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THE LEVERAGED FINANCE INDUSTRY IN EUROPE

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Introduction

The high-yield bonds market is born in the early 1980s in U.S. when the American investment bank Drexel Burnham Lambert started offering bonds rated high yield at issuance. Back then, it was a profound innovation in the industry since high-yield bonds' category included fallen angels¹ only and the market we know today didn't exist yet. Thenceforth, the high-yield market significantly grew and evolved becoming more diverse and attractive.

Today the leveraged finance industry can be broadly defined as the sector dealing with all the riskiest forms of debt financing, namely high-yield bonds and leveraged loans. Analyzing this market means investigating a large and significant component of the fixed-income market which accounts for c. 10% of the total. During the recent years, its importance as asset class grew exponentially both in US and Europe, allowing investors for better portfolio diversification. Moreover, its popularity has surged given the challenging environment traditional fixed income has been facing. Since central banks' expansionary monetary policy led to narrowing yields of every kind of debt, the investors' appetite for high yield products increased substantially.

This industry research follows the key steps within the evolution process of this highly volatile market which led, during the last three years, to record issuance levels in Europe. In this way, it is possible to study causes and effects of these phenomena and describe potential future market's scenarios. Hence, the objectives of this industry research are:

- (i) Illustrating the current European leveraged finance market condition, describing its *products'* qualitative common characteristics and differences.

¹ Fallen angels are companies which used to be rated at an investment-grade but that have been downgraded because of the worsening financial state of the correspondent issuers leading to their notes' definition as "junk" bonds.

- (ii) Highlighting the important trends recently observed in the market, with a particular focus on issuance's level of HY-bonds and leveraged loans, identifying the key drivers able to explain these trends and the future of the industry.
- (iii) Explaining the consequences that the new highlighted trends might have in the future, with a particular focus on credit conditions.

To answer these questions, this report is structured in five sections. In the 1st section, the key growth's drivers of the industry are identified, highlighting the importance of each driver observed in the first semester of this year compared to the past. The 2nd section illustrates the actual macro-economic condition, crucial element to assess the leveraged finance market activity, and explains the expected future outlook based on analysts' consensus. In the 3rd section, the HY-bonds market's characteristics are described and the historical issuance activity is analyzed. The most relevant differences between HY-bonds and leveraged loans are illustrated in the 4th section together with the shift in issuance levels recorded during the last two years. Moreover, in this section, it is highlighted the covenants' crucial role, identifying the causes behind the leveraged loans issuance's surge and illustrating the next years issuance activity's outlook. Finally, the 5th section describes the rating agencies' activities and illustrates the rating development of leveraged finance players emphasizing the credit quality deterioration's trend recorded in the market.

The key growth drivers

To analyze the industry's landscape - understanding the difference between HY bonds and leveraged loans issuance's levels - it's crucial to identify the growth's key drivers and to assess how they have changed over the last years. Since the industry's birth, the main drivers of high-yield bonds and leveraged loans issuance have been:

- Refinancing: either a financial sponsor or a company issues debt instruments below the investment grade level to redeem its outstanding debt. Companies engage in this kind of activity when (i) they do not have enough available cash to reimburse their own obligations at maturity; (ii) they can reduce their interest expenses taking advantage of lower interest rates in the market
- M&A: either a financial sponsor or a company engages in the acquisition process of another entity financing the transaction with debt instruments below the investment grade level
- Dividend: the dividend payment used to return capital to shareholders.

Refinancing activity. During the last two years, refinancing activity (68% of the total) has been the predominant driver of high-yield bonds and leveraged loans' issuance (Appendix 2). Besides the correlation between refinancing activity and combined debt maturity profile of issuers, the reason behind this trend is clearly identified in ECB's expansionary monetary policy which has pushed interest rates to a record low level. Hence, the opportunity for corporations to refinance their debt taking advantage of reduced financial expenses. Finally, it has to be highlighted that refinancing activities did not cause an increase of leveraged finance total market size since the issuers used proceeds to redeem other sub-investment grades debt instruments. On the other side, the real driver of volumes' growth is represented by leveraged buy-out activity which includes any merger or acquisition financed by risky debt which enlarge the total market size.

M&A activity. The overall M&A market is composed by both leveraged transactions and any other deal, regardless of how it is financed by the acquiror (often companies finance their acquisition by a combination of debt, equity and FCFC rather than using a single instrument). However, since the leveraged acquisition market represents a relevant percentage of the overall M&A market, the latter can be considered as a good proxy to analyze the total effect on the sub-investment grade total issuance levels. Indeed, during the last seven years, the issuance of both high-yield bonds and leveraged loans have been highly correlated to M&A overall volumes in Europe as illustrated in Appendix 3.

The global M&A market started experiencing a strong recovery after the 2008 financial crisis, reaching a peak of c. 42 thousand deals closed and over \$5,605 bln in value in 2015. Afterwards, the market reported lower volumes for two consecutive years (2016 and 2017) with c. \$5,391 bln and 46 thousand deals closed in 2017 (Appendix 4), driven by declining US market (top-ranking country by volume). The M&A market in Europe has been constantly growing for the last three years. The deals value of 2017 was the highest record since the financial crisis as total deals nr. rose by c.5% to \$1.42 tln. during last year. The first semester of 2018 has reached a volume of \$528 bln increasing c.35% from the same period last year and the market is expected to set a new record during the second semester. The increase activity was sustained by strategic acquirors (78% of total M&A deals in 2017 vs 79% in 2016) focused on sector consolidation's activity (e.g. GSK's acquisition of Novartis' consumer healthcare division for \$13 bln, one of the largest European deals). Private equity activity for EMEA-based targets reached a volume of \$150.7 bln in the first 2018 semester, representing a 24.4% increase from the same period last year (Appendix 5). Moreover, analysts expect an increased activity from PEs, given their record \$1.0 tln in *dry powder*. These funds are likely to be under pressure to generate returns deploying their available capital in the following months. Hence, the

growth's trend recorded during the last 4 years is expected to continue sustaining the M&A already positive tendency.

Dividend payment. Leveraged finance issuance driven by dividend payments' driver has always represented a small percentage of the total (the last six months of 2018 was 3% against 5% of 2017) mainly because of two reasons. Firstly, because of the effect this policy might have on the company's overall enterprise value. Indeed, dividend payments, regardless of how they are financed, affect capital structure and this is even magnified if they are financed by new debt issuance (the equity portion would shrink and the debt portion would wide at the same time). The second reason is that leveraged loans and high yield bonds are often issued with incurrence covenants which restrict dividends and subordinated debt repayment against a negotiated formula to preserve new debt holders.

The shift in issuance purposes. During the first semester 2018, given both the M&A market momentum and a moderate refinancing activity, the leverage finance issuance split by purpose shows a radical swift from last year (Appendix 6). On one side, during the first semester of 2018 the issuance volume of high-yield bonds or leveraged loans with an M&A purpose has increased to 44% of the total from 20% of 2017. On the other side, the debt issuance with refinancing purpose has decreased from 70% to 52% during this semester. It is worth to be noticed that the main driver of this swift has been a greater M&A activity as absolute values: leveraged finance issuance with M&A purpose during just the first semester 2018 has been almost equal to the whole 2017 issuance of the same category. Hence, although the refinancing purpose remained roughly constant in absolute values, it considerably decreased as percentage of the total. Finally, given the positive macro-economic condition (detailed in the next section), the M&A positive outlook and PE flourishing expectations, this overall breakdown is expected to be constant over the next years.

Macroeconomic outlook and its influence on the industry

As described in the previous section, being the leveraged finance industry's activity clearly tied to specific growth drivers, a favorable macro-economic condition is an indispensable requirement to trigger these drivers (M&A and refinancing) allowing the market to increase its size. Indeed, positive economic growth is associated with higher company investments, moderate interest rates, lower default rates and investors' willingness to deploy capital benefiting debt issuance of both investment and sub-investment grades companies. On the other side, when the economy is shirking, leveraged finance is one of the most affected financial industries. For instance, the 2008 global financial downturn, followed by the European debt crisis, substantially reduced investors' confidence and risk attitude, being the worst period - in terms of leveraged finance issuance's volume - experienced in Europe.

Macroeconomic outlook. Since the global financial crisis, the monetary policy has been aligned in Europe and US where, with the aim of stimulating the economy, expansionary policies have been established. Central banks reduced short interest rates and bought treasury bills to increase money supply and the ECB has been the first major central bank to reduce interest rates below zero in 2014 and started one of the biggest sovereign-bond buying program. Since then and until last year, European interest rates have constantly declined aligned with the US monetary trends (Appendix 7). However, given the different inflation and unemployment rates of the two regions, European monetary policy has started to diverge in 2017 and differences are increasing further this year. In particular, in June, the ECB warned that an accommodative monetary policy will be maintained, while the US Fed has increased its target range for the federal funds by 25bps to 1.75%-2.0% (three interest rates are expected in 2019). Although the ECB asset repurchase will end in December 2018, the last policy rates guidance has specified that interest rates are expected to remain at their

present level at least through the summer of 2019². After that, during the whole years 2020, interest rates are expected to be slightly increased by ECB (Appendix 8).

During the first half of 2018, after five consecutive quarters of GDP growth, the Euro area economic momentum weakened. Indeed, during the first quarter of the year, GDP growth has been 0.4% (vs 0.7% of previous quarter) and the same percentage is expected for the second quarter. Although the 2018-19 outlook remains positive, European economy is unlikely to continue experiencing the 2017 growth momentum. In the future: (i) Investments are expected to robustly grow supported by favorable financing conditions, positive corporate profitability and high capacity constraints. (ii) Labor market conditions are expected to further improve. The unemployment rate which reached its lowest level since 2008 (8.4% in May 2018) is expected to continue falling. (iii) Inflation is expected to increase from 1.3% (first quarter 2018) to c. 2% driven mainly by higher energy prices (+8% in June 2018). In 2019, headline inflation is expected to decrease driven by lower energy's inflation, but core inflation is likely to increase given the wages rises.

