



Master's Thesis – Majeure Finance

Corporate Hybrid Capital

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Introduction

Initially issued by financial institutions, in order to meet capital requirements from Basel agreements, corporate hybrid bond market started developing in 2005. At this date, Moody's published clear rating criteria for hybrid bonds¹ issued by corporates.

Even though they have existed for a couple of decades, 2013 appears as a turnpoint for hybrids in Europe: issuances from European issuers were multiplied by more than 5 times vs. 2012 (c.€27bn for 2013 vs. less than €5bn for 2012)². This boom is explained by a conjunction of factors and a particular fit between hybrids' characteristics and expectations from both issuers and investors. Improving balance sheet, strengthening credit profile and diversifying investor base without any dilution and at a lower cost than equity were the main motivations for issuers. In parallel, the product is perfectly adapted to the search for yield from investors that were reassured by good performance of hybrids during the crisis.

Despite recent developments in the corporate hybrid market, stabilization of the market won't be the rule for the following years. Indeed, upcoming refinancing of bonds with 2015 call dates is expected to create a new wave of issuances in the market and then potentially the appearance of new structures and market rules.

The objective of this research paper is to conduct a comprehensive study on this evolving market, providing the lector with key concepts that are necessary for understanding and participating in current discussions about hybrids.

To do so, the first section is dedicated to the definition of the security and the description of its complex structure (I). Following sections deal with three crucial considerations about hybrid bonds; they assess how rating agencies, tax authorities and international accounting rules treat hybrids (II, III). Section four tries to analyse what are the reasons that make an increasing number of companies to choose hybrids instead of straight debt or equity (IV). Key themes of hybrids booming market and investors' analysis are treated in section five (V).

Finally, a comprehensive case study on EDF January 2013 hybrid emission is conducted in section six (VI). This emission was chosen because it is strongly representative of the market in many ways. Indeed, Utilities companies are the main issuers in the corporate hybrids sector (Utility & Energy sector represented 40%³ of issuances for the period 2005-2013); and particularly EDF with five hybrid bonds outstanding as of March 2014. The emission of January 2013 was the largest ever conducted in the corporate hybrid market with €6.2bn of issuance (denominated in various currencies).

¹ Moody's (2005): "Refinements to Moody's Hybrid Tool Kit: Evolutionary, not Revolutionary!"

² Societe Generale (March 2014): "Call me maybe – Focus on 2015 call hybrids"

³ Standard & Poor's (March 2013): "Inside Credit: European Hybrid Issuance Grows In Popularity As More Sectors Join The Mix"

I. Definition and structure of corporate hybrid bonds

In order to analyse the hybrid market, there is need to spend time understanding what they are and what are the key clauses ruling this security. Indeed, further analysis as rating, accounting, tax as well as rationale for issuance will be strongly dependent on the structure of the security.

A) Definition

Bonds classified as “hybrid” are a mixture between debt and equity. Indeed, some of its characteristics make it bears partially the risk of the business and brings it closer to equity than to standard corporate debt. The first point in this sense is the maturity of the bond: most hybrids are perpetual. Another feature bringing hybrid bonds closer to equity is the coupon deferral, indeed the issuer may defer or cancel the coupon payments and this can be done either at the company’s discretion in case of financial trouble or mandatory (covenants).

However, hybrid bonds keep some key characteristics of regular bonds as periodic coupon payments and seniority to equity.

B) Key features of hybrid bonds

i	Maturity	<ul style="list-style-type: none">- Around three quarters of hybrid bonds are perpetual and the remaining around 50-60 years
ii	Subordination	<ul style="list-style-type: none">- Hybrid bonds are generally only senior to equity, low recovery rate in case of default
iii	Call Option	<ul style="list-style-type: none">- Most hybrids are callable from 5-10 years after issuance at periodic “call dates”
iv	Coupon step-up	<ul style="list-style-type: none">- Call dates comes with significant coupon step-ups, in order to incentivize the company to call the bond- Hybrids offer attractive yields
v	Coupon deferral	<ul style="list-style-type: none">- May be cumulative deferral or not- Some hybrids contain covenants that enforce coupon deferral if triggered
vi	Equity Credit	<ul style="list-style-type: none">- % of the bond considered as equity by rating agencies- Generally main concern for the company
vii	Replacement Language	<ul style="list-style-type: none">- Requires issuers to redeem the existing hybrid only with funds from newly raised hybrid or common stock

Figure 1 - Key features of hybrid bonds

i) Maturity

Around three quarters of outstanding hybrids are perpetual, the rest has a maturity of 50-60 years¹. However, most hybrids are called before maturity due to several coupon step-ups that come at call dates².

ii) Subordination

All corporate hybrids are junior to all other types of debts in case of default and with no limitation on future debt issuances above the hybrid³. As a consequence, recovery rates are very low in case of default; as it has been seen in a few examples.



Example: Technicolor defaulted on his hybrid bond in 2009 and the recovery rate was as low as 5%⁴!

iii) Call Option

At issuance of the bond, a structure is built in which two main parameters are determined. The first one is the non-callability period, which corresponds to the initial period of the bond during which it cannot be called. After this period, the bond can generally be called at periodic points in time (typically every quarter) at a pre-determined price. To incentivize the company to do so (for the investors to get their investment back), there is another parameter that comes into play: coupon step-ups (see next section).

Other types of events may trigger the possibility for the company to call back the bond; the most common being Rating Agency Event which is triggered when equity credit is no longer given to the bond for example.

These events, triggering a call option from the issuer, might force investors to sell at a lower level than market price. However, it has been seen in the past that some companies compensate investors for at least part of the loss.

Examples⁵:

- **Dong Energy** (Danish utilities company), called back its bond in June 2013 after a methodology change by S&P. At this time, hybrid bonds were trading at 110% and



¹ Royal Bank of Scotland (February 2013): "The Revolver"

² See Section I/C) to see how the number of step-ups and call-dates have been increasing since 2010.

³ Morgan Stanley (May 2013): "Update: Corporate Hybrids Playbook"

⁴ Royal Bank of Scotland (February 2013): "The Revolver"

⁵ Some elements from an article Josie Cox (January 2014): "ArcelorMittal burns hybrid bridges with shock redemption", *International Financing Review*

the company could have bought them back at 101%. However, since they were willing to re-invest in the hybrid bond markets, they called the bond back at 104% (ie limiting the loss for investors).



- Similarly, in November 2013 **Alliander** (energy distributor in Netherlands) tendered its bond at 102.5% when it was trading at 104%. The company could have done it at 101% under the legal documentation of the bond.



- However, **ArcelorMittal** exercised its call option on January 2014 at the price set in hybrid documentation while it was trading at higher levels. The main reason to this decision identified by credit analysts¹ is that the company was not considering replacing this instrument in its capital structure.

