised through convertible bonds is usually invested with the same intentions compared to traditional financing methods without any difference between growth and mature companies. For example, LEG raised 550EUR million through a convertible bond in 2020 and said that they intend to use it to acquire a new company and finance general corporate purposes. At the same time, they also issued new equity for precisely the same purpose (LEG, 2019). Thereby, showing that the convertible bond is more of a way to diversify their capital source and investor base. This is supported by Zalando who issued two convertible bonds for 500EUR million each in 2020. Similar to LEG, they stated that they use the money to further "support the company's continued growth strategy, to pursue strategic opportunities that may arise and

for general corporate purposes” (Zalando, 2020). Furthermore, this is supported by Atos who issued a convertible bond in 2019 and stated that they plan “to use the proceeds from this transaction to primarily repay medium and long-term debt instruments (Atos, 2019).

Furthermore, convertible bonds become more attractive for all types of companies in volatile times, as previously described. During the pandemic, many investors did not want to invest in the stock of highly impacted companies, such as companies involved in tourism. Therefore, many companies turned to convertible bonds. For example, Singapore airlines raised 850EUR million in convertible bonds in 2020. They stated that “this issuance further strengthens the Company’s liquidity position, and bolsters its ability to navigate the challenges posed by the impact of the Covid-19 pandemic on the business (Singapore Airlines, 2020). This is supported by Lufthansa, who also raised 600EUR million in convertible bonds in 2020. Wilken Bormann, Executive Vice President Group Finance Lufthansa Group, stated that “The transaction proves that Lufthansa still has access to attractive financing despite the Corona pandemic and highlights the trust in Lufthansa as a borrower and the Group's good international reputation” (Lufthansa Group, 2020). This shows that companies value the opportunity to benefit from the reduced risk for investors to get lower coupon payments and access to capital in unstable times.

3. Methodology

The following sections describe the research approach, the methodological choice, the data collection, and the data analysis.

3.1 Research Approach

This research is split into two parts. The first part is based on a *qualitative research approach* and uses *primary data*. It is used to answer sub-questions one to seven. A *quantitative research approach* has not been chosen as a large sample size would have been required, which is not possible given the relatively small number of companies who have issued convertible bonds and the nature that these companies are usually large listed companies which are difficult to reach for interviews. Equal reasoning applies to investors (Walliman, 2011).

The *qualitative research approach* aims to give more close insights into the motivations of investors. Furthermore, the qualitative approach has the advantage that interviewees can better share personal experiences and thoughts, which gives a deeper insight than *quantitative research* (Walliman, 2011).

Moreover, the interviews follow a *comparative approach* which compares multiple experiences. It is used since multiple types of investors are interviewed who have different motivations (Walliman, 2011).

The second part aims to answer the sub-question eight. For this part, an *event study* is conducted and uses *secondary data* from Thomson Reuters. It is a standard method for measuring the reaction of security prices to a previous unanticipated and unknown event. The main assumption of the event study is that share prices should reflect all information which is available to the public, and because of the efficient market hypothesis, the market should act to the announcement of an unknown event (Fama & co., 1969). It aims to find out if investors react the same independently if the company is a growth or mature company.

3.2 Data Collection

For the first part, the data is collected through interviews. The interviews are conducted over zoom due to geographic differences and the current pandemic. They are tape-recorded and transcribed subsequently.

Candidates were mainly reached through LinkedIn or through referrals from previous interviews. Thereby, the research is based on purposive sampling since interviewees were selected based on predefined characteristics (Campbell et al., 2020) and the snowball sampling technique since interviewees were partly selected through referrals (Etikan et al., 2016). For both sampling techniques, the interviewees had to adhere to the following characteristics. First, interviewees had to have experience with portfolio management. Second, the interviewees had to have experience with convertible bonds in their portfolio.

Interviews with investors were conducted through April 2022 and May 2022. Overall, 11 convertible bond investors were interviewed. It is notably that interviewees had a different amount of working experience. This was especially important to see if the perception differed between investors with more and less experience since the market matured more over the past years.

Overall, two interviewees had equal or less than five years of working experience with convertible bonds, while five interviewees had more than ten years and four interviewees had more than 20 years of experience. Furthermore, the interviewees had different nationalities. The majority of interviewees were German (n=5), although two of them work in Switzerland. The rest were from the Netherlands (n=1), Switzerland (n=2), France (n=2) and Austria (n=1). This enabled the researcher to see if coherent consent about motivations were present around Europe or if it was fragmented. Furthermore, all interviewees were men.

Table 1. Convertible Bond Investors

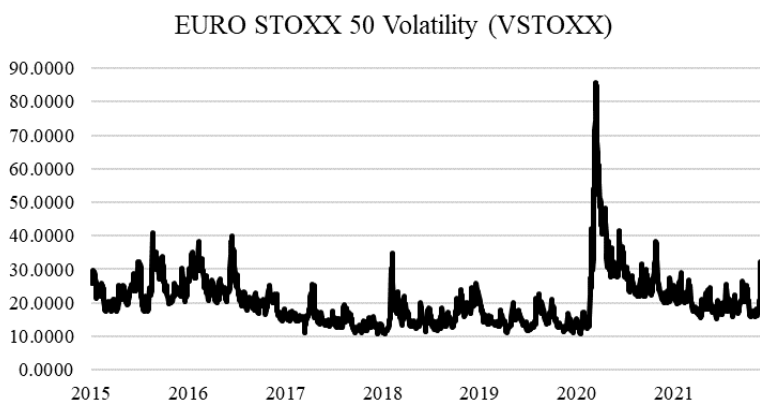
Identifier	Role	Experience	Nationality
ID01	Portfolio Manager	5 Years	German
ID02	Fund Manager Assistant	2 Years	German
ID03	Team Head Convertible bonds	25 Years	Netherlands
ID04	Investment Director	13 Years	German
ID05	Head of Portfolio Management	12 Years	German
ID06	Convertible Bond Specialist	26 Years	Swiss
ID07	Portfolio Manager	23 Years	France
ID08	Portfolio Manager	13 Years	German
ID9	Portfolio Manager	12 Years	Swiss

ID10	Head of Convertible Bonds Managements	29 Years	France
ID11	Managing Partner	10 Years	Austria

For the second part, the data was collected through Refinitiv from Thomson Reuters.

First, a list of all convertible bonds with an outstanding amount of over 50 million issued in Europe between 2015 and 2021 was created in Bloomberg. Furthermore, these companies had to have a sufficient amount of shares outstanding since otherwise, the share price might have been impacted by hedge funds who shortened the stocks to hedge their position. Overall, 127 convertible bonds were issued. Second, the Euro Stoxx Volatility Index was used to identify a time frame in which volatility in European stocks was low (Thomson Reuters, 2022). This ensured that the market's reaction was only due to the announced event and was especially important since events such as the global pandemic and the war in Ukraine heavily influenced stock prices. The index showed that especially the year 2019 had low volatility in European stocks. Therefore, only stocks from 2019 were considered for the analysis.