The influences on the industry. The European positive economic outlook is expected to have two important consequences. The first one is a higher issuance level of sub-investment grade debt instruments. Indeed, economic stability, generally associated with moderate inflation's rates and interests' growth, lead to improved companies' profitability and higher willingness to invest. Financial resources needed to launch new investments are generally split by internal and external ones. The CAPEX internal source of financing, the OCF³ a given company is able to generate, is often inadequate to meet the up-front investment's requirement. Hence, that company has to raise external financing and, given the lower cost of debt compared to equity, if the company is not facing

² the ECB announced: *"the Governing Council anticipates that, after September 2018, subject to incoming data confirming its medium-term inflation outlook, the monthly pace of the net asset purchases will be reduced to EUR 15 billion until the end of December 2018 and that net purchases will then end."*

³ Operating cash flow (OCF) defined as funds from operation (FFO) reduced by the variation of working capital.

any financial distress, it is likely to search for resources in the debt capital market (historical equity ratio range between 20-30% in Europe). Since the favorable economic outlook and business investments expected to raise, it is reasonable to expect an upward trend in debt issuance and, consequently, in the leveraged debt issuance as well.

The second consequence of economic growth is the effect which is likely to be observed on total returns of leveraged asset classes. While the economic growth's effects on issuance levels are aligned between investment grade (DCM industry) and sub-investment grade (leveraged finance industry), the opposite is true analyzing total returns. As previously shown, although interest rates are at a record-low levels, the upward trend has already started and higher interest rates are expected in the next years. Raising interest rates affect fixed income prices and, the higher the duration of a given security the most its price will be affected by a given raise. Hence, economic growth and raising interest rates are generally and correctly associated with low total returns of fixed income securities. However, the opposite has resulted to be true for some types of bonds, namely high yield bonds, emerging market bonds and low rated corporate bonds. Indeed, there are empirical evidences that these bonds' categories tend more to benefit from stronger growth than being hurt by it in terms of returns (Appendix 9). The reasons behind these findings are that:

- (i) By definition, high yield bonds have higher yields at issuance. Any given interest rates increase has a smaller extent on a high yield security than on any investment grade (or treasury) security which, by definition, has a lower interest rate at issuance.
- (ii) A positive economic outlook generally improves businesses financial conditions (higher profitability and CFs). Hence, the default probability of leveraged companies is likely to decrease and, consequently, the yield required to compensate investors will be reduced (prices are likely to going up).

The High-yield bonds market

The most popular *product* in the leveraged finance industry is the High-yield bond – also known as “non-investment-grade bond” or “junk bond”. A HY bond is a generally-unsecured debt note issued by a borrower whose debt is rated at a lower-than-investment grade. Given the greater chance that the issuer defaults and consequently fails to pay coupons as scheduled or the face value at maturity, investors who buy these securities are compensated with higher interest rates than other fixed income securities (Appendix 10).

HY-bonds peculiarities. HY-bonds have specific characteristics which make them unique debt instruments. Coupons usually have a fixed rate and are paid twice during a year period (although unusual, in the market also exist ZCB HY-bonds which don’t pay coupons at all). Furthermore, issuance of “PIK” notes has become increasingly popular: in this way, borrowers have the opportunity to increase their leverage by coupons’ amount rather than actually paying for those coupons. Paying “in-kind” gives the issuer some immediate room for cash-outflows but may lead total leverage to substantially increase over time. For this reason, PIK notes are viewed as more highly speculative debt securities.

The HY bonds maturity is generally between the 7 - 10 years range. However, they can exceptionally have shorter maturity if the issuer expects to refinance its debt obligations after few years. In this regard, to protect investors’ interests, HY-bonds’ terms often have call-protection which limits the ability of the issuer to call the paper for early redemption. Typically, this is half the bond’s maturity (10 years bonds with 5 years non-call) but also these terms are often renegotiated during the underwriting process to meet investors’ preferences. Moreover, the offering always includes a call-premium clause which imposes the issuer to pay a financial premium to redeem its notes earlier. This premium is generally equal to 50% of coupon rate on the first call date, declining thereafter

each year (usually 33%, 17% and par). In the same way, put provisions are included to protect investors: bondholders may accelerate repayment at a defined price due to certain events. The most common one is the change-of-control put which gives investors (issuers) the right (obligation) to sell (buy) if the company is sold or the majority of board components changes.

Covenants also play an important role in HY-bonds issuance. Affirmative, negative and incurrence covenants are included in the underwriting process to limit some actions the borrower may make (e.g. incur additional debt, pay dividends, engage in M&A activities) increasing the company's credit risk. HY-bonds are generally issued with few covenants and, on average, these are looser than any other bank loan providing the issuer with more operating flexibility and avoiding the company's need of certification on a quarterly basis (maintenance covenants). These differences will be detailed in the 4th and 5th sections of this research.

The notes' unsecured nature, together with their loose covenants conditions and the usual terms included at issuance, make HY-bonds unique and the analytical work conducted within the leveraged finance industry peculiar. Given the issuers' high leverage, companies have less margin for error. HY securities' prices react more dramatically to relatively small changes in operating results or external markets' conditions. Moreover, HY investors consider important to assess companies' underlying asset value given the moderate-high probability of the company's insolvency. HY-bonds' higher similarity to equity instruments than to traditional investment-grade corporate or treasury notes is clear analyzing both returns and correlation between asset classes (Appendix 11) Finally, as previously mentioned, increases in interest rates which are generally associated with lower total returns in bonds, do not generally affect HY-bonds (and leveraged loans) being negatively correlated.

European HY-bonds global development. Although corporate bonds have been issued for centuries, the growth of sub-investment grade bonds began only after the 1970s. Back then, the market was composed only by fallen-angels which continued to issue debt securities. Since 1980s, the market started growing exponentially driven by booming LBO's activity financed by high-yield bonds. Moreover, given the growing pool of investors, the market became progressively more diverse and driven by different types of issuers and purposes. The HY-bonds global market grew impressively from c.\$200bln in 1995 to over \$1trillion in 2006 with volatile issuance levels (affected by financial instability such as the tech bubble burst in 2001). Moreover, until that period, the market was concentrated almost exclusively in US since the European market was less than \$100bln (2005) making investors unable to diversify their HY asset allocation. Finally, the past decade has seen a drastic transformation of the market with the dramatic diffusion of these financial instruments in Europe and in the emerging world. The globalization of the high yield market has been driven by both (i) the European/Emerging market issuers' need of diversify their funding away from bank credit (ii) the global investors' strong appetite for high-yield instruments able to diversify their portfolio allocation. Driven by these needs, the European market has become c. four times bigger then it was in 2005, and in the same way, the emerging market has rocketed from just \$60bln in 2005 to c. \$450bln today representing together c. one third of the global one.

Given the European HY market development, investors have been able to diversify their HY asset allocation on both a geographical and a sector basis. Indeed, the European market has introduced very different sector exposures that US market was not delivering. In particular, there are now meaningful differences in weights between US and European markets: banking, automotive, insurance, media, energy and technology (Appendix 12).

Driven by the HY market's globalization, European issuance levels have been considerably growing until 2014 reaching a peak of 92\$ billion in the first semester of the same year (a result which hasn't been replicated yet). From that moment forward, conversely, the volume evolution has been characterized by a sharp downward trend recording a minimum of 14\$ billion of HY bonds issued in the second half of 2015. From H1 2016 the trend inverted again with issuance level slowly growing up to \$54bln in the second quarter of 2017. Although being less volatile than in the past, issuance's volume during the last two semesters have always been considerably below the peaks recorded in 2014-15. Last semester's activity has shown a small decrease of issuance volume (-9% vs LS) from \$54bln to \$49bln suggesting a stable outlook for HY bond activity. Moreover, during the last year, HY bonds market has grown less compared to other leveraged finance classes. The reasons behind a reduced HY bond issuance level, the increasing popularity of other HY classes - such as leveraged loans - and the future issuance levels' outlook will be further investigated in the 3th section.

New issuers. Observing data about European HY bond new borrowers' issuance and the market, it is possible to notice that the record-low issuance levels recorded in 2014-15 are not explained by a reduction of new issuers volume as percentage of the total (Appendix 13). Indeed, the maximum number of new borrowers' volume as percentage of the total – equal to 28% – was recorded in the H2 2015 which was also a record-low semester in terms of total issuance volumes. In the same way, the record minimum number of new borrowers' volume – equal to 5% – was only recorded in the following six months (H1 2016) when the total issuance's trend had already started to increase again. Hence, the volume percentage of new companies issuing HY bonds for the first time seems to be highly volatile and unable to explain the industry volumes' historical trend. This is reasonably explained by the smaller deal size that new issuers contribute with, given that they are new entrants in the market. Since the second semester of 2014, the total volume generated by new issuers has

never exceeded \$12bln per semester. It is worth to notice that, from H1 2016 onwards, these trends have been more aligned: the issuance volumes have been constant (average \$46bln last two years within the 49-50 range during the last three semesters) and the new issuers as percentage of the total between the 15%-25% range.