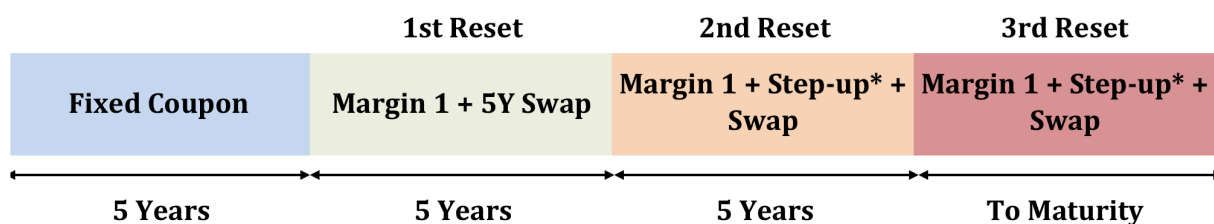
iv) Coupon step-ups

At issuance, hybrid bonds generally pay a fixed rate to investors. If not called after the first call date, the coupon typically becomes floating and may or not step-up depending on the structure of the hybrid. After this first call date, there are generally (for recent structures at least) other dates in which there is a coupon step-up.

Step-ups are incentives for corporates to call the bonds at call dates (or soon after). A company would call a bond if it could refinance it at lower rate than original spread + step-up.

Typical Coupon Structure for post-2012 Hybrids²:

For hybrids issued after 2012, a typical structure seems to have emerged:



* Step-ups are typically +25bps and +75bps at 2nd and 3rd resets

Figure 2 -Typical hybrid structures from 2012 onwards³

Before the first call date, coupon is fixed. If not called at first call date, the coupon resets to Libor + Margin corresponding to a step-up compared to previous rate. At second and third call dates, the coupon steps-up respectively by 25bp and 75bp.

¹ Société Générale, ING

² Morgan Stanley (May 2013): "Update : Corporate Hybrids Playbook"

³ Morgan Stanley (May 2013): "Update : Corporate Hybrids Playbook"

v) Coupon deferral

Optional coupon deferral. In vast majority of cases, the coupons can be deferred at the discretion of the company. The issuer has no obligation to make coupon payments and can defer it several times (in whole, not in part) without being in default. Generally, there is a maximum amount of time defined by legal documentation (5 years) but it is not always the case. The issuer must respect some rules to have the right to defer its payments which are generally: no dividend or any payment to shareholders must be made and no share buy-back should be done (except under some exceptions).

Mandatory coupon deferral¹. Some financial covenants are defined in the legal documentation of the bond. In case the company does not reach the threshold for those ratios, the mandatory coupon deferral is triggered and payment of coupons are automatically suspended. The main rationale behind this mechanism is to protect senior lenders in case of financial distress of the company; indeed, hybrid investors are here exposed to the suspension of coupon payments.

Cumulative deferral or non-cumulative. Vast majority of hybrid bonds have cumulative deferral mechanisms, meaning that deferred interests are due to investors as a whole as soon as the company starts paying its interests again.

Vinci is one of the very few European corporate issuers with a non-cumulative deferral feature².

Cash-cumulative and non-cash cumulative. Majority of hybrid bonds are “cash-cumulative”, which means that deferred interest payments are to be settled in cash as soon as the company starts paying coupons again (or as soon as any dividend is paid or share buy-back is done for example). However, there are some alternative structures to these cash settlements: some companies have the option to pay deferred interests through the issuance of new shares or the issuance of further hybrid paper. Nevertheless, these alternative coupon settlement mechanisms (ACSM) have largely disappeared, reflecting changes in rating agencies’ criteria³.

In some cases, deferred interests may be subject to interest payments; it is then specified in the bonds’ documentation and we speak of “compounded interests”.

It is important to keep in mind that deep subordination of hybrid bonds and interest deferral feature lead to a rating generally two notches below senior unsecured debt from the same issuer⁴.

¹ Morgan Stanley (January 2013): “Corporate Hybrids – Looking Under the Hood”

² Societe Generale (October 2013): “Quantifying the impact of sovereign risk on hybrid prices”

³ Unicredit (July 2012): “Corporate Hybrids Update”

⁴ Morgan Stanley (May 2013): “Update: Corporate Hybrids Playbook”

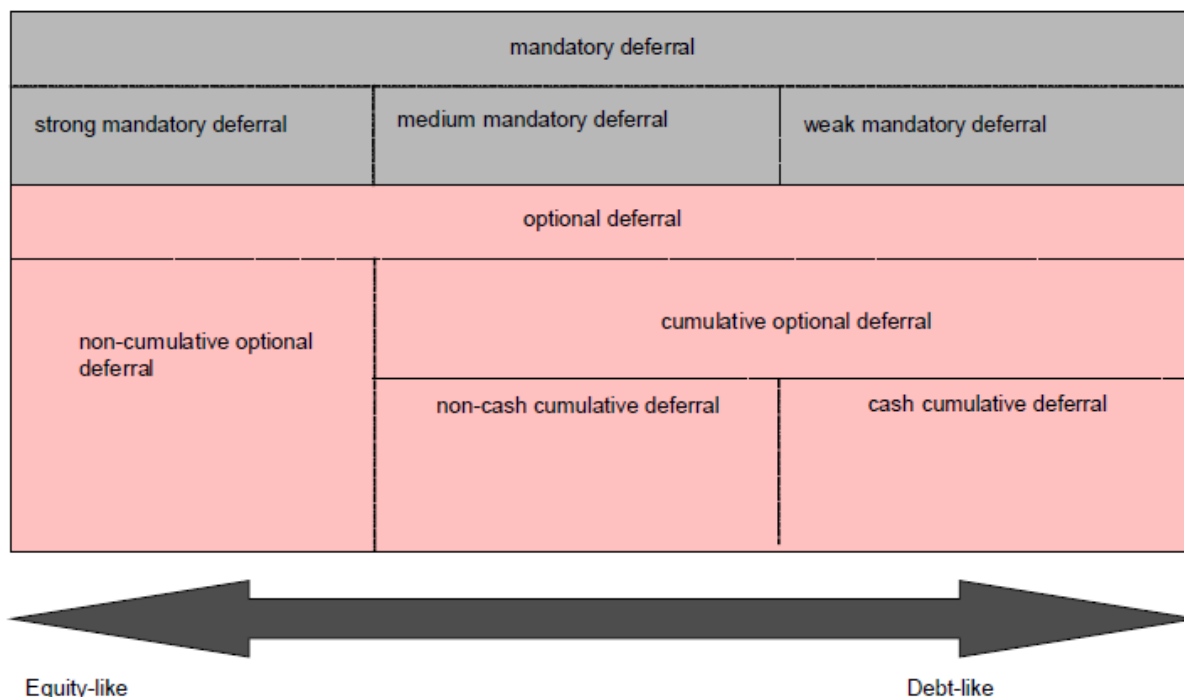


Figure 3 – Equity & debt like characteristics of coupon deferrals ¹

vi) Equity Credit

One of the main reasons why corporates issue hybrid bonds is that they are partially considered by credit agencies as equity. As long as the hybrid has equity-like features, part of it will be treated as equity (the equity credit). The proportion of the bond that will fall under the equity category varies across the agencies and over time. This proportion is generally 25%, 50% or even 100%. The rules applied and features assessed by rating agencies to determine the proportion of equity credit are detailed in Section II.