Figure 1: EURO STOXX 500 Volatility Index



Overall, 21 convertible bonds were issued in 2019 in Europe. From this list, special purpose entities and investment funds were removed since this research only focuses on companies. This reduced the number of issued convertible bonds to 15. The next step was to identify the revenue growth from the past five years to classify the companies into growth and mature companies. Growth companies are identified as companies that perform better than the market (Kotler, 1962). Data from Thomson Reuters was used to find the performance of the last five years of each company. Furthermore, the iShares STOXX Europe 600 UCITS ETF was used

as a benchmark since all companies were listed in Europe and the ETF aims to replicate the European market. The index's performance was 10.2% for the last five years (Thomson Reuters, 2022). Therefore, all companies with a performance above 10.2% were classified as growth companies, while the rest was classified as mature companies. In total, seven companies were classified as growth companies, while the rest were classified as mature companies (Table 2).

Table 2: Event Study Companies

Issuer Name	Cpn	Amount Outstanding	Currency	Revenue growth 5 years	Type
MTU Aero Engines AG	0.05	500,000,000.00	EUR	-2.42%	Mature
Atos SE	0	500,000,000.00	EUR	-2.24%	Mature
Veolia Environnement SA	0	699,999,974.63	EUR	3.34%	Mature
Akka Technologies	3.5	175,000,000.00	EUR	6.71%	Mature
Kering SA	0	550,000,000.00	EUR	7.34%	Mature
Edenred	0	500,000,000.00	EUR	7.39%	Mature
Ubisoft Entertainment SA	0	499,999,897.00	EUR	9.79%	Mature
Sacyr SA	3.75	175,000,000.00	EUR	10.33%	Growth
Orpea SA	0.375	499,999,958.50	EUR	10.40%	Growth
GN Store Nord AS	0	330,000,000.00	EUR	12.77%	Growth
Cellnex Telecom SA	0.5	850,000,000.00	EUR	29.47%	Growth
Biocartis Group NV	4	135,000,000.00	EUR	31.88%	Growth
Neoen SA	1.875	199,999,977.17	EUR	32.63%	Growth
Just Eat Takeaway.com NV	2.25	250,000,000.00	EUR	109.40%	Growth

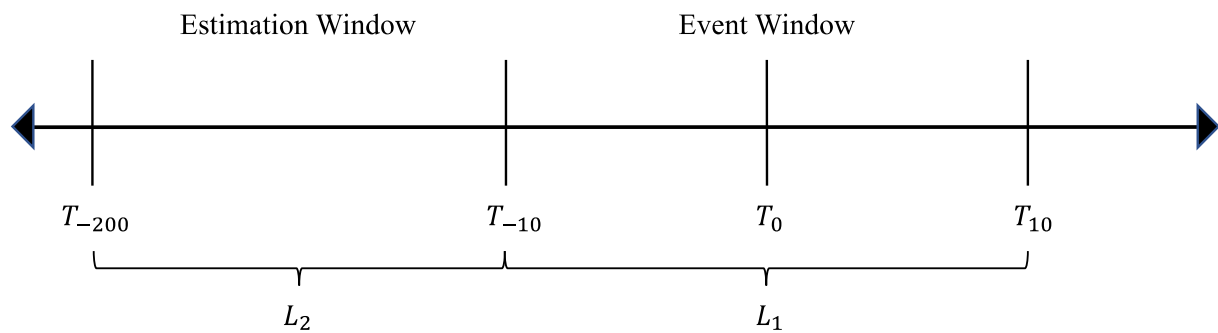
Most of the mature companies showed either small growth or decline, which is an indicator for a mature company (Weil, 2004). The number of mature companies selected for the analysis had to be equal to the number of growth companies. Thereby, 14 out of the 15 convertible bonds who were issued 2019 in the EU were part of the study. Finally, for the analysis, the announcement dates and the stock prices were collected from Thomson Reuters. Thereby, the announcement date is the date on which Thomson Reuters first reported on the issuance.

3.3 Calculations of the Event Study

Sub-question eight was tested through an event study. The aim was to find out the reaction of the announcement of the convertible bond on the underlying issuer's stock price.

As shown in figure 1, the study is split into two time windows in order to perform the analysis. The event window, represented as L_2 , is 10 trading days before and after the announcement, totaling 21 days including the announcement date. The estimation window, represented as L_1 , is 190 trading days before the event window. 190 trading days were used because not all companies were listed for a more extended period of time.

Figure 2: Time Windows



Daily abnormal returns (AR) and cumulative abnormal returns (CAR) during the event window are calculated to estimate the reaction of the market. The market model is used to calculate aggregated daily abnormal returns. The market model relates the return of the market portfolio with the return of the stock (Campbell et al., 1997). Furthermore, it assumes a linear relationship between the return of the market and the stock. The market model is as follows:

$$R_{i,t} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

Where

$R_{i,t}$ is equal to the return of the stock i at time t

α_i is the statistical estimate of the return on a stock when the return on the market as a whole is zero, also known as the intercept of the stock

β_i measures the stock's price volatility relatively to the market, also known as the slope of the stock

R_{mt} is equal to the return of the market at time t

ε_{it} is the zero mean disturbance term

3.3.1 Actual Return and Normal Return

The daily natural logarithmic returns of the companies' stocks and from the market benchmark are calculated since the ordinary least square (OSL) method is used. The OSL method is a statistical method of analysis which predicts the relationship between dependent and independent variables. This method minimizes the sum of the squares of the difference of the explanatory and the observed variables (Wilson et al., 2012). For the benchmark the iShares STOXX Europe 600 UCITS ETF was used. The formula divides the natural log of the company's closing share price at time t by company's share price at time $t-1$ (Jeng, 2020) This calculation is done for the return of the companies as well as for the market.

$$R_{i,t} = \ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right) \quad (2)$$

Where

$R_{i,t}$ is equal to the return on the stock/market i at time t

$P_{i,t}$ is equal to the Price of stock i at time t

$P_{i,t-1}$ is equal to the Price of stock i at time $t-1$

3.3.2 Abnormal Return and Cumulative Average Abnormal Returns

The daily abnormal returns are calculated by subtracting the actual return of the stock i at time t by the expected return which is derived from the market model. Alpha and beta are both derived from the estimation window of the daily logarithmic returns of the company's stock and market returns (Jeng, 2020).

$$AR_{i,t} = R_{i,t}(\alpha_i + \beta_i R_{mt} + \varepsilon_{it}) \quad (3)$$

Where

$AR_{i,t}$ is equal to the abnormal return of stock i at time t

$R_{i,t}$ is equal to the return of the stock i at time t

α_i is the statistical estimate of the return on a stock when the return on the market as a whole is zero, also known as the intercept of the stock

β_i measures the stock's price volatility relatively to the market, also known as the slope of the stock

R_{mt} is equal to the return of the market at time t

ε_{it} is the zero mean disturbance term

Furthermore, the study wants to examine the average abnormal returns (AAR). They are simply calculated by taking the average of all abnormal returns. They are done to have a better understanding of the two groups which are mature and growing companies (Princeton University, 2003).