Different categories of HY-bonds. Until the 1970s, the non-investment-grade market was exclusively populated by fallen angels. However, since 1980s, the European HY bond market grew welcoming new actors such as Emerging Markets, i.e. companies operating in European emerging countries, and LBOs, i.e. financial sponsors engaging in leveraged buy-out activities. In the past five years, Fallen Angels have been representing on average just 15% of the total volume of HY bonds issuance (c. \$15bln issuance in 2017), dominated instead by LBOs with an average of 35% (c. \$29bln issuance in 2017). Moreover, Emerging Markets are gradually acquiring weight on the market with an average of 6% (c. \$15bln issuance in 2017 and c.3bln in the first semester of 2018). Finally, other categories, i.e. non-financial sponsors issuers operating in mature markets and constantly rated as sub-investment grade, represented on a 5-years average c.44% of the total HY-bonds issuance, with c.\$50bln issued in 2017. There are two new trends to be highlighted (i) although the HY-bond total volumes were not constant over the last years as previously shown, the HY-bonds volumes generated by LBOs activities were actually stable over the last three years ranging between c.\$26-29bln per year. (ii) Emerging market reported a record 15% (c.\$15bln issuance) in 2017 mainly driven by positive macro-economic conditions (GDP growth +5.2%) expected to persist in 2018 and 2019 (GDP growth forecasted over +5%).

HY-bonds and leveraged loans comparison

In order to understand the issuances' historical trend and the current industry's outlook is crucial to investigate further the differences between high yield bonds and the second main component of leveraged finance: leveraged loans. Indeed, although these two types of securities are similar, there are some peculiarities which could explain the recent shift from past issuances' preferences. Indeed, loans increasing popularity represents one of the most interesting new trends that have emerged in the leveraged finance industry. Issuance preferences have started to gradually change since 2015, when leveraged loans issuance was roughly equal to the high yield bonds one. Since H2 2016, leveraged loans became more common among issuers and in the first semester of 2017 their issuance doubled the HY-bonds' one (Appendix 14). During the last four semesters, leveraged loans have constantly been in the 55%-60% of total issuance range. This new trend has persisted during the last twelve months and is expected to endure in the next future. The purpose of this section is to illustrate leveraged loans' characteristics, understand the reasons behind issuance's shifting preferences and estimate the industry's future outlook.

Leveraged loans. A leveraged loan is provided to a borrower that has a non-investment grade rating by a group of lenders. It is generally structured and arranged by a group of investment banks (lead arrangers) which then syndicate the loan to other banks and institutional investors. If the loan is not rated, it is generally defined as leveraged when its spread exceeds 125bps over the LIBOR. Generally, syndicate loans are less expensive than traditional bilateral agreements (one single financial institution lends directly to one lender) and this is the main reason behind their increasing popularity. The arrangers receive an arrangement fee between 100 and 400 bps depending on the complexity and riskiness of the loan (syndicate leveraged loans are more complex to be structured and executed). As soon as a company identifies the leading arrangers, the syndication process

begins with meetings between investment banks and selected institutional investors interested in buying the company's future debt issuance. Institutional investors are mainly banks, mutual funds, CLO funds, structured finance vehicles and hedge funds. The arranger's objective is to quantify the credit spread that investors would be satisfied to receive from that particular company in order to subscribe the deal. Finally, the arrangers would set a spread (not too onerous for the issuer) as lowest as possible, but still high enough to meet the market's appetite⁴.

Leveraged loans can be syndicated in three different ways. In an *underwritten deal* the leading arrangers are committed to guarantee the whole amount required by the company and then they are allowed to syndicate the leveraged loan. Hence, if the syndication process fails and the investors do not fully subscribe the loan, arrangers will have to absorb the difference holding a higher-than-desired loan portion on their balance sheets. On the other side, in a *best-efforts* syndication process, the arrangers underwrite less than the loan's entire amount. Hence, if the syndication process goes badly, the loan may not be closed, or a reduction of the loan's size may be needed. Finally, the *club deal* is a rare process where the arranger is a first among equal and together with other institutional investors negotiates the loan's structure. Although the lender might prefer *underwritten* deals to secure its funding, this kind of deal is generally more expensive in terms of fees to be paid to arrangers (which are exposed to markets' vicissitudes).

Leveraged loan pricing is similar to bonds' process. It is mainly determined using a certain spread which reflects the issuer's default risk and the estimated loss given default. To measure these probabilities, it is considered the collateral coverages, credit seniority, industry trends, management strength, the company's competitive position together with a dept credit analysis. As opposed to

⁴ Nowadays, it is often used a market-flex pricing mechanism. The prices changes based on the investors demand (if the leveraged loan is oversubscribed the arranger may reduce the spread offered and vice versa).

HY bonds, leveraged loans are generally floating-rate instruments periodically reset to the determined spread over a base rate (typically LIBOR/EURIBOR). The spread may also be dynamically adjusted based on one or more pre-determined financial ratios. In a rising interest rates environment, this characteristic makes loans more attractive compare to bonds (with fixed coupons) since future interest increases may be difficult to be precisely forecasted and priced.

The role of covenants. Another key difference between leveraged loans and HY-bonds has always been the covenants issuers have to comply with. As previously described, high-yield bonds are generally issued with incurrence covenants, while loans have been issued with rigid maintenance covenants. Broadly, covenants are of three different types.

- (i) Affirmative covenants: the borrower is required to take some actions in compliance with the agreement (e.g. Provide periodic financial statement).
- (ii) Negative covenants: the borrower is required to do not take some actions (e.g. The amount of acquisitions and investment cannot exceed a certain limit).
- (iii) Financial covenants are based on pre-determined financial metrics the company has to comply with. The most common ones are (a) Leverage ratio: Net debt over EBITDA to be maintained below a certain ratio. (b) Interest cover ratio: EBITDA over interest expenses to be maintained below a certain ratio. (c) Gearing ratio: Total long-term debt over equity to be maintained below a certain ratio. Moreover, financial covenants can be distinguished between incurrence or maintenance covenants.
 - Incurrence covenants (generally used in high-yield bonds issuances) are tested only if the issuer takes a predetermined action such as making an acquisition or issuing more debt. If incurrence covenants are not met the issuer cannot complete that specific action without the lender's permission.

- Maintenance covenants oblige the issuer to be periodically tested on its financial performance regardless of any undertaken action. If maintenance covenants are not met, lenders have the right to accelerate the loan (or they require an increased fee to concede a waiver).

Historically, leveraged loans have been associated with strict maintenance covenants while high yield bonds have always had looser covenants (generally few incurrence covenants). For this reason, leveraged loans which are also generally secured instruments, have been less favorite than other high yield debt instruments. Despite leveraged loans are generally less expensive than HY bonds because of these characteristics, maintenance covenants may discourage issuers. Indeed, the obligation to quarterly meet financial ratios may cause distress to the management team of leveraged companies. Moreover, this may lead the management to focus on short term decisions implemented exclusively to meet covenants rather than a long-term based financial strategy. During the last two years, the evolution of covenant-lite loans has mitigated this problem. Covenant-lite are loans that have bond-like financial incurrence covenants rather than traditional covenants. Hence, it allows leveraged companies to be more comfortable issuing these instruments, without the need of complying with strict financial ratios. Cov-lite loans have doubled in both US and Europe during the last three years driven by an increased investors' demand. Obviously, the raise of this asset class, together with other types of credit deterioration, is likely to have an impact on recovery rates when default rates will turn their downturn trend. This topic will be further investigated in the 5th section.

The causes behind loans' surge. Since Q1 2016, lev-loans volumes have experienced a fast pace growth, reaching an issuance peak of \$93 bln in H1 2017 and stabilizing at c.\$73 bln in the last two semesters (Compounded semi-annual growth rate of 35% over the last four semester). These 4-

semesters exponential growth caused the overall shift in leveraged finance: leveraged loans asset class which accounted for less than 40% of the total industry's issuance, now accounts for c.60% of the total, i.e. c. 1.4x HY bonds. The diffusion of attractive covenant lite terms has been one of the causes behind leveraged loan's popularity and, consequently, the dramatic growth of the last-three years.

Another cause able to explain the recent popularity of leveraged loans is the different companies' issuances purpose. Indeed, as illustrated in the 1st section of this report, the H1 2018 shown an industry's shift in terms of issuance by purpose. During the 2016-17 period, high yield instruments (bonds and loans) have been issued to finance M&A (c. 20% of the total), to refinance existing obligations (c. 70% of the total) and to pay dividends (c.4% of the total). On the other hand, last semester's activity has shown a very different breakdown with M&A purpose representing c. 44% of total issuance against a lower refinancing purpose (c.52%) and a constant dividend purpose (c.3%). This new trend is the second cause behind last semester's record-high loans issuance level, given that M&A activities have been recently financed using mainly leveraged loans rather than other debt instruments. Leveraged loans' popularity has increased within both M&A and refinancing activities from 2016 to 2017 compared to HY bonds (Appendix 15). During 2017, leveraged loans accounted for 87% of total issuance for M&A financing activity against 65% of 2016. In the same way, leveraged loans accounted for 57% of total issuance for refinancing activity against 50% of 2016. Hence, given that financing activities have increased in absolute values - M&A financing from \$35bln in 2016 to \$54bln in 2017 (+54%) and refinancing activity from \$85bln to \$190bln (+123%) - the leveraged loan asset class has been able to overcome the HY bond one in terms of total issuance.

On the other side, high-yield bonds' issuance has always been driven mainly by refinancing purposes and this driver's importance has increased during last years. Refinancing purposes accounted for

65% of total HY bonds issuance in 2016 and it increased to 80% in the first half of 2018 (Appendix 16). During this first semester M&A purpose accounted for only 14% of the total (against 18% of 2016) although, as previously mentioned, M&A financing issuance has increased in absolute terms.

The future outlook. Considered the first semester's data, 2018 is expected to report an even stronger issuance of leveraged loans against a lower one of HY bonds. Indeed, during the H1 2018, leveraged loans accounted for 87% of total issuance for M&A financing activity and for 39% of total issuance for refinancing activity. During this year, M&A financing activity is expected to reach \$108bln and refinancing activity is expected to decrease to \$128bln. Hence, the leveraged loan asset class is expected to reach \$144bln against \$93bln of HY bonds as of December 2018.