The agencies have set some maximum amount to be recognised as hybrid capital²:

- Moody’s: hybrids beyond 25% of equity capitalisation would be treated as debt.
- S&P: hybrids are limited to 15% of total capitalisation (including equity, hybrids and debt).
- Fitch: no explicit limit. However adjustments would be made in case the amount of hybrids is judged as excessive.

As soon as this equity credit is lost, there is a strong incentive for the issuer to redeem its bond since the hybrid could then be seen only as an expensive form of debt. Newly

¹ Unicredit (January 2010): “To call or not to call, that is the question!”

² Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”

issued corporate hybrid bond are structured in a way that the equity credit falls at the time of the first call date.

Moreover, most European corporate hybrids have a clause enabling early redemption in case there is a change in agencies' treatment of equity credit.¹

vii) Replacement language

Replacement language generally requires the issuer to redeem the hybrid bond only using either another issuance of hybrid bonds or common equity.

This language takes form in the legal documentation as the Replacement Capital Covenant (RCC). The RCC can be of two main types: either it takes place from issuance or after the first call date:

(1) RCC from issuance. It shows the intention of the issuer to keep the hybrid bond permanently in its capital structure.

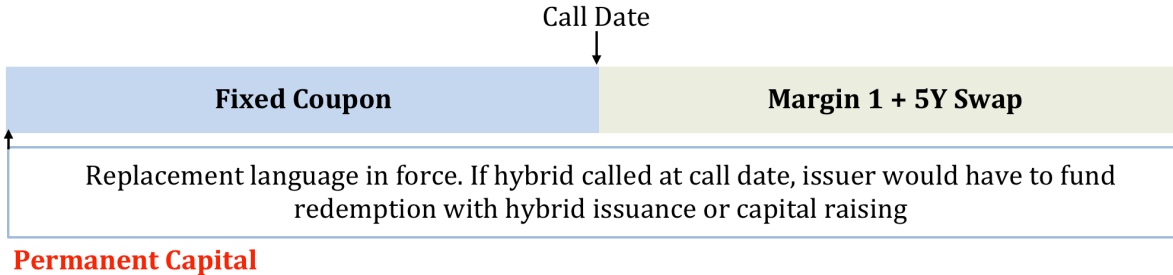


Figure 4 – Original structure of RCC ²

This is the original structure of the RCC, they were designed to protect senior creditors and maintain their credit quality even when the hybrid bond is called. Indeed, the RCC was a guarantee for senior creditors to have a cushion of junior creditors (or shareholders in case of replacement by common stock).

(2) RCC after the first call date. In this case, the issuer has the obligation to replace the hybrid bond by another hybrid or common equity only after the first call date. It means that if the bond is called at the first call date, there is no such obligation for the issuer.

¹ Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”
² Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”

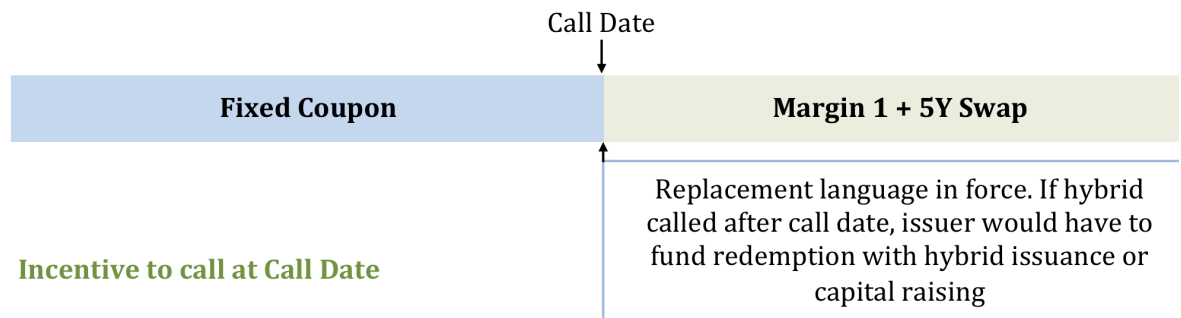


Figure 5 – RCC after first call date ¹

In this case, the effect of the RCC is almost at the opposite than in case (1): the issuer is strongly incentivized to call the bond at the first call date so that it will not be constrained by the RCC.

While the covenant (1) was designed to protect senior creditor, this type of RCC appeared to incentivize the issuer to call back the bond and then serves the interests of investors. It has a similar effect than the coupon step-up.

Rating agencies look very closely to RCC. At the beginning of the development of RCC after the first call date, they accounted it as an RCC from the issuance date. In March 2011, S&P announced a change in its methodology regarding to the RCC and since then the majority of European and Asian hybrids no longer carry RCC.²³

C) Origins and evolution of the structure

i) Origins of hybrid bonds

A way of analysing the origins of hybrid bonds is to monitor the evolution of the regulation in terms of capital requirements for banks. Indeed, the origins of hybrid bonds as defined in this thesis are very much linked to banking regulation since financial institutions were the first issuers in order to meet capital requirements from regulators.

¹ Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”

² Morgan Stanley (January 2013): “Corporate Hybrids – Looking Under the Hood”

³ See section II-A

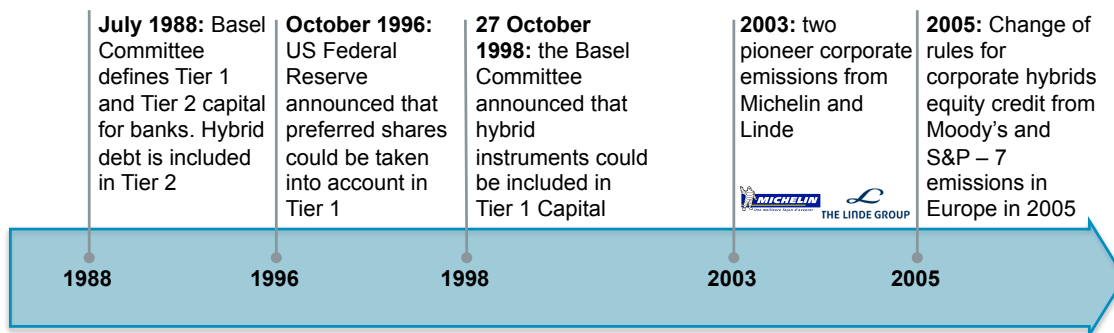


Figure 6 – Key dates for the development of hybrid bonds

1988. At this date, the “International convergence of capital measurement and capital standards” known as “Basel I” is published. In this agreement, the Basel Committee defines two types of capital (Tier 1 and Tier 2) and establishes limit ratios for banks. Hybrid debt is not included in Tier 1 capital only composed by equity. Hybrids are included in Tier 2 capital, at the same level as subordinated debt: “It has been agreed that, where [hybrid debt] instruments have close similarities to equity [...] they may be included in supplementary capital”¹. In this context there is poor incentive to issue hybrid capital for banks.