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t} \quad (4)$$

Where

AAR_t is equal to the aggregated abnormal returns at time t

As a last step, the cumulative average abnormal returns (CAAR) are calculated. They are calculated to get a better understanding of the abnormal returns. They are calculated by adding all average abnormal returns over the event time from -10 to 10 (Princeton University, 2003).

$$CAAR_t = \sum_{t=1}^T AAR_t \quad (4)$$

Where

$CAAR_t$ is equal to the cumulative average abnormal returns at time t

AAR_t is equal to the aggregated abnormal returns at time t

3.3.3 Parametric t-test

The significance of the cumulative average abnormal returns is tested with a parametric t-test. Thereby, the cumulative average abnormal returns are divided by the standard error of the

cumulative average abnormal returns. These are calculated over L_2 from N announcements (Mollemans, 2002). The calculations are the following:

$$T_1 = \frac{CAAR}{SE(CAAR)} \quad (5)$$

3.4 Interview Procedure

Since there are many methods to conduct interviews, a *semi-structured approach* was chosen. Questions are not fully structured and can be omitted or adjusted, enabling an open exchange during the interviews (Walliman, 2011).

Interviews are prepared with secondary data such as press releases and information from previous literature. Subsequently, an interview guide was prepared to serve as a guideline. Most interviews usually lasted between 20-45 minutes. All interviews were conducted through phone, Zoom or Microsoft Teams, depending on the interviewee's preference. Interviewees were previously asked for their permission to process their data to ensure adherence to the EU general data protection regulation. All interviews were recorded and later transcribed. The tool "Amberscript" was used to help transcribe the interviews. The researcher later adjusted the transcripts to account for mistakes made by the tool. Furthermore, some paragraphs unnecessary to the analysis were condensed. Moreover, the researcher translated some interviews into English since some interviews were conducted in German. In the end, the interviews were anonymized since it was decided that all names of the interviewees and their employers would not be disclosed since most interviewees asked to do the interview anonymously since they perceived the information as confidential. Therefore, each interviewee was given an identifier (ID) which could not be traced back to their identity.

3.5 Data Analysis

For the first part of the analysis, the interviews were interpreted and compared to previous research in order to generate insights and form a conclusion. The first step in analyzing qualitative research data is to transcribe the data as described in the previous paragraph. The second step is to establish codes which are used to organize, sort and interpret qualitative data. Codes enables researcher to cluster answers and form conclusions (Stuckey, 2015). Therefore, the interview guide questions were divided and codes were formed for each question (See

Appendix Table 1). Based on the codes the answers of candidates were scanned and analyzed to interpret their answer of each question.

For the second part of the analysis, the calculations of the event study were analyzed. The data for each company in the two groups mature and growth companies were aggregated to understand the overall relevance. Furthermore, the t-test was interpreted in order to see the statistical significance.

4. Analysis and Discussion

Past research identified several theories on the motivations why companies issue bonds. The most common ones are (1) avoidance of equity dilution, (2) receiving equity “through the backdoor”, (3) sequential financing, (4) mitigating investment problems and (5) information asymmetries. The following section focuses on analyzing how convertible bond investors perceive these theories. Furthermore, this section analysis how important the issuance of (6) green convertible bonds become for investors and (7) if investors have different perceptions about growth and mature companies.

4.1 Companies Motivations to issue Convertible Bonds

4.1.1 Avoidance of Equity Dillution: Yes (6) and No (3) and Neither Nor (2)

According to Spiegeleer et al. (2011), the dilution of equity only happens after converting the convertible bond. This is confirmed by a study by Dutordoir et al. (2019). This research interviewed 11 European convertible bond investors and found that six agree with this theory, three do not agree with it, and two neither agree nor disagree. This shows that only slightly half (55%) of investors agree with the theory. Investor ID03 agreed with this statement and stated:

“Yes, absolutely. Because they will be able to raise equity at a higher price than where they are currently trading. Shareholders might argue that there is a dilution, however, they are only diluted if the share price goes up which also benefits them.”

This is supported by investor ID01 who argued:

“I think there is no dilution at current levels as it is priced into the premium, and rising shares are also beneficial for existing shareholders. Many large companies try to get around the dilution and issue CBs only with call options to recall convertible bonds before they are converted, and the dilution occurs.”

Thereby, these statements show that no equity dilution happens at current levels, and once they happen, shareholders also benefit from it due to the rising share price. Furthermore, because convertible bonds can be tailor-made, it is possible to embed a call option and recall the bonds before they are converted.

However, other investors argue that convertible bonds do not postpone the equity dilution. Investor ID09 stated:

“No, I would say no because it just happens later and the market knows about it.”

He argues that the market already knows that the equity dilution is happening in the future and therefore, reacts negatively to the issuance. The statement of investor ID01 supports this:

“We have recently seen that often the stock market reacts directly, and the share falls. So, yes, they will directly dilute”

However, some investors neither agree nor disagree with the statement. They argue that it depends because the issuer does not know if the share price will increase and investors will convert the bond or if he has to repay the bond. Investor ID05 supports this:

“No, I would not say that. Because as a manager you never know if the bonds will get converted or if you have to repay the bond. So, you are somewhere in the middle. You increase the probability against traditional bonds but minimize the probability against equity.”

Overall, the interviews show no explicit consent on this theory, although slightly the majority believes convertible bonds are useful to postpone the equity dilution.

4.1.2 Receiving Equity “Through the Backdoor”: Yes (7) and No (3) and Neither Nor (1)

Another popular theory is that convertible bonds enable companies to receive equity “through the backdoor”. Stein (1992) argues that this is especially relevant for companies who cannot issue straight debt due to financial distress nor issue stock since the company is seen as overvalued. The interviews show that seven investors disagree with the theory, three do not and one neither disagrees nor agrees.

Most investors support this theory such as investor ID11 who stated:

“Yes, that's technically right. You are issuing in the future.”

Or investor ID06 who said:

“Yes, that is nicely formulated but it is true. I think backdoor is the wrong word because it is known that they will receive equity if the bonds get converted.”

Surprisingly, multiple investors said they do not like the word “backdoor” since it is a known fact. However, other investors disagree with this theory as it is unknown if the convertible bonds will be converted or not. Investor ID argued:

“That depends on the whole market. For example, companies issued many convertible bonds in the 90s in Japan, which did not work because of the economic situation. We saw that 2020 was good for technology companies, but since 2021 a lot are below par, so investors will not convert some of them. Therefore, it happens but only if the whole market situation allows it.”

The same reasoning applied to the theory before about the postponement of equity dilution. These investors argue that the outcome mainly depends on the market. Investor ID07 also agrees with the statement. However, he also acknowledged that this depends on the market and, thus, is not in the company’s control:

“Yes. But again, they don't control it. When companies issue, maybe they don't want equity dilution, but yes, it's a way they can obtain equity.”

Overall, 64% of interviewed investors believe that it is a way for companies to receive equity “through the backdoor”, however some argue that it depends mostly on the market and is not in the company’s control.

4.1.3 Sequential Financing: Yes (7) and No (4)

Mayers (1998) argues that investment options can be matched with financing options in the future to avoid upfront funding which might lead managers to invest in projects before its know if they are profitable. A total of seven investors agreed with this theory while four disagreed. Most investors like it if companies issue multiple convertible bonds. Investor ID04 stated:

“Yes, we see that happening quite often. We like it if a company has two or three convertible bonds outstanding. It is good for us because it gives them different risk profiles. However, it can also be too much like with Delivery Hero. That might be a red flag.”

Investor ID05 supports this theory describing:

“Yes, that is true. Especially if previous emission were successful. Like Tesla for example, investors like to buy them because the share price has constantly increased. Otherwise, it might be hard if the share price is not increasing.”