Moreover, considered the identified growth's drivers, the main reason to forecast a moderate activity of the HY-bonds' market in the near future is the expected low refinancing needs, since sub-investment grade companies have already taken advantage of record-low interest rates to refinance their obligations. The sum of all outstanding HY bonds maturing within the next three years is indeed less than \$76bln and it will increase to c. \$78bln only in 2022 (Appendix 17). As mentioned above, since refinancing is the strongest driver of HY-bonds issuance (65%-80% of the total during the last 3 years), it is likely that such a downward trend will negatively affect high-yield bonds' issuance.

To conclude, the consolidate popularity of leveraged loans and the downturn trend of HY-bonds issuance are expected to be persistent in the next future, given the expected higher M&A activity and investors' tolerance towards cov-lite terms. This conclusion is also strengthened by the expectations about raising interest rates. Indeed, leveraged loans (generally floating rates instruments) would make investors more comfortable if interest rates raised at a faster than expected pace.

Credit quality considerations

The purpose of this section is to illustrate how leveraged finance's new trends and development have increased the overall risk tied to this asset class. In particular, how credit quality of bonds and loans is assessed by rating agencies, how credit conditions of European leveraged companies have deteriorated over time and which are the main elements that led to this deterioration.

The rating agencies' role. To correctly price a high-yield bond (or a leveraged loan) it is crucial to assess the total risk embedded and set the right spread over the risk-free yield. One of the most important risk's elements to be considered is the credit risk of the company determined by the issuer's probability of default and the expected recovery rate. In this regard, the role of public rating agencies is crucial. Indeed, two of the main services provided by agencies such as Moody's and S&P are assessing corporations' credit quality at issuance and monitoring their evolution over time. Rating agencies classify every analyzed company into one of several discrete credit rating classes (Appendix 18). The final rating is an independent certification of the issuer's ability to repay its obligation which facilitate the process of credit issuing and purchasing acting as quality assurance to investors. For this reason, the final rating always reflects both the issuer's probability of default and the expected recovery rate in a simplified and immediate way. Leveraged finance industry, which embraces the riskiest debt instruments in the market, is defined as sub-investment grade by rating agencies (rating below the Ba or BB of Moody's and S&P respectively).

To assess the credit worthiness of a given company, rating agencies follow different corporate frameworks. These frameworks aim to include and measure all the risk's elements to obtain a final credit quality assessment. The most important risk elements to be considered are:

- (i) Business risk profile: the combined assessment for country risk, industry risk and competitive position determine the final business risk profile. The industry risk addresses the relative

health and stability of the markets in which a company operates. The country risk reflects the economic, institutional and governance risks. Finally, the competitive position assessment determines if a company has a certain competitive advantage being less sensitive to the industry risk.

- (ii) Financial risk profile: the assessment of cashflow generation ability and leverage level defines the company's financial risk profile. This investigation is mainly based on historical and forecasted financial ratios analysis. Debt to EBITDA, FFO to debt and FFO to cash interest are the most frequently used ones. The higher the company's leverage, the greater will be the probability of default. Hence, these ratios which immediately reflect the indebtedness level of the company are crucial elements of this analysis.
- (iii) Other risk elements: the company's portfolio diversification, financial policy, liquidity analysis, governance structure and the government influence are all elements which may have an important influence in the credit quality assessment.

All these factors together with a comparable companies' analysis determine the pricing of every debt security: riskier companies will offer yields with a higher spread over risk-free than less risky companies, *ceteris paribus*. Accordingly, lower rating families are associated with greater risk and higher spreads and yields.

Yield curves of sub-IG family ratings. Family rating yield curves as of August 2018 show normal upward slopes since longer-term investments offered higher yields across all the sub-investment grade classes (Appendix 19). However, there is a considerable difference in terms of spread between the B and BB rated categories (by S&P). Indeed, although both are classified as sub-investment grade and comprised in the HY asset class, they offer very different spread over risk free. For instance, as of August 2018, the B category shows a 5.8% yield against a 2.4% of the BB category for the 7 years

maturity. For the same maturity, B-rated class displays a 442bps spread against the BBB category (IG) while the BB-rated class has only a 100bps spread compared. Although rating agencies classification may be useful to get immediate information about the credit worthiness of a given company, the yield curves evidence that similar debt categories might have very different risk-return embedded. Moreover, corporate yield curves have continuously changed over the last years reflecting not only the impact of macro-economic but also the changing credit quality environment of non-financial corporations which compose these classes. In particular, the yields offered by both B and BB S&P categories have considerably changed over the 2016-18 period. Considering the spread between the two yields to isolate the interest-rates changes occurred, it is possible to notice that it has slightly increased across all maturities (Appendix 20). This reflects a shift in quality scores of issuers which compose these asset classes. Indeed, within the European credit quality panorama, the most important trend observed over the last two years is an increased leverage ratio of the speculative-grade companies. The speculative-grade category (composed by companies rated equal or below Ba by Moody's) has increased his leverage ratio⁵ from c.4.0x in 2015 to c. 5.0x in 2017 (Appendix 21). On the other side, the Ba category (composed by the safest sub-investment grade only) has reported a constant leverage of c.3.5x over the last two years. This trend explains that the riskiest categories within the sub-investment grade (B and CCC) have increased their median leverage over time (companies which compose these categories added more leverage to their obligations). As previously mentioned, being leverage one of the most important financial elements to assess the credit worthiness of a company, the increased indebtedness made debt riskier and, consequently, more expensive. This trend may be the main reason behind the wider yield spread

⁵ Leverage ratio computed as median Debt to EBITDA. Both values are adjusted by Moody's to account for operating leases, unfunded pension obligations, restricted cash and others.

between Ba category and other sub-investment grade categories observed in the corporate yield curve variation.

Sub-IG family ratings development and composition. Since rating agencies continuously review their credit risk assessments, upgrading/downgrading rated companies, it is interesting to investigate further the development of high-yield corporate family ratings over time. The total number of rated issuers has constantly grown over the last three years reflecting an overall increased market activity. However, comparing the Ba-rated category with other speculative grades, this trend does not appear homogeneous. In particular, since H1 2017, companies rated B and below (B1, B2, B3, CCC and Ca) as percentage of the total number of rated issuers sharply increased from less than 64% to over 70% in the first semester of this year (Appendix 22). The main cause behind this recent trend has been an increased number of issuers rated B category. Indeed, the Ba category has been roughly constant (c. 150 issuers B-rated in both 2017 and 2018) and the Caa-C category has slightly decreased (from 39 to 30 issuers during last year). On the other side, the B-rated category has increased by c. 30% its issuers' number (from 235 in H1 2017 to 307 in H1 2018) and it is now double than Ba category.

Representing c.64% of the total sub-investment grade issuers during the first semester 2018, B-rated companies are the predominant component of the leveraged finance industry. This category has grown substantially during last two semester mainly driven by LBO activities. Indeed, analyzing the type of high-yield issuers by rating class, it appears clear that private equity players have been structured LBOs targeting a high-risk level of their transactions, being consequently classified mainly as B-rated (Appendix 23). During the last semester, the percentage of LBO issuers rated Ba by Moody's was within the 2-22% range against the 38-68% range of B-rated LBOs. In particular, the B2-rated category was composed mainly by LBOs companies being 68% of the total. The Ba-rated

category shown the majority of other issuers (sub-investment grade players that are neither fallen angel nor emerging market companies) which represented on average 45% of the total. Fallen angels were 37% of the total issuers within the Ba1 class that it is just one notch below the investment grade status.

Overall, it is possible conclude that high-yield issuers are composed more by riskier B-rated issuers than safer Ba ones. The difference in terms of risk between these categories is relevant and it's increasing as testified by the respective yield curves spread. Moreover, over the last year, the riskier categories have increased their size (in terms of number of issuers) and their median adjusted financial leverage has risen as well. Despite this information, rating agencies are not expecting any increase in the speculative-grade probability of default rates. Given the overall positive market outlook, the default rate decreased over the last semester from 3.1% in December 2017 to 2.2% in June 2018. This tendency is expected constant during the whole 2018 with default rates forecasted equal to 1.5% at the end of the year (positive and negative scenario forecasted equal to 0.9% and 4.7% respectively).

Credit quality worsening driven by LBOs. Although default rates hit a low and are expected to further decrease (Appendix 24), if the positive credit cycle turned it would have seriously negative consequences considered the worse covenants' quality tied to sub-investment grade securities. In particular, the average quality score for bonds in 2018 is expected to be weaker than before the financial crisis. Indeed, high-yield bonds continue to provide companies the flexibility to pay dividends, invest and disinvest assets and issue new debt. The covenants level (covenant quality score measured by Moody's) slightly improved after the financial crisis but then, when the industry started to recover, it has deteriorated again reaching pre-crisis levels (Appendix 25). Obviously, the rise of covenant-lite loans has magnified the problem. For instance, B- rated outstanding cov-lite

loans increased by over 100% during last year proving that when investors have appetite for credits they are often willing to sacrifice covenants for yields. Finally, it must be highlighted that during the last three years covenants' quality has also been eroded through unusual methods, for instance by the definition of adjusted EBITDA which often includes questionable not-realized savings or revenues.

LBO activities have constantly reported the lowest credit quality scores after the financial crisis since PE firms have driven the covenant-lite affirmation process. During the pre-crisis years, the increasing strength of private equity firms and the decreasing opportunities for corporate loans led banks' syndicates to compete with each other to offer less-invasive terms for financial sponsors engaging in LBOs' activities. This trend drastically reduced between 2007 and 2011 and then strongly recovered reflecting changes in bargaining power between borrowers (PE firms) and lender (syndicate banks). Moreover, the covenant-lite trend explains the reduced lenders' protection not only because of the deteriorated covenants quality but also because of the reduced number of these clauses included in loan agreements. For instance, the average number of covenants included in European LBOs strongly decreased from 3.6 in 2012 to 1.4 in 2015 and then has been roughly constant until last year (Appendix 26).