1996. Preferred Shares achieved a major progress in the U.S. when in October 1996 the Federal Reserve announced that preferred shares could be taken into account in Tier 1 (with a limit of 25% of total Tier 1). The only conditions for this new regulation is to have a minimum of five year consecutive deferral period on distributions to preferred shares and to be subordinated to all other types of debts.²

1998. This year was a major breakthrough for hybrid capital worldwide: the Basel Committee announced that hybrid instruments could be included in Tier 1 capital. The hybrids should not represent more than 15% of Tier 1 capital and restrictions on its structure were set by the Committee: limited step-ups, non-callable for a minimum of five years, Replacement Capital condition...³ This was the beginning of the development of hybrids for financial institutions.

2005. Until this date, corporates have very poor incentive to issue this innovative form of capital since they do not fall under Basel regulation. The rules set by Moody's and S&P

¹ Basel Committee on Banking Supervision (July 1988): “International convergence of capital measurement and capital standards”

² Federal Reserve of the U.S.A. (October 1996): Press Release

³ Basel Committee on Banking Supervision (October 1998): “Instruments eligible for inclusion in Tier 1 capital”

regarding the equity credit of hybrids completely changed this year to become much more hybrid-friendly (see section II).¹

ii) Evolution of the structure

The structure of hybrids has evolved over time to achieve nowadays a more complex structure (more call dates and coupon step-ups).

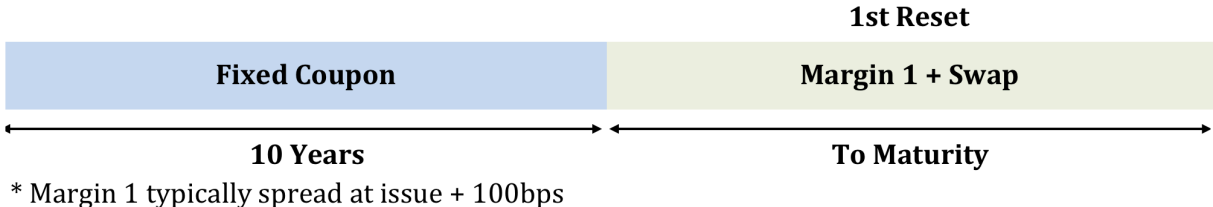


Figure 7 – Typical structure of hybrids pre-2010 ²

10 year of non-callability period followed by a coupon step-up: in this case the market will consider that the “effective” maturity of the bond is 10 years.

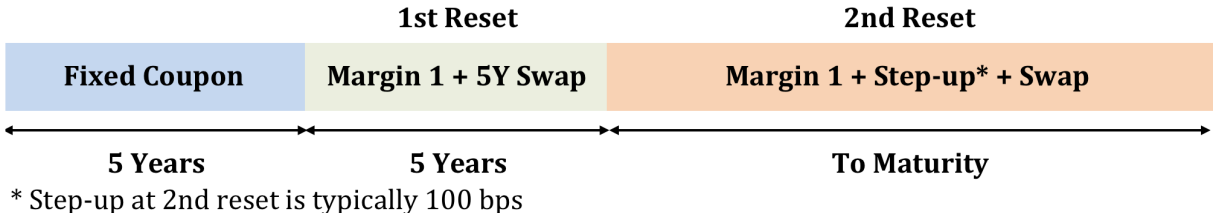


Figure 8 – Typical structure of hybrids in 2010/ 2011 ³

The evolution of the market and investors demand changed the non-callability period to five years. These hybrid bonds also have two coupon step-ups. With this wave of hybrids, we observed a surge of binding RCC language.

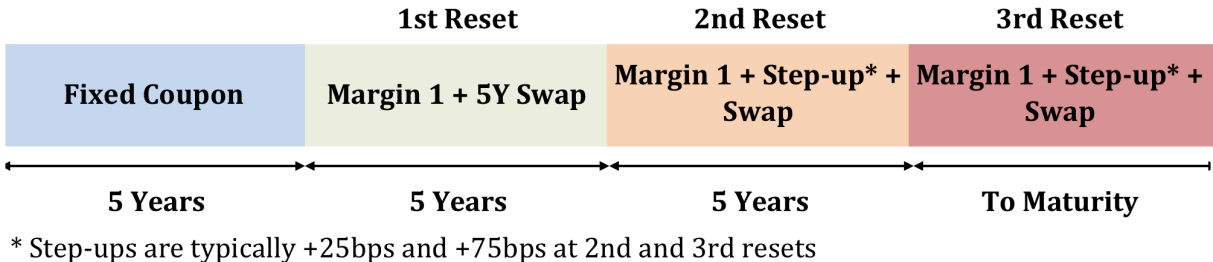


Figure 9 – Typical structure of hybrids post-2012 ⁴

¹ Moody’s (2005): “Refinements to Moody’s Hybrid Tool Kit: Evolutionary, not Revolutionary!”
² Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”
³ Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”
⁴ Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”

Finally, in recent years, the structure started being even more complex with a third call date 15 years after the second one (i.e. 25 years after the issuance of the bond). RCC language almost disappeared from their structure.

D) Differentiation with other asset classes

The label “hybrid security” includes all assets that combine characteristics of both debt and equity. Assets such as convertible bonds or preference shares are included under this denomination but are not in the scope of this study. Indeed, these assets differ from “corporate hybrid bonds” treated in this thesis in terms of structure and rationale for issuance.

<i>Equity-linked securities</i>	<i>Preferred stock</i>	<i>Hybrid bonds</i>	<i>Subordinated debt</i>
<ul style="list-style-type: none"> • Contain a common equity feature • Fixed income instruments with embedded equity option 	<ul style="list-style-type: none"> • Perpetual / Callable • Senior to common equity, junior to all other debt • (Fix) Dividend payments • Dividend deferral mechanism (cumulative or non-cumulative) 	<ul style="list-style-type: none"> • Deeply subordinated • Perpetual / Callable or dated with call option • Tax deductible coupon payments • Coupon deferral mechanism (cumulative or non-cumulative, optional or mandatory) • Coupon step-up, if call option is not exercised • Replacement language 	<ul style="list-style-type: none"> • Subordinated to senior debt • No coupon deferral mechanism • Maturities mostly up to 10 years • No call option • No equity features • Tax deductible coupon payments
Convertible bonds (optional or mandatory convertibles) Convertible preferred stocks	Traditional preferred stock (DRDs, REITs...) (Hybrid/Trust preferreds)	Corporate hybrids Financial hybrids (Tier 1, Upper Tier 2, Lower Tier 2)	Unsecured “plain vanilla” subordinated debt

Figure 10 - Debt-to-equity continuum¹

Equity-linked Securities: convertible bonds are the main equity-linked security. They combine features of both debt and equity. Indeed, like conventional bonds they have a fixed term at the end of which investors are repaid and periodic coupon payments. The difference is that convertible bonds investors have the right to convert their bonds into shares. There are a predefined number of shares and conditions defined in the prospectus.²

¹ Schaffner (2010): “A Valuation Framework for Pricing Hybrid Bonds”, University of St Gallen
² Credit Suisse (2011): “Convertible Bonds : Fundamentals, Asset Allocation, Solvency”

This instrument is different from corporate hybrid bonds (as defined in this thesis) under many aspects. First, since the convertible bondholder has an option on the company's equity, the coupons are lower than standard bonds with the same characteristics. The other main difference is that convertible investors very often end up being shareholders of the company.