Both statements show that investors like companies issuing multiple convertible bonds as long as the company is performing well. Otherwise, it might be a red flag indicating that the company cannot find funding elsewhere. Nevertheless, there are also investors who believe that there is no difference between financing with convertible bonds than with other sources of capital. For example, investor ID07 stated:

“Convertible bonds are like traditional bonds in that you can finance everything you want. They are specific because you have lower financing but with the risk of equity dilution in the future. But that's just the way it is. It is a different financial instrument. But I don't think it's changed the purpose of your financing.”

In conclusion, 64% of investors believed that convertible bonds are useful for sequential financing while the rest believes that is not which is mainly because they do not see a difference to other sources of funding.

4.1.4 Mitigating Investment Problems: Yes (2) and No (8) and Neither Nor (1)

Another theory is that convertible bonds can mitigate investment problems. According to Rastad (2016), shareholders are usually keener to invest in riskier projects than bondholders. Convertible bonds are supposed to mitigate this risk since both parties can benefit from a rising share price by investing in riskier projects.

However, this research shows that most investors disagree with this theory. Eight investors say that they do not agree, two agree and one neither agrees nor disagrees. Most investors who disagreed with the statement said that it was because the source of financing does not matter. They believe that managers have to invest it with the best intentions no matter where they get the capital. The statement of investor ID05 supports this:

“No, I would not say so because managers have to be responsible with the capital no matter where they get it from.”

Those in favor of the argument believe that convertible bonds are useful due to their nature and since they can be tailored. Investor ID09 supports this:

“Yes, that is true because convertibles can be tailor-made.”

The investor ID04 said that he neither agrees nor disagrees because he is often unsure how the company invests the money. He said that often there is only a brief explanation or the company only mentions general expenses. He stated:

“I do not know because often, we only get a term sheet with a general purpose on it, so I do not know how they invest it.”

In conclusion, most investors (73%) believe that convertible bonds do not help mitigate investment problems. However, they believe this because they think the company should invest the capital in a responsible matter independent of the source.

4.1.5 Information Asymmetries: Yes (6) and No (5)

The mitigation of information asymmetries is another theory which has been often studied. Often managers and investors do not agree on the value of the company and convertible bonds help to minimize the asymmetries. However, this research shows that investors have divided opinions about this topic. Six investors agree with the theory while five disagree.

Investor ID11 supports this with his statement:

“Yes, it is possible that there are information asymmetries. Especially since the management knows more about their valuation. Thereby, I would say that it is a good instrument to minimize the disagreement.”

Most investors agree that management may have more information about the company and convertible bonds help minimize the information asymmetries. Because if management believes in the project, investors will also benefit from it.

Nevertheless, some investors believe that information asymmetries do not exist anymore since the market has become so efficient and they can correctly price convertible bonds with evolved technology.

Investor ID04 supports this with his answer:

“No, I do not think so because we investors are pretty good at pricing the bond. Therefore, I do not believe that there are any information asymmetries in the primary market.”

Overall, there is no complete consent about this theory since some investors believe that information asymmetries exist while others believe that the market is so mature that they do not exist anymore.

4.2 The Importance of ESG

4.2.1 Issuance of Green Convertible Bonds: Yes (8) and No (1) and Neither Nor (2)

Green bonds in general are becoming more popular and also the green convertible bond market is increasing. In the interviews, eight investors said it is important for them, while one said it is not important and two neither agree nor disagree.

The investors who said it is important for them mainly argued that many of their funds either have an environmental, social and governance (ESG) focus or investors and clients support the idea of investing in companies who use the money for a good cause. Investor ID10 argued:

“It's true that the community of convertible bond investors now puts more emphasis on ESG within their portfolios. It now takes an increasing part in our considerations.”

However, most investors said that the issuing company is important since they have strict ESG rules. Investor ID01 supports this with his statement:

“For many companies, this is a way to obtain capital even more cheaply. For us as investors, it is also not bad if companies want to invest sustainably. But of course, it also depends on what kind of company issues the bond because if the bond is converted into shares, we only want to have good companies in our portfolio.”

However, some investors acknowledge that it is becoming more popular but see it more as a trend that everyone has to follow. Investor ID05 argued:

“ESG plays a significant role nowadays, however, I am skeptical against green convertible bonds. No one wanted to hear from it when it started, but now it is mainstream and sometimes even contra-productive because industries we still need, like energy, do not get any money anymore.”

One investor ID11 even disagreed with the importance of ESG bonds and said that he does not believe that the lower coupon is justified. He stated:

“We are not going to pay. We will not accept paying more for ESG and or green bonds. We are pushing back. We are pushing back as an industry and as an investor base, not to overpay for a structure that has a green bond.”

Overall, there is a clear consent (73%) that green convertible bonds are becoming more critical for investors. However, most investors acknowledge that it also depends on the company issuing the convertible bond.

4.3 Types of Firms who issue Convertible Bonds

4.3.1 Difference between Growth and Mature Companies: Yes (2) and No (6) and Neither Nor (3)

Growth companies issue most convertible bonds. For them, it is a way to get access to cheap capital while investors can benefit from the equity upside. In comparison, less mature companies issue convertible bonds since they also have affordable access to traditional financing methods such as bonds or equity. Therefore, it is interesting to see if investors have different perceptions about the two types of firms. The interviews showed that it only makes a difference for two investors, while six state that it does not make a difference and three neither agree nor disagree.

Investors who agree with this theory usually say that it makes sense for mature companies because they can benefit from lower interest payments, have access to new investors and overall diversify their portfolio. The answer from investor ID03 supports this:

“Yes, there is only a difference in assessing the bonds. Big companies have credit metrics and therefore, it is easy for us to make a decision. For smaller companies it is harder to make an assessment because they do not have a credit rating. For us it is not a bad sign if mature companies issue convertible bonds. This actually makes sense because they are able to issue with even lower coupons. Also, they only have to issue more equity when the stock goes up by like 20% which they like if they believe that their stock is already expensive. Also, it is a good way for a company to diversify their source of funding. So, it’s fine unless they issue too many bonds.”

He states that it is not a bad sign for investors and only differs in the way they assess the bonds since mature companies usually have a credit rating that growth companies often do not have.

The statement of investor ID09 supports this:

“No, it is not a bad sign if mature companies issue convertible bonds. For them it can make sense since convertibles can be tailor-made. Also, it is interesting for us since these are usually stable companies which are good to stabilize our portfolio.”

He also argues that it is not a bad sign, and he states that it is a good fit for his portfolio since mature companies help to stabilize returns.

Nonetheless, some investors do not perceive it as a good sign. Investor ID05 is a bit more skeptical when mature companies issue convertible bonds:

“Yes, it makes a difference. Looking at the past, you can see that mainly growing companies drove performance. With mature companies, you have to be a bit more cautious and ask yourself if there are any information asymmetries as to why they are issuing. It only makes sense if mature companies would like to differentiate their sources of finance because investors have different preferences, and it gives them access to a new group, as well as low coupon.”