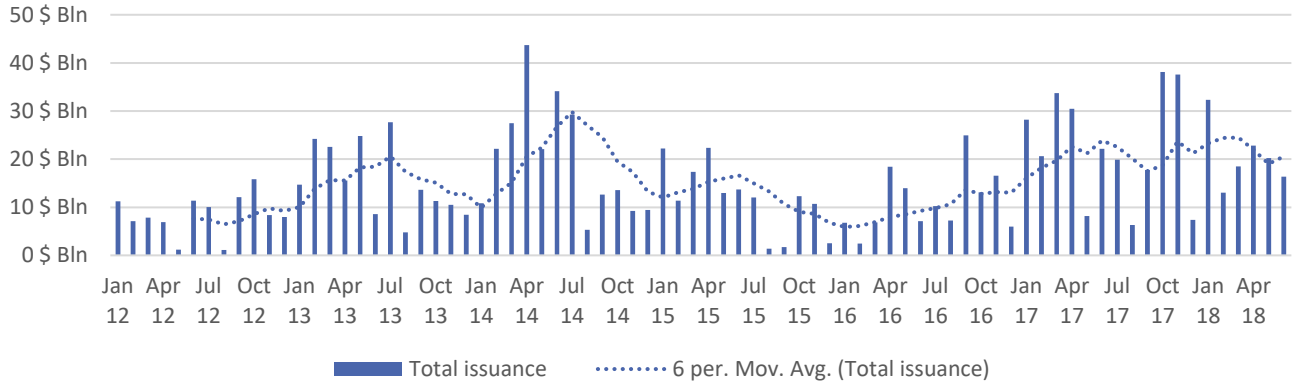
Finally, it is worth to notice that while covenants deteriorated over time, the financial leveraged deployed by European LBOs has constantly increased from 4.6x in 2012 to 5.3x in 2017 (Appendix 27). Consequently, LBOs target companies, which are the main component of the B-rated class, have slowly become riskier than in the past on top of a deteriorated covenant protection for lenders.

Appendixes data sources

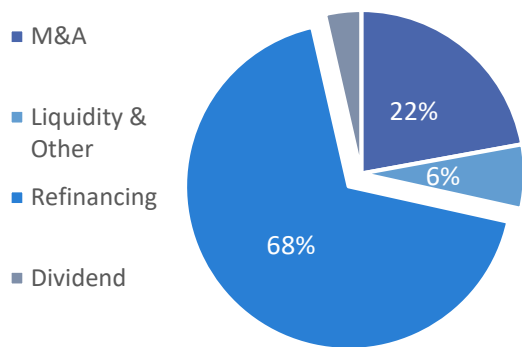
The next section illustrates through 27 appendixes the information presented within the previous sections of this report. These appendixes have been created or adapted by the author, based on three different data sources. The first database, named “High yield market update - European edition” by Moody’s Investors Service as of June 2018 (www.Moodys.com), is the main data source of this research. Appendixes nr. 1,2,3,6 ,12,13,14,15,16,21,22,23 24 and 25 are partially or entirely based on this data source. The second data source refers to the online Capital IQ database by Standard & Poor’s as of June 2018 (www.capitaliq.com). Appendixes nr. 18,19,20 and 27 are partially or entirely based on this data source. Finally, the third data source is the Bloomberg Terminal Professional Services as of June 2018 Appendixes nr 3,4,5,7,8,9,10,11,17,26 and 27 are partially or entirely based on this data source. All data sources and appendixes refer exclusively on European data, unless stated otherwise.

Appendixes

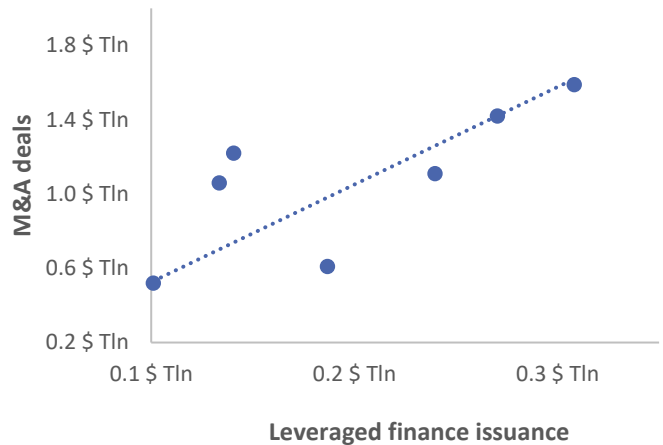
Appendix 1: Total leveraged finance issuance



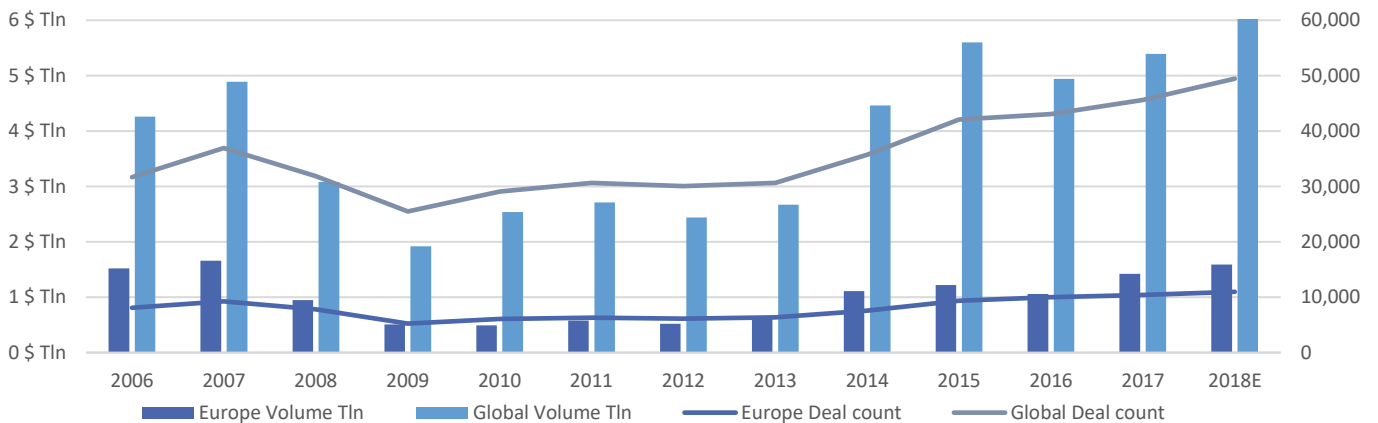
Appendix 2: Issuance purpose (last 2ys)



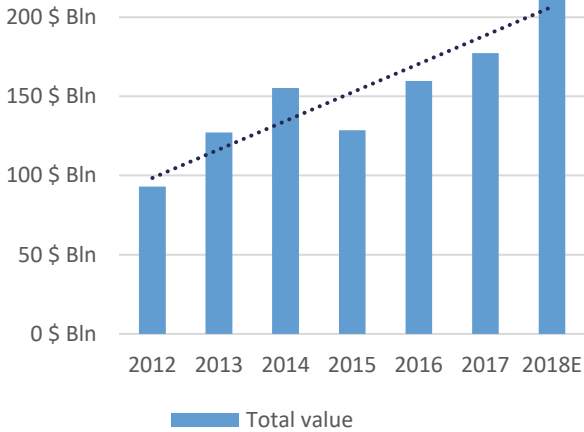
Appendix 3: M&A and leveraged finance (2012-18)



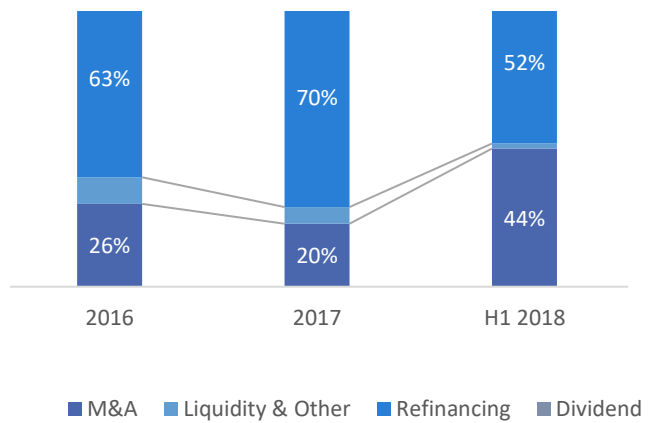
Appendix 4: Global and European M&A activity