Preference shares. "Preference share confers pecuniary advantages in exchange for the total or partial lack of voting rights."¹ These advantages may include: claim to higher proportion of earnings, priority in dividend distribution, a cumulative dividend (if preference dividend cannot be paid in full, the amount not distributed becomes payable in the future) etc. Financial analysts and rating agencies consider preference shares as equity and the company cannot go into default if it misses a dividend payment.²

Even though hybrids and preference shares have some characteristics in common, the main difference is the philosophy and the way these securities appeared. Indeed, hybrids bonds might be considered as corporate bonds with some equity-like features while preference shares need to be approached as ordinary shares with some special features, bringing them closer to debt.

This difference in the essence of the securities can be seen in the subordination level: hybrids are generally senior to preference shares. Moreover, many preference shares contain a conversion feature (convertible preference shares) while this is not the case for hybrids.

¹ Vernimmen.com, Glossary, Definition of Preference Share

² Vernimmen (2011): "Corporate Finance : Theory and Practice", Third Edition

II. Rating agencies' considerations

The main attractive feature of the hybrids is the combination of debt and equity advantages: on the one hand interests are tax deductible and on the other hand companies are granted equity credit for part of their hybrids by rating agencies. In this context, the methodology used by rating agencies to assess hybrid capital as well as its future evolution becomes crucial. Both Moody's and S&P revised their methodology several times to adapt it to empirical observations made on hybrids. The definition of straightforward and clear rules is a key factor catalysing the development of hybrid bonds.

In this section, we will overview the key factors driving the equity credit granted by rating agencies as well as recent trends and evolutions of these rules.

A) Current methodology applied by S&P¹

i) Rating framework

The philosophy of S&P to determine the level of equity credit granted to hybrid capital is detailed in the "Hybrid Capital Handbook", published in September 2008 and several further updates.

The agency highlights 3 positive characteristics of common stock that will be a guideline for the assessment of hybrid capital²:

1. Equity requires no ongoing payment that could lead to default
2. It has no maturity, no repayment requirement and is expected to remain as a permanent feature of the company's capital structure
3. It provides a cushion for creditors in case of bankruptcy

In the light of these main features, the rating agency will assess how close to equity is hybrid capital.

The analysis will include a close attention to the instrument's individual features (maturity, coupon step-up etc.) but "ultimately we take a holistic approach, considering the overall effect of the issue on the issuer's credit profile"³.

The equity content is assessed through an analytical framework composed of 3 main categories of equity credit: "minimal" (0%), "intermediate" (50%) and high (100%). When a hybrid bond is categorized as "intermediate" it means that 50% of its face value will be considered by the rating agency as equity.

¹ Unless otherwise stated, rules apply to non-financial corporates (i.e. excluding banks and insurances) with an investment-grade rating

² Standard & Poor's (September 2008): "Hybrid Capital Handbook"

³ Standard & Poor's (September 2008): "Hybrid Capital Handbook"

Standard & Poor’s also detailed maximum threshold of debt for each type of equity credit.

	<i>Minimal</i>	<i>Intermediate</i>	<i>High</i>
Equity Proportion	0%	50%	100%
Maximum Allowed	n.a.	General guideline is 15%	General guideline is 15%

Table 1 – S&P Nomenclature for hybrid bonds¹

ii) Equity credit duration

One of the key points to be mentioned before analysing in details the features of hybrid bonds and their impact on the equity credit is effective maturity. Indeed, even if hybrid bonds are very long dated, rating agencies do not consider the tenor mentioned on the term sheet as a relevant maturity for equity credit analysis.

Example: if a bond has a perpetual maturity but in 25 years there is a 100bp coupon step-up then the effective maturity is considered to be 25 years since the probability of redemption in 25 years is extremely high.

When the rating agency has determined this effective maturity date, it considers that a company can be granted equity credit up to 20 years before this effective maturity. Then another question that may arise is whether this loss of equity credit could be considered as an incentive to redeem.

Example: considering the same assumption as above, the company should lose its equity credit in Year 5. There is then 2 options: either the loss of equity credit is not considered as an incentive to redeem and then the equity credit is given for 5 years or the loss is considered as being an incentive to redeem and then the hybrid gets 0 equity credit.

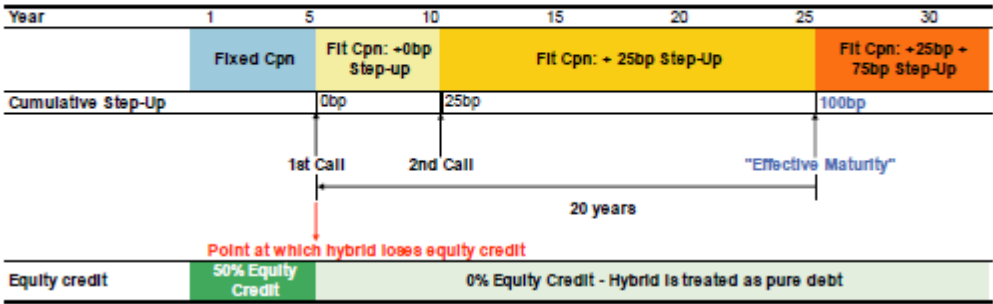


Figure 11 – Example of S&P method to assign equity credit ²

¹ This threshold should not be considered as a « hard-and-fast limit », as specified by S&P, it is more an indicative level up to which there should be no problem. Hybrids in aggregate should not exceed 15% of capitalization (defined as debt + hybrids + book equity)

² Morgan Stanley (May 2013): “Update: Corporate Hybrids Playbook”