Furthermore, this is supported by investor ID04, who believes that it depends on the company and its past performance. He stated:

“It depends on the company. You have to be more careful with some credit turnaround candidates. The share price is a beautiful predictor of whether a company has any problems. So, if a company has a positive track record, it will probably also get the capital from somewhere else, so yes, it might be a red flag. A company with a lousy track record might use convertibles as the last chance, which can also work, as we have seen during the pandemic with companies like Singapore Airlines. But for us, as investors, we do not like turnaround candidates that much since they are too risky for us, although they might be good for the performance”

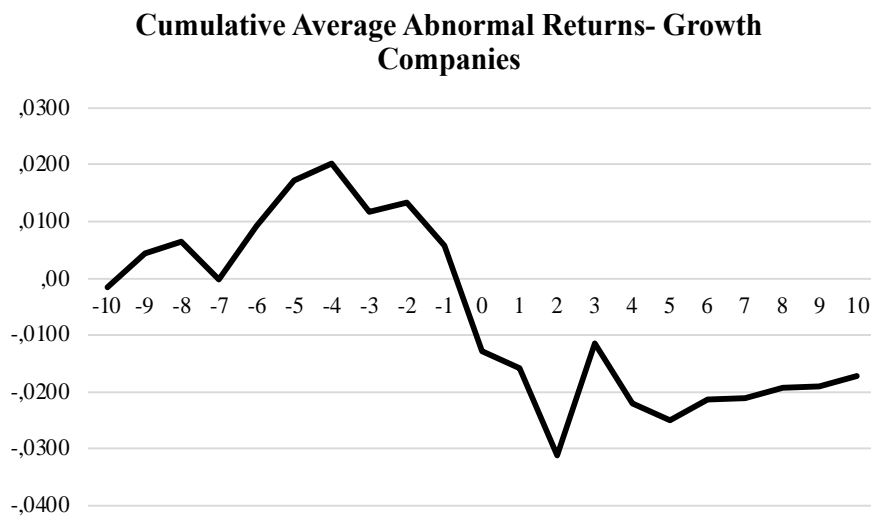
Overall, most investors believe that there is no difference between mature and growth companies. For most of them, mature companies are interesting since they are usually more stable and can thus, stabilize the return of the portfolio.

4.3.2 Outcomes Event Study about Growth and Mature Companies

The event study looked at European companies that issued convertible bonds in 2019. The year 2019 was chosen because it showed the lowest volatility in the last five years, which was important so that any other external results did not influence results. In total, 21 convertible bonds were issued, out of which 15 represented growth and mature companies. Seven mature and seven growth companies were analyzed to equalize the groups.

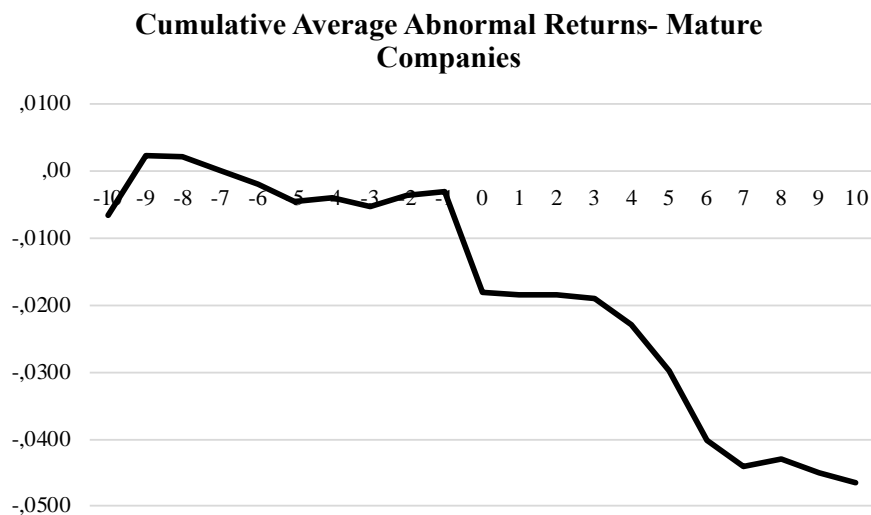
As shown in Figure 3, there was a decrease in CAAR for growth companies after the announcement. This decrease continued for a few weeks until it started to increase again. This shows that the market had time to adjust to the announcement.

Figure 3 : CAAR – Growth Companies 2019



In contrast, for mature companies the effect cannot be observed. As shown in Figure 4, there is a decrease after the announcement as well. However, this decrease continued and did not increase again in comparison to growth companies.

Figure 4: CAAR – Mature Companies 2019



Noticeably, the CAAR for mature companies did not perform well before the announcement date. The CAAR were much smaller and even decreased. Furthermore, the CAAR of the announcement dates for both groups were statistically significant (Appendix Table 4 and 5). This indicated that mature companies were already not performing well when they decided to issue convertible bonds. This shows that the market reacts more negatively to mature companies issuing convertible bonds than convertible bond investors.

4.4 Managerial Implications

The findings of this research can be helpful for companies to understand how investors perceive it when they issue convertible bonds. The study shows that investors believe there is no explicit consent on many theories.

The research shows that only 55% of investors believe that equity dilution can be avoided by issuing convertible bonds. The rest either disagrees or neither agree nor disagree. Many investors disagree with his theory because they believe that the market already knows that the equity will be diluted in the future and thus reacts. This is supported by many announcement date studies, such as by Ammann et al. (2006), who found that in Germany and Switzerland the share price negatively drops after a company issues a convertible bond. The event study of this research supported this and showed that for European companies the share price drops after the announcement independently of the type of the company. Therefore, companies need to be aware that the issuance of convertible bonds can have a negative effect on their share price.

Furthermore, investors do not have a consent if convertible bonds can mitigate information asymmetries since only 55% believe that they can. Most investors think that the market is mature and that they can price the bond correctly. This means companies should be aware that most investors have advanced tools to price convertible bonds. Companies should not use convertible bonds if they believe that they hide the company's actual value since investors can assess it correctly.

However, there are also theories that more investors agree on. 73% of all investors agree that convertible bonds are helpful for sequential financing. Most investors stated that they like if companies issue multiple convertible bonds as it will change the risk profile and is particularly interesting if the company has performed well in the past. Therefore, a company should consider issuing multiple bonds if the company's performance was good in previous years. Nevertheless, they still need to find a balance as some investors perceive it as a red flag if a company has too many convertible bonds outstanding.

Another theory on which multiple investors agree is that companies receive equity "through the backdoor". 64% of investors support this theory. Most investors argue that it is known that convertible bonds will lead companies to receive equity in the future. Thereby, many investors agree with this theory but dislike the term "backdoor" as it is a well-known fact. Nevertheless, some investors disagree with this theory as they believe that it is unknown at the time of issuance since companies cannot control it since it highly depends on the market's

performance. Companies who need to get equity “through the backdoor” usually have the issue that they cannot turn to traditional debt due to financial distress nor to the equity market since the market believes that they are overvalued. This research shows that companies cannot cover up this fact with convertible bonds, and they need to be aware that convertible bond investors will correctly assess this and do an appropriate valuation.

There is also a theory on which most investors disagree. 73% of investors believe that convertible bonds cannot mitigate investment problems. Most of them believe that there should not be any investment problems since companies should invest the money responsibly independently of the source of financing. Nonetheless, some investors agree with this theory as they believe that management knows more about their company but convertible bonds still enable investors to benefit from riskier projects. This means for companies that most investors believe that they are not scared of any investment problems but instead trust the company to invest responsibly.