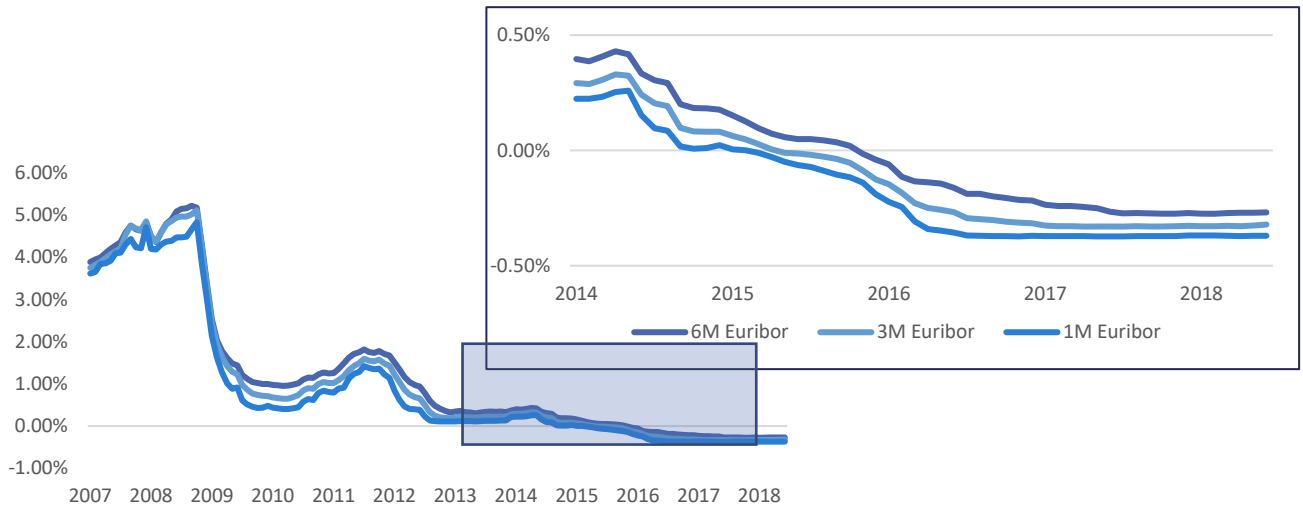
Appendix 5: European PE deals



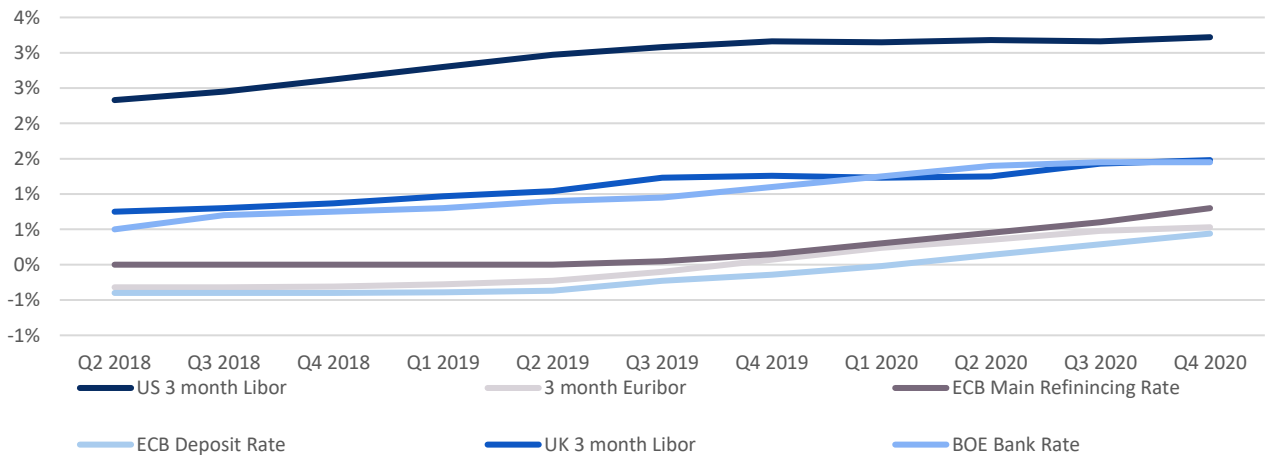
Appendix 6: Leveraged finance issuance by purpose



Appendix 7: Euribor historical trend



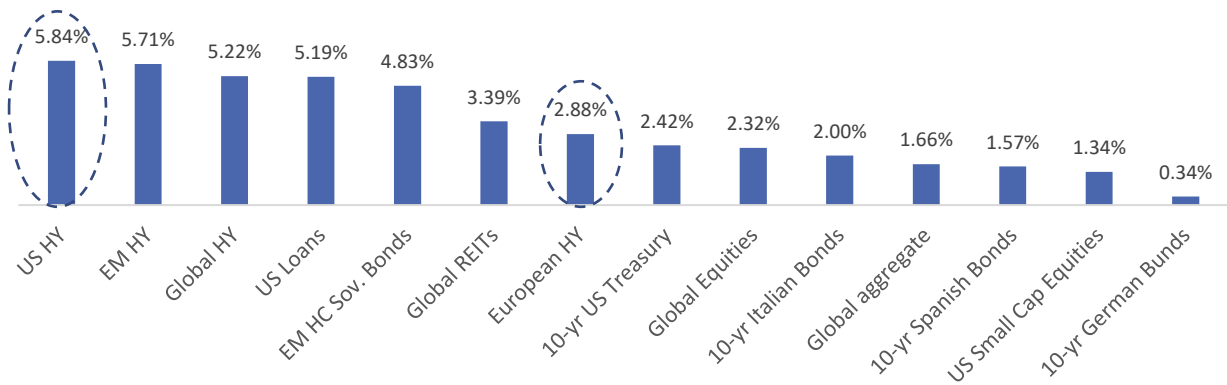
Appendix 8: Interest rates forecasts



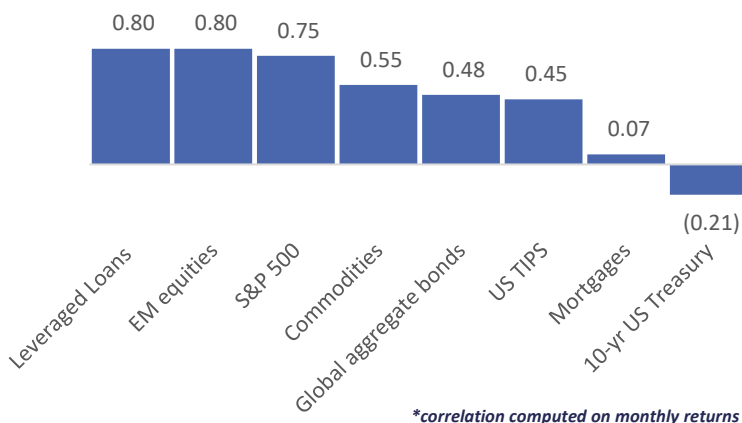
Appendix 9: Bond market yield in different economic scenarios (1994-2012)

	GDP Growth 0%-2%	GDP Growth > 4%	Delta
U.S. government bonds	7.04%	3.35%	-3.69%
Investment grade corporate bonds	7.49%	4.35%	-3.14%
Municipal bonds	5.97%	3.79%	-2.18%
GNMAs	6.67%	4.91%	-1.76%
High yield bonds	5.00%	7.59%	2.59%
Emerging market bonds	9.86%	14.27%	4.41%

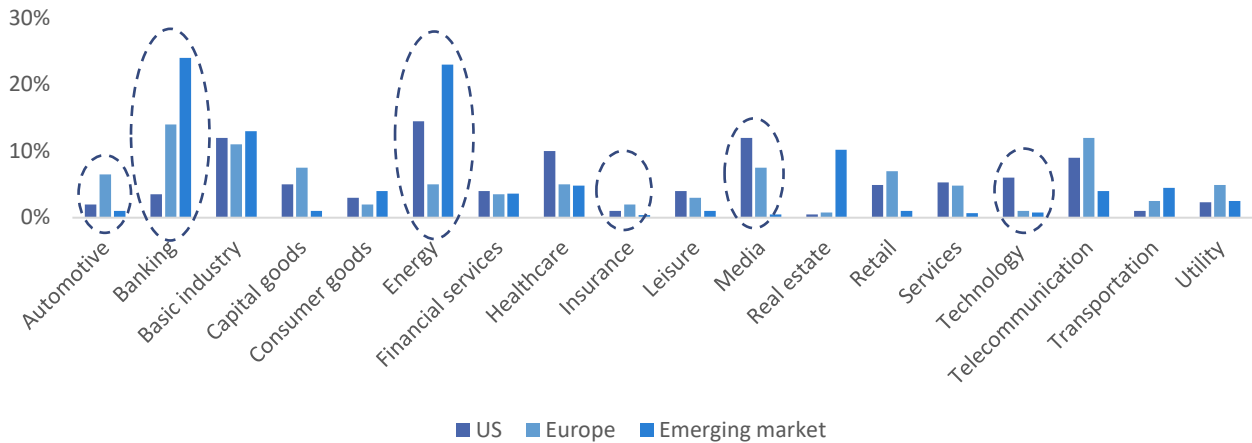
Appendix 10: Yields across global markets (as of February 2018)



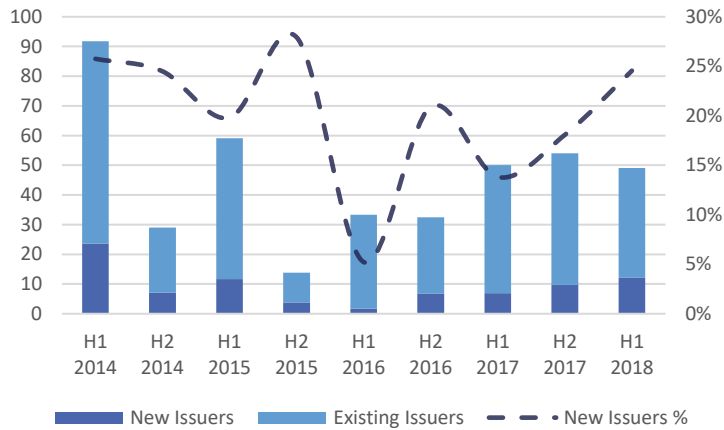
Appendix 11: 10 years correlations* (as of June 2016)