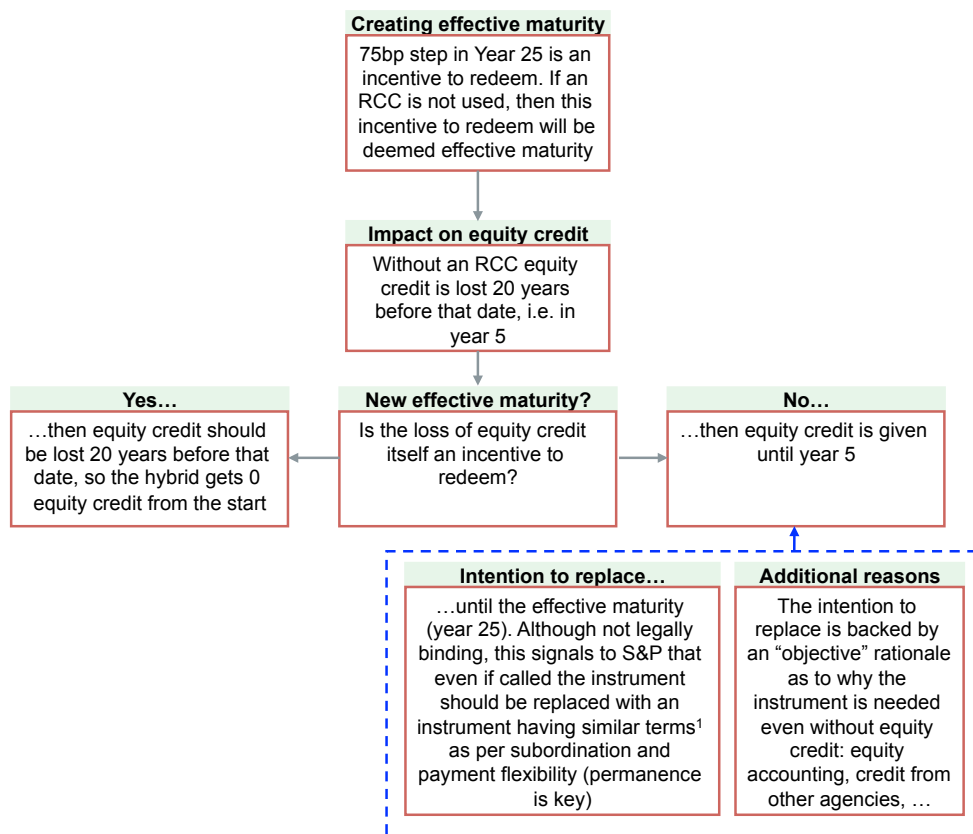


Figure 12 – How to determine the duration of equity credit from S&P¹

iii) How S&P assigns equity credit

	<i>Intermediate (50%)</i>	<i>High (100%)²</i>
Optional Deferral	Deferral period ≥ 5 years	Deferral period ≥ 5 years
Mandatory deferral	Mandatory deferral considered as not close to current rating level ³	Mandatory deferral close to current rating level (2-3 notches) – not mandatory to be eligible as “high”

¹ BNP Paribas Corporate Investment Bank, Fixed Income team

² Standard & Poor’s (April 2013): “Assigning equity content to corporate entity and North American insurance holding company capital hybrid instruments”

³ If deferral is mandatory for rating levels that are considered as “not close” to current level, the mandatory deferral is then considered as to be part of “Intermediate” category. If there is mandatory deferral for ratings close to the current one (i.e. meaning that mandatory deferral triggers if the company is only 2-3 rating notches below current level), then the hybrid is part of the “High” category

Maturity	Remaining term of at least 20 years	Needs to be perpetual
Call Date	Call date \geq 5 years from issuance	Call date \geq 10 years from issuance
Step-up	Moderate step-up (26bps-100bps)	No step-up
Dividend Stoppers	“Not essential for the recognition of equity content”	Only accepted when the entity is B+ or less. If not it is an incentive to repurchase the hybrid
Look-back feature ¹	No more than 6 months	No look-back feature
Timing	No guideline	No more than 6 months to elapse between the start of entity’s credit deterioration and the reach of a payment deferral
Subordination	No guideline	Subordinated in liquidation to all senior obligations

Table 2 – Main characteristics of S&P equity credit guidelines

B) Current methodology applied by Moody’s²

i) Rating framework

Moody’s has released the reference methodology tool kit in July 2010, revising the 2005 guidelines. The main rationale for the revision is the observations made by the rating agency during the crisis: it was a way to test their theoretical assumptions on hybrids’ behaviour.

The main objective of this new version was to switch from a “rule-based approach” to a “principle-based approach”¹. In this sense, instead of relying fully on ratios, the agency asks 3 main questions to classify hybrids.

¹ With this clause, the right to optionally differ only applies after a period of no share repurchase or payment of common dividends

² Unless otherwise stated, rules apply to non-financial corporates (i.e. excluding banks and insurances) with an investment-grade rating

1. Does the hybrid absorb losses for a “going” concern?

It concerns the ability of the issuer to impose losses on hybrids (through coupon skip mechanism or principal write-downs) before a company-wide default. In order to be considered as a hybrid absorbing losses for “going” concerns, the bond should be a non-cumulative preferred security.

Securities absorbing losses for a “going” concern are eligible for a 75% equity treatment (basket D as defined below).

2. Does the hybrid absorb losses for a “gone” concern?²

For a “gone” concern, a hybrid does not absorb losses before the issuer is close to default. This category includes hybrids that are cumulative or ACSM-settled with coupon suspension either at the issuer’s discretion or triggered by some covenants. It also includes hybrids with restricted options to skip coupons.

Securities absorbing losses for a “gone” concern only (cumulative securities), are eligible for a 50% equity treatment at best (basket C as defined below).

3. Is the loss-absorbing hybrid there when needed?³

The last consideration deals with the availability of the hybrid when needed. Main factors to be considered are how the hybrid will be replaced, if called. Moody’s takes this into account on the overall credit analysis.

From these questions, the agency will classify hybrids in 5 different baskets (from A to E). Moody’s defined a debt-equity continuum from A to E with A being closest to debt and E closest to equity.

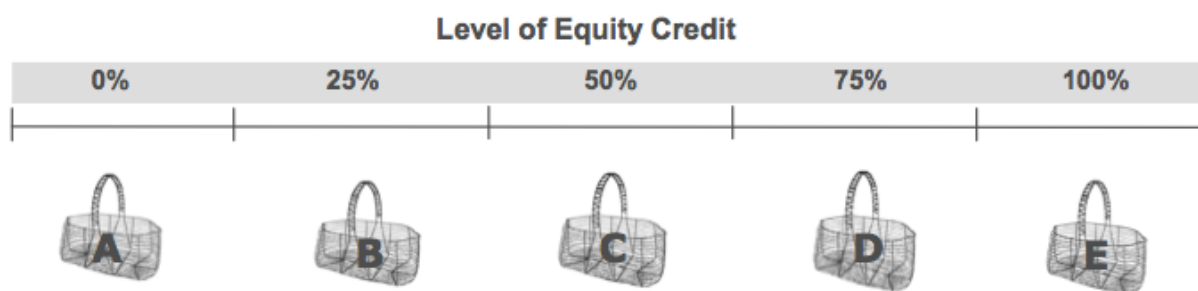


Figure 13 – Moody’s debt-equity continuum⁴

ii) Equity credit duration

The minimum time to maturity to obtain any equity treatment is 30 years (compared to 20 years for S&P).

¹ “Revisions to Moody’s Hybrid Toolkit”, Moody’s, July 2010

² “Revisions to Moody’s Hybrid Toolkit”, Moody’s, July 2010

³ “Revisions to Moody’s Hybrid Toolkit”, Moody’s, July 2010

⁴ “Revisions to Moody’s Hybrid Toolkit”, Moody’s, July 2010

Time to first call and replacement language are less emphasized in the 2010 revision toolkit, but still have an impact on equity credit duration. However, in some cases they still have an impact on the equity credit: if an issuer has stated publicly that it would call the hybrid in a short period of time or a 100bp step-up are considered as effective maturity.

These considerations are major differences between S&P and Moody's since S&P specified very clear guidelines on the effective maturity and the impact of the replacement language on equity credit assignment.

iii) How Moody's assigns equity credit

Moody's provides minimum features to achieve a basket for banks and corporations. For each category, the features are listed from the most debt-like to the most equity-like.