Next to the theories, this research also focused on how investors perceive the increasing importance of ESG. The research found a strong consent that investors believe that it is becoming increasingly important for them. 73% of investors already believe that it is crucial. This means companies that should increasingly focus on issuing green convertible bonds since investors are even willing to pay more for them. In addition, it can help companies to become more sustainable which will be beneficial for them in the long term.

This research also had a closer look at if investors have different perceptions about growth and mature companies that issue convertible bonds. The interviews showed that there is no explicit consent for investors. Only slightly the majority (55%) indicated that it does not matter to them. They argue that they like convertible bonds from mature companies since they are usually more stable and can stabilize their portfolio returns. However, some also indicate that investors need to be careful and that it can be a red flag if mature companies turn to convertible bonds since they also have access to traditional financing methods like bonds and stocks.

The event study investigated the same question and showed an interesting trend. The study showed a significant decrease after the announcement of the convertible bond. Interestingly, this effect was only temporary for growth companies. In contrast, for mature companies this trend continued. Furthermore, the research showed that the CAAR was already worse for mature companies than growth companies before the announcement. This indicates that most companies who already did not perform well turned to convertible bonds. The event study

supports investors' concerns that it might be a red flag if mature companies issue convertible bonds as it might be their last source of financing.

Therefore, growth companies do not have to be too concerned about the decrease since it is only temporary. In contrast, mature companies must be more careful that they might be sending a signal to the market that shows that the company is not performing well.

Overall, this research showed that investors have different perceptions about companies who issue convertible bonds. However, companies should be aware that there is an increasing demand for green convertible bonds which can be helpful for them. Furthermore, mature companies need to understand the signal they send to the market if they issue a convertible bond.

4.5 Limitations and Future Research

This study is based on interviews with 11 convertible bond investors. Although, investors come from different countries, a larger sample might still give different results. Therefore, future research could focus on interviewing more investors. In addition, all investors were male. Interviews with female investors might provide different results and could give insights into potential different perceptions between female and male investors. Moreover, this research only interviewed convertible bond investors, and it would be interesting to see if perceptions differ between shareholders, equity investors, fixed income investors or hedge funds. Hedge funds would be especially interesting as they are the counter investors to long-only convertible bond investors.

The event study showed the difference between mature and growth companies. However, it was only limited to 2019. Thus, it would be interesting to see if the same trend can be observed in different years as well.

Furthermore, interviews, as well as the event study, were focused on Europe. Therefore, it would be interesting to replicate the same study on different continents.

5. Conclusion

The research aims to answer the research question:

How do European investors react to the issuance of convertible bonds, and what is their perception of the issuing company?

Thereby, the research focused on analyzing several sub-questions to answer the research question. The sub-questions revealed that convertible bond investors do not have explicit consent about how they perceive the issuing company. Nevertheless, the interviews give an indication. More than half of investors agree with the theories that companies can avoid equity dilution, receive equity “through the backdoor” and that convertible bonds are useful for sequential financing. Furthermore, the research shows that 73% of investors believe that convertible bonds do not help mitigate investment problems since they think that companies should invest the money responsibly irrespectively of the source of funding.

Moreover, the research finds strong consent about the importance of green convertible bonds. Many investors indicated that they are becoming increasingly important for their funds and clients.

In addition, the research finds that the type of company does not matter for convertible bond investors. Although, mature companies have access to other capital sources, most investors do not perceive it as a bad sign if mature companies issue convertible bonds. They like it because they help to stabilize their portfolios. Nevertheless, the event study showed that mature companies have worse CAAR before the announcement date compared to growth companies. This indicates that the company had problems before issuing the bond and it might have been their last source of capital. In addition, the event study showed that the share price declined after the announcement date for mature and growth companies. However, for growth companies this effect was only temporary. In contrast, for mature companies this effect was ongoing. This showed that the market reacted more strongly to the announcement and that mature companies need to be careful which signals they want to send.

Overall, this research found many interesting insights about investors’ perceptions. The “managerial implications” section shows how companies can interpret investors’ reactions. Companies can use it to understand what signals their issuance sends.

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Appendices:

Table 1. Declaration of consent:

Question	Possible Answers
<p>I hereby give my consent to the use of the personal data collected during the following interview:</p> <p>Date of interview: xxx</p> <p>Name of the interviewee: xxx</p> <p>Brief description of the research project: Master thesis: Hybrid Financing Methods - Analyzing Motivations to Issue Convertible Bonds from a Company and Investor Perspective</p> <p>University conducting the project: ESCP & Católica Lisbon</p> <p>Leader of the project: Rebecca Busch</p> <p>Data will be collected through an oral digital interview recorded with a recording device.</p> <p>For the purpose of data analysis, the orally collected data will be transcribed.</p> <p>The interviewed person agrees to be quoted by name in the context of the master thesis. Information about the employer is anonymized</p> <p>The storage of personal data for documentation purposes can be objected to by the interviewee at any time. Participation in the interview is voluntary. The interview can be terminated at any time. Consent to the recording and further use of the data can be revoked at any time</p>	<p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>

Table 2. Interview Questions:

Topic	Question
	<p>What kind of impression do you get of a company if they issue convertible bonds instead of traditional bonds or stocks?</p>
	<p>Does it make a difference to you whether a growth company or an established company issues the convertible bond?</p>

Issuance	Convertible bonds are useful tools to avoid the equity dilution that a common stock offering entails
	Convertible bonds allow companies to obtain equity "through the back door" by converting at a later date
	Convertible bonds are helpful for sequential financing purposes
	Convertible bonds allow companies to mitigate some of the investment problems associated with traditional bonds
	Convertible bonds can be useful if managers and investors disagree about the risk of the company.
ESG	To what extent does it matter to you if a company says that it wants to invest the money for ESG projects?

Table 3. Coding

Topic	Outcome	Code	Count	Total Count	In %
Equity Dillution	Yes	Directly dilute	1	6	55%
		Yes	5		
	No	No dillution	1	3	27%
		No	2		
	Neither or	Depends	2	2	18%
Equity "through the backdoor"	Yes	Yes	9	9	82%
	No	No	1	1	9%
	Neither or	Depends	1	1	9%
Sequential Financing	Yes	Yes	6	7	64%
		Accurate	1		
	No	No	3	4	36%
	I don't think	1			
Mitigate Investment Problems	Yes	Yes	2	2	18%
	No	Would not say	4	8	73%
		Do not think	4		
	Neither or	Do not know	1	1	9%
Information Assymetries	Yes	True	1	6	55%
		Yes	1		
	No	No	5	5	45%
ESG	Yes	Totally	2	8	73%

		Yes	5		
		Significant	1		
	No	Not	1	1	9%
	Neither or	Depends	2	2	18%
Growth vs. Mature companies	Yes	Yes	2	2	18%
	No	No	3		
		Not bad	1	6	55%
		No difference	2		
	Neither or	Depends	3	3	27%