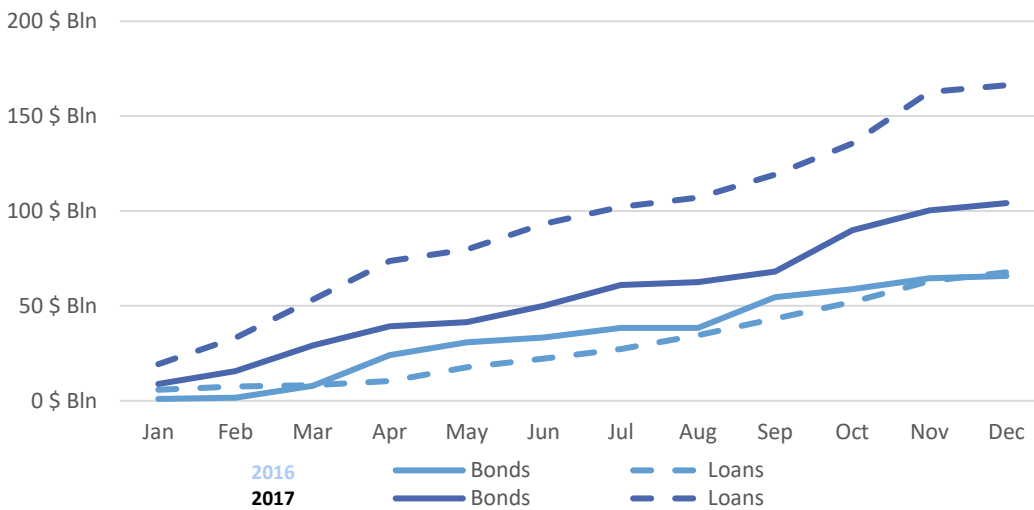
Appendix 12: HY market sector diversification across geographies



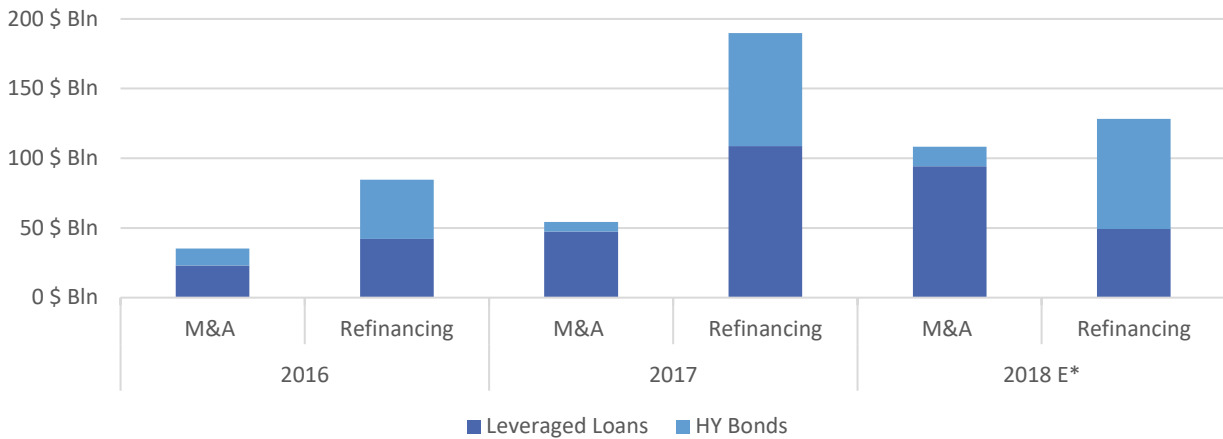
Appendix 13: High yield bond new issuers volumes



Appendix 14: HY bond vs Leveraged loans cumulative issuance



Appendix 15: Refinancing and M&A activities by debt instrument issuance



Appendix 16: High yield bond issuance: purpose breakdown

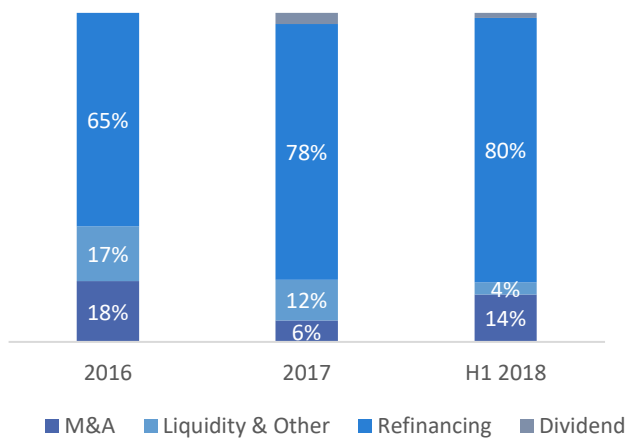
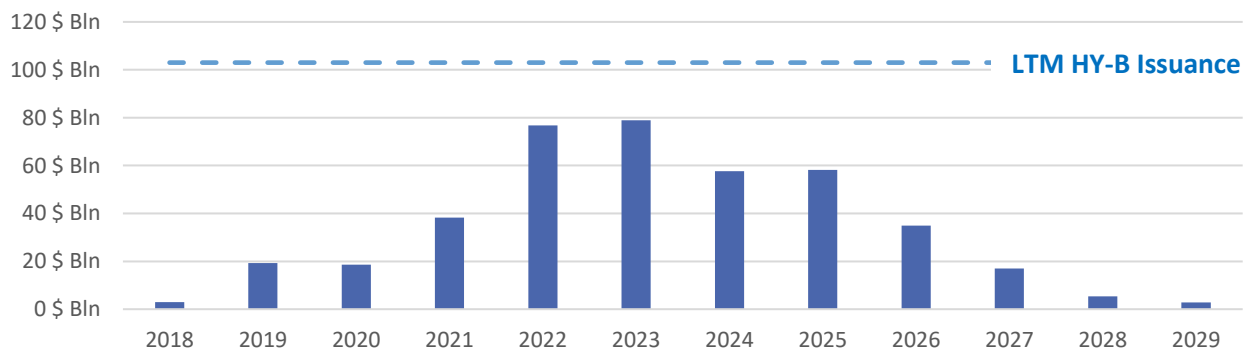


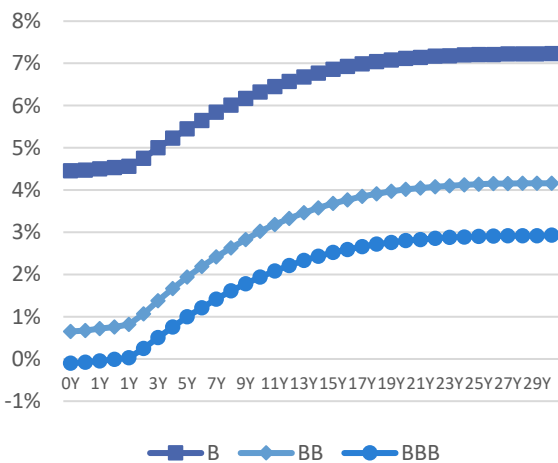
Exhibit 17: HY-bonds future maturities



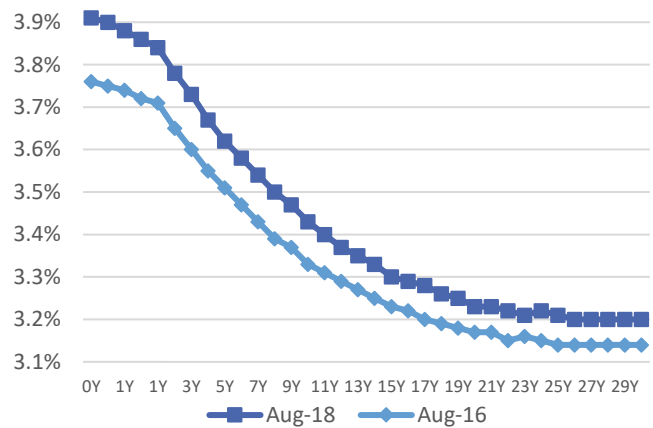
Appendix 18: Rating agencies' credit classes

	Moody's	S&P	Credit quality
Investment grade	Aaa	AAA	High grade
	Aa	AA	
	A	A	Upper medium grade
	Baa	BBB	Lower medium grade
Sub-investment grade (junk)	Ba	BB	Non investment grade
	B	B	Highly speculative
	Caa	CCC	Extremely speculative
	Ca	CC	
	C	C	
		D	In default

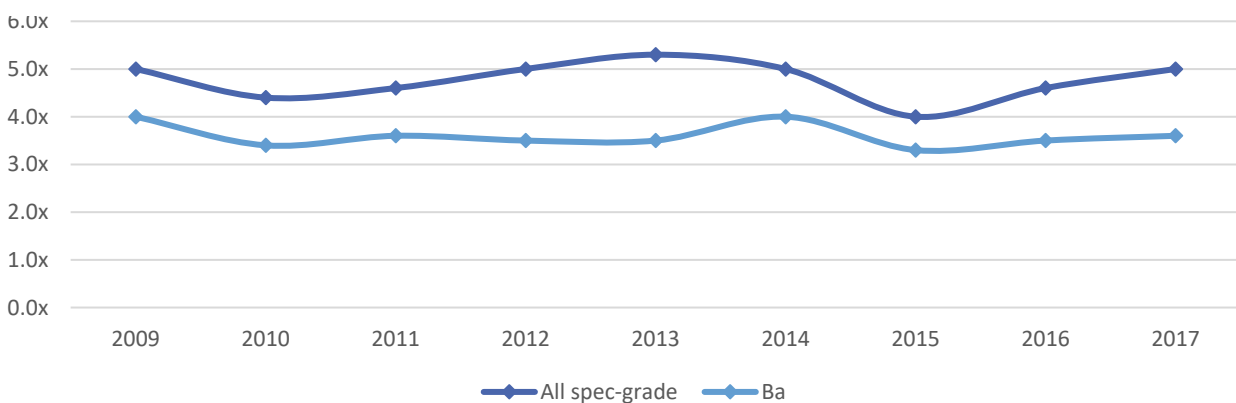
Appendix 19: Corporate yield curve (as August 2018)