Some Numbered Generic Hybrid Examples to Illustrate the Application of the Revised Guidance															
COLUMN NUMBERS		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14
Coupon skip	Mandatory Weak ¹		X												
	Restricted Optional ²			X							X				
	Mandatory Moderate ³											X			
	Optional	X			X	X		X	X				X		
	Optional & Mandatory Strong ⁴						X			X				X ⁵	X
Settle- ment	Cumulative	X	X	X	X	X	X	X		X					
	Non-cumulative								X		X	X	X	X	X
Ranking	Subordinated	X	X	X	X	X	X								
	Preferred							X	X	X	X	X	X	X	
	Equity														X
Maturity	< 30 years	X													
	30 - 59 years				X				X						
	>= 60 years		X	X		X	X	X		X	X	X	X	X	
	Irredeemable														X
Basket for Banks		A	B	B	B	B	B	C	C	C	C	C	D	D	E
Basket for Non-Banks		A	B	B	B	B	B	C	C	C	C	C	C	D	E

- Key:
- 1 Mandatory Weak Triggers include minimum regulatory capital ratios set at low levels.
 - 2 Restricted Optional is when the issuer either has to breach certain triggers or stop payment on parity or junior securities for more than 6 months before being able to skip hybrid coupons.
 - 3 Mandatory Moderate Triggers include a balance sheet loss trigger for banks.
 - 4 Optional and Mandatory Strong Triggers includes both optional skip mechanisms and strong or "meaningful" triggers such as net loss triggers for banks.
 - 5 The mandatory coupon suspension is non-cumulative; the optional coupon suspension can either be cumulative or non-cumulative.

Table 3 – Equity credit assignment by Moody's¹

Moody's draws the line between subordinated debt and preferred securities. Preferred securities are defined as: "i) are very deeply subordinated securities and generally the

¹ "Revisions to Moody's Hybrid Toolkit", Moody's, July 2010

most junior instrument in the issuer's capital structure; ii) cannot default or cross default other than at maturity, if the hybrid is dated; and iii) have limited ability to influence the outcome of a bankruptcy proceeding or a restructuring outside bankruptcy".¹

It appears then that some of the hybrid bonds considered by S&P would be called preferred securities by Moody's. A subordinated bond cannot have more than 25% of equity credit while preferred securities are granted either 50% or 75% of equity credit.

C) Trends and evolution

Precision and visibility

One of the main evolutions reached by the agencies is the definition of strict and precise frameworks for the treatment of hybrids. This provides visibility for future issuances and is then a strong incentive for further issuances. Indeed, part of the analysis made by a future issuer and its adviser consists generally in building credit rating models and assessing future equity credit granted to the hybrid. From this perspective, the new specifications recently released by S&P and Moody's are increasing the accuracy of this preliminary work and then the willingness to issue new hybrids.

Apart from these general guidelines, rating agencies have released some specific methodologies regarding sectors or types of issuers. Indeed, in July 2013 Moody's revealed in the paper "Debt and equity treatment for hybrid instruments of speculative-grade nonfinancial companies" new rules for assessing hybrid debt for non-investment grade companies. Similarly, few sector-specific papers were published concerning mainly the Utilities sector (particularly regulated utilities companies).

Stricter rules

Very recently a new trend emerged in the rating agencies' treatment of hybrid: stricter rules for equity credit. In 2013 Moody's published its revised guidelines for non-investment grade companies and S&P reviewed its methodology to grant a 100% equity treatment to hybrids.

In the first case, Moody's stopped granting equity credit for almost all types of hybrids issued by non-investment grade companies.

Example: ArcelorMittal \$650m 8.75% perpetual bond was affected by the new rules.

Due to the new methodology released by Moody's in July 2013, a Rating Agency Event was triggered and the bond was redeemed in January 2014 at 101 (c. 7 points below market price).²

Concerning the 100% equity credit from S&P, the revised guidelines of April 2013 detailed new rules for the assignment of a "high" equity content (see section II. A) iii)).

¹ "Revisions to Moody's Hybrid Toolkit", Moody's, July 2010

² Societe Generale (January 2014): "Corporate Hybrids"

These new methodologies impacted the rating of 2 issuers and decreased the equity credit of more than 10 European issuers.¹

¹ Standard & Poor's (April 2013): "Assigning equity content to corporate entity and North American insurance holding company capital hybrid instruments"

III. Accounting and tax considerations

Attractiveness of hybrid bonds relies on a combination of advantages coming either from its debt-like or equity-like dimensions. Alongside its equity treatment by hybrid agencies, hybrid bond combines other advantages from debt and equity.

First, on the accounting side, most hybrids are considered by the IFRS¹ as forming part of equity. This has an impact on many accounting-based ratios and agreements for companies. Similarly, tax deductibility of interests is considered to be one of the main advantages of debt financing compared to equity: interests are tax-deductible while dividends are not. Hybrid bonds' debt-like features make it possible for the issuers, in most cases, to have a full deductibility of interest payments.

A) Accounting considerations – IFRS

Under the IFRS methodology, IAS 32 defines clear conditions for a hybrid bond to be treated as equity in its financial statements. There are three criteria that must be fulfilled by the issuer: i) No contractual obligation to deliver cash or any other financial asset; ii) equity interest in the residual value of the issuer's assets after deduction of all liabilities; iii) No fixed maturity². There are only two potential treatments for hybrid debt: either 100% equity if the criteria are met or 100% debt if they are not.

We only focus in this part on IFRS accounting for two reasons: hybrids issuers are mainly mature multinational firms that have adopted those standards and national accounting systems are not harmonized yet on this point.

i) No unconditional obligation to deliver cash or any financial asset

Hybrid capital might be recognised as equity only if it the issuer can defer or suspend coupon payments under certain conditions. In this case, interest payments are paid at the discretion of the company and become more comparable to dividends than regular interest payments.

This condition is not decisive for the treatment of hybrid bonds since all of them present this type of characteristics.

ii) Equity interest in residual value

In the event of liquidation, the hybrid bond holders claim must come after all other types of debts (from an accounting point of view) meaning that they must be considered as junior to all types of debts. In this sense, they only have an equity interest in the residual value of the company after deduction of all liabilities.

¹ International Financial Reporting Standards

² Unicredit (January 2010): "To call or not to call, that is the question!"

Again it appears that this condition is not decisive for the treatment of a hybrid bond as equity since all hybrids (as defined in this paper) are junior to all types of liabilities (from an accounting point of view).

iii) No fixed maturity

To be recognized as equity, a hybrid bond must be perpetual. Indeed, having a fixed maturity would mean an obligation to make a cash payment and then go against the point i) developed above. Thus, hybrids bonds with fixed maturities (e.g. 50 years) are recognized as 100% debt.

Finally, IAS 32 precises that there is no need to grant a voting right to a security for it to be accounted as equity. Then a security can be allocated to the equity of a company without any voting right or influence on management.