Table 4. Growth Companies

Day in Announcement	Aggregated Abnormal Returns	Cumulative Average Abnormal Returns	T-Test	Significant at 10%
-10	-0,00166	-0,00166	-0,27909	No
-9	0,00598	0,00432	0,72569	No
-8	0,00218	0,00650	1,09267	No
-7	-0,00679	-0,00029	-0,04929	No
-6	0,00953	0,00924	1,55329	No
-5	0,00797	0,01721	2,89325	Yes
-4	0,00301	0,02021	3,39881	Yes
-3	-0,00857	0,01165	1,95860	Yes
-2	0,00164	0,01329	2,23465	Yes
-1	-0,00762	0,00567	0,95290	No
0	-0,01856	-0,01289	-2,16775	Yes
1	-0,00301	-0,01590	-2,67351	Yes
2	-0,01517	-0,03107	-5,22417	Yes
3	0,01965	-0,01141	-1,91924	No
4	-0,01064	-0,02206	-3,70859	Yes
5	-0,00295	-0,02501	-4,20531	Yes
6	0,00363	-0,02138	-3,59473	Yes
7	0,00028	-0,02110	-3,54789	Yes
8	0,00175	-0,01935	-3,25326	Yes
9	0,00026	-0,01908	-3,20906	Yes
10	0,00192	-0,01716	-2,88608	Yes

Note: Significant at 10% level at 1.943

Table 5. Mature Companies

Day in Announcement	Aggregated Abnormal Returns	Cumulative Average Abnormal Returns	T-Test	Significant at 10%
-10	-0,00657	-0,00657	-1,00306	No
-9	0,00885	0,00228	0,34820	No
-8	-0,00016	0,00212	0,32446	No
-7	-0,00200	0,00013	0,01932	No
-6	-0,00201	-0,00188	-0,28707	No
-5	-0,00268	-0,00456	-0,69644	No
-4	0,00065	-0,00391	-0,59703	No
-3	-0,00130	-0,00521	-0,79579	No
-2	0,00170	-0,00351	-0,53617	No
-1	0,00047	-0,00304	-0,46455	No
0	-0,01506	-0,01811	-2,76517	Yes
1	-0,00032	-0,01842	-2,81330	Yes
2	-0,00001	-0,01843	-2,81435	Yes
3	-0,00051	-0,01894	-2,89202	Yes
4	-0,00399	-0,02293	-3,50124	Yes
5	-0,00684	-0,02976	-4,54527	Yes
6	-0,01034	-0,04011	-6,12491	Yes
7	-0,00398	-0,04408	-6,73204	Yes
8	0,00109	-0,04299	-6,56582	Yes
9	-0,00199	-0,04498	-6,86946	Yes
10	-0,00146	-0,04644	-7,09275	Yes

Note: Significant at 10% level at 1.943

Table 6. Interview Transcripts

Questions: Participant ID01	
1.	As a convertible bond investor, it's not a bad sign. There are several reasons for this. Often a company issues convertible bonds to get lower interest rates. Growth companies especially prefer this. Companies do this because they are often afraid of dilution if they issue stock. Large companies hardly ever issue convertible bonds because they have other ways to access low-interest capital. You have to ask yourself why they need a convertible bond. It might be questionable why mature companies need to issue a convertible bond.
2.	That's right. I think there is no dilution at current levels as it is priced into the premium, and rising shares are also beneficial for existing shareholders. Many large companies try to get around the dilution and issue CBs only with call options to recall convertible bonds before they are converted, and the dilution occurs.
3.	Yes, it's nothing else. At the end of the day, it's an equity raise when things go well, but when things go badly, it's just a bond - an obligation.

4.	Yes, that is true. Especially the Corona crisis has shown how important it is to have a certain liquidity buffer in reserve. Especially capital that is not dedicated to a specific purpose.
5.	Maybe I wouldn't say that because if you look at who has issued convertible bonds in recent years, they were usually companies entering the capital market for the first time to raise capital. Growth companies often have no other choice.
6.	That's true. But as an investor, I also benefit from it. A company only makes a risky investment if it also believes in itself. Of course, it's an asymmetrical risk because if it works out, I profit upwards. If it doesn't work out, I lose the capital I invested because companies can go bankrupt. That's why the convertible bond instrument is fascinating from my point of view.
7.	For many companies, this is a way to obtain capital even more cheaply. For us as investors, it is also not bad if companies want to invest sustainably. But of course, it also depends on what kind of company issues the bond because if the bond is converted into shares, we only want to have good companies in our portfolio.

Questions: Participant ID02

1.	This depends very much on the financial situation of the company. Growth companies, in particular, often need much capital for a low-interest rate. For larger companies, this can be seen as more of a problem. It is not a red flag but already a yellow flag. It is also important to note that convertible bonds are considered a fixed income instrument and therefore are a liability and not an asset on the balance sheet.
2.	Shareholders are only diluted later. However, we have recently seen that often the stock market reacts directly, and the share falls. So, yes they will directly dilute.
3.	Yes, on the one hand, it's certainly evident when you look at the structure of a convertible bond that's the process that happens. However, I would say that the market is so efficient that it more or less sees through this. Because otherwise, there wouldn't be this reaction at the stock markets. So, if this conversion had not already been priced in, then the share price would not be reacting so strongly to the fact that a convertible bond had been issued. From that point of view, I would say maybe at first glance, but overall, I don't think so.

4.	I think that's a very accurate description. A good company that comes to mind now as an example is Delivery Hero. They have a lot of them. I think they now have six or seven convertible bonds, all of them always with a one-year delay.
5.	No, I wouldn't say that. The financing is secondary for the time being because you have to spend the money responsible either way.
6.	Relatively yes, as convertible bonds do not need an official rating. However, nowadays, the market is becoming very good at rating a convertible bond, which means that this is now less and less the case.
7.	That depends on the investor. In principle, yes, but it also depends a lot on the company issuing the bond.

Questions: Participant ID03

1.	Yes, there is only a difference in assessing the bonds. Big companies have credit metrics and therefore, it is easy for us to make a decision. For smaller companies it is harder to make an assessment because they do not have a credit rating. For us it is not a bad sign if mature companies issue convertible bonds. This actually makes sense because they are able to issue with even lower coupons. Also, they only have to issue more equity when the stock goes up by like 20% which they like if they believe that their stock is already expensive. Also, it is a good way for a company to diversify their source of funding. So, it's fine unless they issue too many bonds.
2.	Yes, absolutely. Because they will be able to raise equity at a higher price than where they are currently trading. Shareholders might argue that there is a dilution, however, they are only diluted if the share price goes up which also benefits them.
3.	Yes, but for them it makes sense, right?
4.	Yes, I do believe that it is useful for them.
5.	If you would have asked me 10 years ago, I would have said yes. The market was really hot after the crises and the hedge funds were all over it. But currently, I do not see it because we have way more advanced methods to assess new convertible bonds.
6.	No, because you have to understand that the market is becoming really mature so information asymmetries are not that common anymore.
7.	Totally, since there is a lot of demand for ESG issuers, they can get away with a lower coupon. But it totally depends on the company, a Tobacco company might still find it hard to find investors.