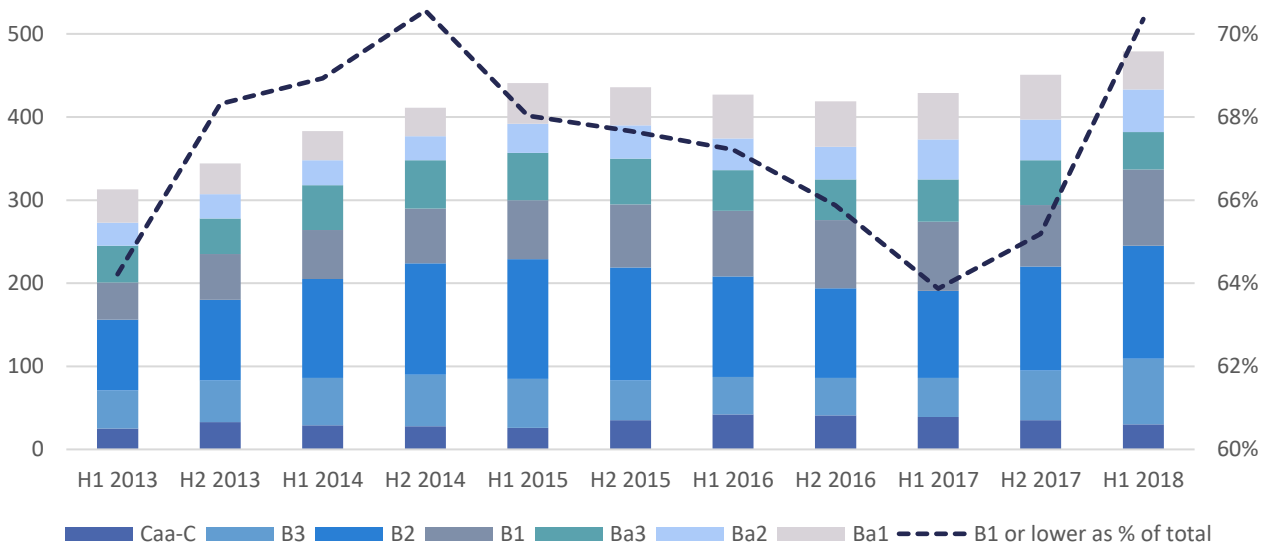
Appendix 20: Yield spread between BB and B categories



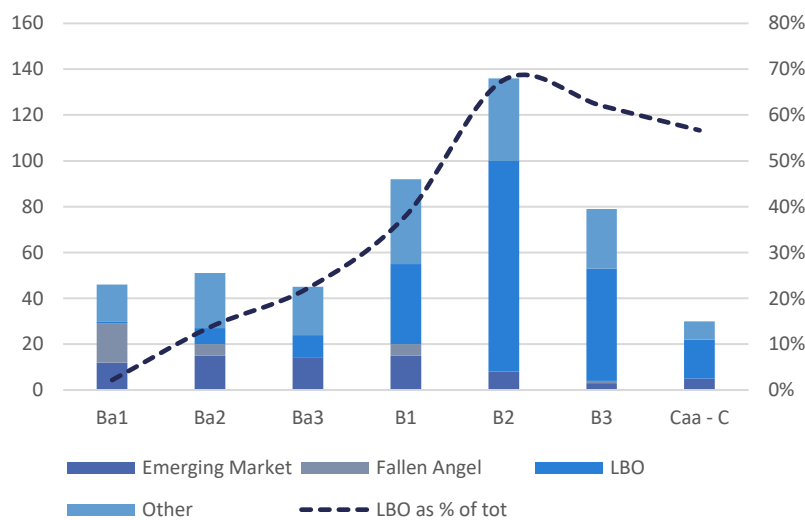
Appendix 21: Leverage (Moody's adjusted) over time



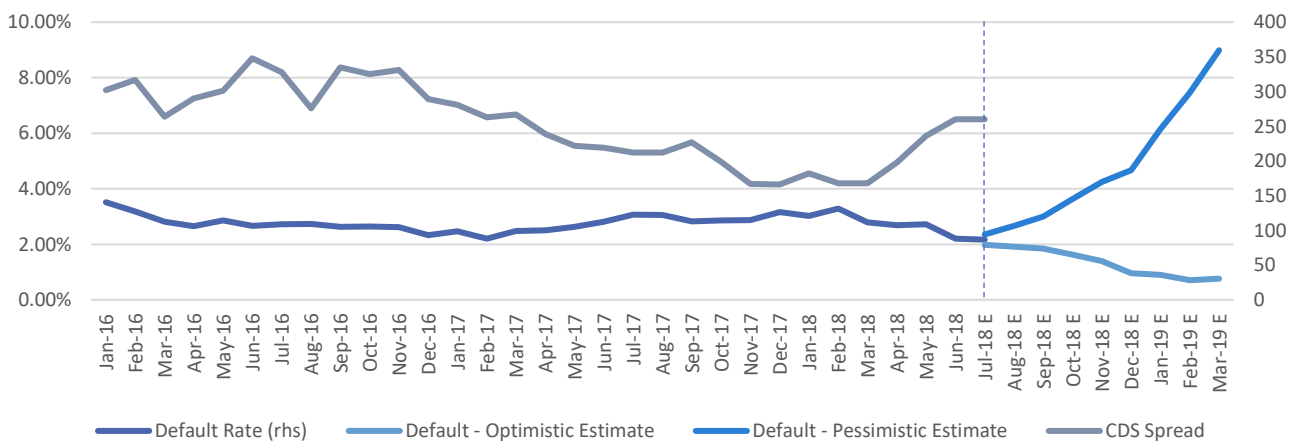
Appendix 22: High yield issuers rating evolution



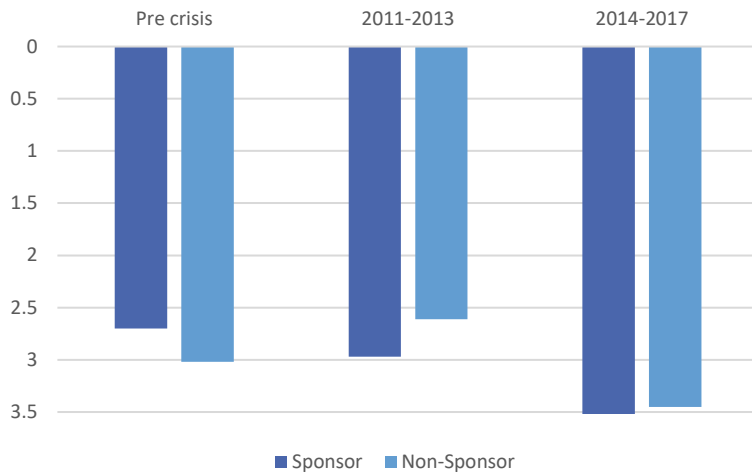
Appendix 23: Type of high yield issuers by rating



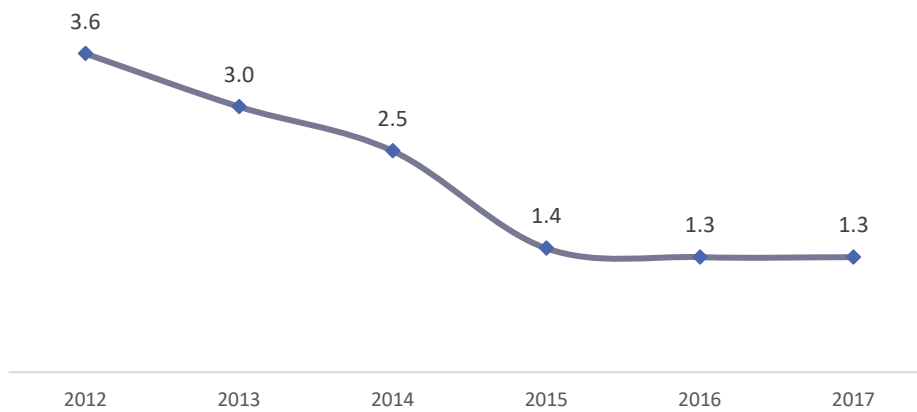
Appendix 24: Moody's Default trend and estimates



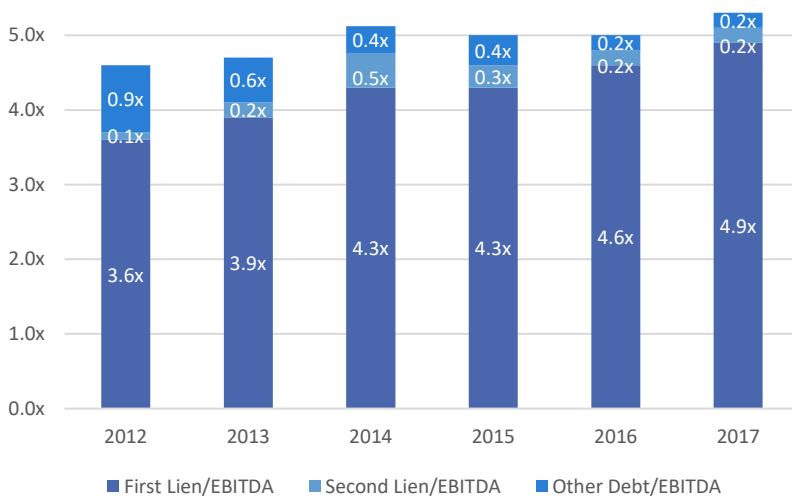
Appendix 25: Covenant credit quality



Appendix 26: Average number of covenants (European LBO)



Appendix 27: Financial leverage (European LBO)



Other sources and researches

- *A comprehensive guide to loans, bonds and other high-yield instruments. Maxwell and Shenkman (2010).*
- *Corporate Debt: LevFin optimistic for revival in leveraged buy-outs. Global Capital (2018).*
- *Global M&A Review 2017. Bureau Van Dijk (2018).*
- *Global M&A Review 2018. Bloomberg research (2018).*
- *European economic forecast. European Commission (2018).*
- *General corporate methodology: Ratios and adjustments. S&P (2013).*
- *HY and leveraged loans primer. Standard and Poor's (2017).*
- *High-yield goes global. Neuberger Berman (2018).*
- *Leveraged finance update. PwC (2017).*