Questions: Participant ID04

1.	It depends on the company. You have to be more careful with some credit turnaround candidates. The share price is a beautiful predictor of whether a company has any problems. So, if a company has a positive track record, it will probably also get the capital from somewhere else, so yes, it might be a red flag. A company with a lousy track record might use convertibles as the last chance, which can also work, as we have seen during the pandemic with companies like Singapore Airlines. But for us, as investors, we do not like turnaround candidates that much since they are too risky for us, although they might be good for the performance.
2.	That depends a bit on the capital structure. For big companies like Twitter, it does not play that big of a role as for small companies like Delivery Hero.
3.	That depends on the whole market. For example, companies issued many convertible bonds in the 90s in Japan, which did not work because of the economic situation. We saw that 2020 was good for technology companies, but since 2021 a lot are below par, so investors will not convert some of them. Therefore, it happens but only if the whole market situation allows it.
4.	Yes, we see that happening quite often. We like it if a company has two or three convertible bonds outstanding. It is good for us because it gives them different risk profiles. However, it can also be too much like with Delivery Hero. That might be a red flag.
5.	I do not know because often, we only get a term sheet with a general purpose on it, so I do not know how they invest it.
6.	No, I do not think so because we investors are pretty good at pricing the bond. Therefore, I do not believe that there are any information asymmetries in the primary market.
7.	Yes, it makes a difference. However, I feel like this whole trend is getting exaggerated. More and more companies are issuing green convertible bonds, and it is becoming beneficial for them since some of them even get a negative yield. But it also depends on the company; I prefer to buy companies already having a positive impact.

Questions: Participant ID05	
1.	Yes, it makes a difference. Looking at the past, you can see that mainly growing companies drove performance. With mature companies, you have to be a bit more cautious and ask yourself if there are any information asymmetries as to why they are issuing. It only makes sense if mature companies would like to differentiate their sources of finance because investors have different preferences, and it gives them access to a new group, as well as low coupon.
2.	No, I would not say that. Because as a manager you never know if the bonds will get converted or if you have to repay the bond. So, you are somewhere in the middle. You increase the probability against traditional bonds but minimize the probability against equity.
3.	No, because the market realizes it. You can only call it like that because it happens later.
4.	Yes, that is true. Especially if previous emission were successful. Like Tesla for example, investors like to buy them because the share price has constantly increased. Otherwise, it might be hard if the share price is not increasing.
5.	No, I would not say so because managers have to be responsible with the capital no matter where they get it from.
6.	Yes, that is true because investors also benefit if the companies perform good.
7.	ESG plays a significant role nowadays, however, I am skeptical against green convertible bonds. No one wanted to hear from it when it started, but now it is mainstream and sometimes even contra-productive because industries we still need, like energy, do not get any money anymore.

Questions: Participant ID06	
1.	For me there is no difference. For mature companies it makes sense because they can benefit from lower interest payments. Also, for some companies like Royal Caribbean it was the only way because of the pandemic. But usually, more growth companies issue convertibles.
2.	Yes, that is true but it is something you are willing to do if you issue convertible bonds.
3.	Yes, that is nicely formulated but it is true. I think backdoor is the wrong word because it is known that they will receive equity if the bonds get converted.
4.	No not really, because companies get the money directly and can directly invest it.
5.	No, I do not believe that. I think that is independent of the financing method.

6.	No, I would not say that because there should not be any information asymmetries because the market is efficient and investors prefer risk.
7.	Yes, green bonds are becoming more important. They are not that attractive for investors but we buy them because our clients want them and because we also want to do good.

Questions: Participant ID07	
1.	For it is not bad. It is a good sign if new convertibles are issued. No matter if mature or growth. Mature companies often come to the market because they find it more useful. After all, there is much demand from investors. Thereby, they can issue under better conditions than traditional bonds. So, it is a very opportunistic way for mature companies.
2.	So, it's difficult to say. Yes, of course, it's better than a direct common stock offering since the dilution is hypothetical. But you don't control it. The issuer doesn't control the equity dilution. It depends on the equity and the price at the end of the convertible bonds.
3.	Yes. But again, they don't control it. When companies issue, maybe they don't want equity dilution, but yes, it's a way they can obtain equity.
4.	Convertible bonds are like traditional bonds in that you can finance everything you want. They are specific because you have lower financing but with the risk of equity dilution in the future. But that's just the way it is. It is a different financial instrument. But I don't think it's changed the purpose of your financing.
5.	I don't know because you're probably making a bet on the equity price when you invest in convertible bonds. You are, of course, assessing that? So, I do not think that is true.
6.	Yes, I think so because the issuance of convertibles is really fast so investors might not have time to properly assess the bond.
7.	It's already the case where we see more green convertible and social convertible bonds during the past two or three years. They are trendy. And they find good demand as more and more investors are, of course, concerned by ESG, and they launch sustainable convertible forms and stuff like that. So, yes, it's becoming a big issue.

Questions: Participant ID08	
1.	No, it does not really differ for us. Also, there are not that many mature companies who issue convertible bonds and most of them only did it because of the pandemic.
2.	Yes, however, that obviously depends on how the stock is performing.
3.	Funny formulation but yes, it is true.
4.	Yes, that is also true.
5.	I saw a study a few years ago which said that companies who do not have a convertible outstanding were more likely to default than companies who had a convertible bond outstanding. So yes, that would confirm your theory.
6.	No, I would not say so because otherwise it would be hard to agree on a price.
7.	Yes, it is important. However, it also depends on the fund. We have one sustainable fund for which green convertible bonds play an important role. However, we are also stricter with regards to this fund as it also depends on the issuing company.

Questions: Participant ID09	
1.	No, it is not a bad sign if mature companies issue convertible bonds. For them it can make sense since convertibles can be tailor-made. Also, it is interesting for us since these are usually stable companies which are good to stabilize our portfolio.
2.	No, I would say no because it just happens later and the market knows about it.
3.	Yes, certainly.
4.	Yes, that is also true.
5.	Yes, that is true because convertibles can be tailor-made.
6.	No, that is not true.
7.	Yes, absolutely. We are currently changing all of our funds to focus on ESG criteria's. Also we see more and more companies issuing convertible bonds.

Questions: Participant ID10	
1.	Perception can change and it totally depends on the market. For example, if equities or interest rates are rising.
2.	Yes, of course.
3.	Yes, I do think it is true.
4.	No not really, the first one might be linked to a project but the second one does not have to be linked to one. Often, they are used for general expenses or something like that.

5.	No, I do not think so. I think that is independent of the financing.
6.	Yes, I think that it can decrease information asymmetric because investors also benefit from the equity upside.
7.	It's true that the community of convertible bond investors now puts more emphasis on ESG within their portfolios. It now takes an increasing part in our considerations.

Questions: Participant ID11

1.	Shareholders are usually not happy when a company issues convertible bonds because they are scared that they will be diluted. For us as investors it does not make that much of a difference. We are happy if can invest in stable companies. For mature companies it makes sense since they want to diversify their investor base and also because they can be tailor-made. Thereby, big companies can usually protect them against dilution by hedging their position.
2.	Yes, exactly. Yes.
3.	Yes, that's technically right. You are issuing in the future.
4.	No, I do not think so because convertible bonds are bespoke.
5.	No, I do not see it like that. I think it's independent the way you raise capital and the way you conduct your business.
6.	Yes, it is possible that there are information asymmetries. Especially since the management knows more about their valuation. Thereby, I would say that it is a good instrument to minimize the disagreement.
7.	We are not going to pay. We will not accept paying more for ESG and or green bonds. We are pushing back. We are pushing back as an industry and as an investor base, not to overpay for a structure that has a green bond