<i>Criteria for equity accounting under IFRS:</i>	
✓	No fixed maturity
✓	No contractual obligation to deliver cash
✓	Equity interest in the residual total assets after deduction of all liabilities
<i>Unnecessary criteria for equity eligibility:</i>	
✗	Voting right
✗	Influence on corporate management

Table 4 - Equity credit assignment by Moody's ¹

Example **VOLKSWAGEN**
AKTIENGESELLSCHAFT

Volkswagen issued a €750m hybrid bond in September 2013 with a coupon of 5.125% and a perpetual maturity. Due to its structural features, it received an “Intermediate” equity treatment by S&P and was classified as “Basket C” by Moody’s. Since the bond is perpetual, it is considered as equity on balance sheet in accordance with IFRS norms.

B) Tax considerations

In most countries, interests from hybrid capital are tax-deductible and this is one of the main advantages of the security. Each country has specific conditions defined by the local tax authority. We will focus on the French, German and Italian tax rules in this paper.

¹ Unicredit (January 2010): “To call or not to call, that is the question!”

From a global point of view, discussions within the OCDE are taking place in order to harmonize the tax deductibility of hybrid interests in order to limit some tax optimizations schemes used by companies (concerning hybrids granted by related companies).

The scheme consists in having a debtor in a tax-deductible country and a creditor in a country in which the interests from hybrids are treated as dividends (i.e. not taxed within a group). Through this operation, the group can decrease its amount of tax paid in one country and avoid taxes in the other one.

To eliminate such operations, France anticipated international decisions by changing the rules for hybrids in 2014 “Projet de loi des finances”.



French “Loi des finances 2014” and implications for tax-deductibility^{1 2}

The new law came into force on 01/01/2014 and introduces new rules limiting the tax-deductibility of interests for some specific cases. Indeed, the issuer has to prove, if required by the French administration, that the entity receiving the interests will be subject to a tax rate of minimum 8.33%.

However, this should not target hybrid bonds as defined this paper but more hybrid loans granted by related companies. Indeed, hybrid interests will be treated as regular debt interests as long as they respect the three following conditions: i) interests must remunerate capital borrowed for the company’s needs and in its own interest, ii) debt and corresponding interests must appear in the company’s financial statements, iii) the borrowing rate should be at market price.³

Nevertheless, a new limitation was introduced by the 2014 “Loi des finances” concerning not only interests from hybrid capital but any type of debt interests. Previously, interests were fully deductible up to €3m of net interests⁴ and at 85% for the amount above this threshold. The new law that came into force on 01/01/2014 reduced the deductibility of net interests above €3m to only 75% (vs. 85% beforehand).^{5 6}



German Law

In Germany, hybrid capital interests are generally tax deductible since they fulfil the three conditions for interests to be deducted: i) No commercial partnership with hybrid investor which could be seen as a shareholder right, ii) the borrowing rate should be at market price, iii) in some specific cases, the hybrid capital is considered in the financial

¹ LOI n° 2013-1278 (29 december 2013): “Loi de finances pour 2014, Article 22”

² Code Général des Impôts, article 212 – modified by the law mentioned at 46

³ Romain Pichot, Julien Steinberg (March 2014): “Déduction des charges financières: comment faire?”, DafMag

⁴ Netted of financial income

⁵ Code Général des Impôts, article 212 – modified by the law mentioned at 46

⁶ Romain Pichot, Julien Steinberg (March 2014): “Déduction des charges financières: comment faire?”, DafMag

statements as a participation right, coupon payments are not then tax deductible if coupon payments are included in liquidation proceeds.¹

Similar laws as the one observed in France were adopted to avoid double tax avoidance but in this case again, the impact for the hybrid capital (as studied in this paper) is null.²

Italian Law

Under Italian tax law, “debt-equivalent securities” can benefit from the tax-deductibility of interests. To be considered as so, two conditions must be respected: i) unconditional obligation to a payment at maturity (no matter if there are some intermediary payments), ii) no participation to the management of the company.

Hybrid bonds always meet the second condition, so only the first one might limit tax deductibility. Indeed, in order to meet the first condition, there is need to have a defined maturity which means that issuers of hybrid bonds with perpetual maturity could not deduct their financial charges. Nevertheless, the Italian Tax Authority allows the issuer to define the maturity as a redemption date but also as a date linked to another event (“per relationem”). As some Italian corporations have non-open ended articles of association, it makes it possible for them to link their maturity to their statutory life: they use a “moving maturity”, and the security tenor is extended automatically when there is an extension of the association’s expiry date (decided in shareholders’ meeting).³ With this “moving maturity”, hybrid bonds’ interests are then tax deductible.

¹ Unicredit (January 2010): “To call or not to call, that is the question!”; quoting the Section 5 of EStG German Income Tax Act and Section 8 III KStG German Corporate Tax Act

² Tax Act 2013, “Amtshilferichtlinie-Umsetzungsgesetz”, approved on 6 and 7 of June 2013

³ Unicredit (January 2010): “To call or not to call, that is the question!”

IV. Rationale for issuance

For now, we have detailed the main characteristics of hybrids as well as how they are treated by rating agencies, international accounting standards and tax authorities. What is interesting now is to understand what, from the key features of a hybrid bond, attracts the issuer and which needs the hybrids meet that standard debt or equity does not. For this purpose, we will try to understand the main reasons for an issuer to choose hybrid debt (A) followed by a more detailed analysis on the impact of a hybrid issuance on company's value and WACC ¹(B). Finally, we will see how corporates use their proceeds from hybrid issuances (C).

A) Rationale for the issuer

The main advantage of a hybrid bond lies in its nature which combines advantages (and also disadvantages...) from both equity and debt. Indeed, many positive aspects of an equity issuance as a better credit profile, stronger balance sheet or financial flexibility can be found, at least partially, in a hybrid issuance. This is also combined with key strengths of debt as tax-deductibility of interests and no dilution of shareholders.

i) Strengthening credit profile

One of the direct effects of a hybrid issuance is to reinforce the amount of equity on balance sheet of the company. This is the main reason why banks and financial institutions are the first actors of the hybrid markets. Indeed, regulatory ratios (Tier 1 and Tier 2 for example) consider, under certain conditions, that hybrid capital can be seen as Tier 1 capital.

The second effect, which is more stringent for corporate issuers, is the consideration by rating agencies. As developed in section 2, the main rating agencies grant equity credit for hybrid capital (generally around 50%) which will impact positively the rating of the company. The immediate consequence is a diminution of its refinancing costs.

Finally, from a senior lender's perspective, the hybrid capital is seen very positively. Indeed, it does unequivocally support senior creditors and does not increase the burden of debt but provide them with a supplementary cushion.

¹ Weighted Average Cost of Capital

Examples of issuances done to strengthen credit profile ¹



- EnBW raised capital following the German government shutting down nuclear power plants and planning to phase out nuclear power within the next decade
 - The hybrid was used to maintaining company ratings following negative watch from S&P and Moody's
 - EnBW tapped the bond in March 2012 issuing EUR 250m to further bolster its balance sheet after the initial EUR 750m issued in September
- "Moody's takes account of EnBW's EUR 750 million hybrid bond issuance in September 2011 which, as well as boosting liquidity, has a positive effect on leverage as a result of the 50% equity treatment ascribed to it in accordance with Moody's methodology for hybrids"*
- EnBW Energie, Moody's Credit Opinion, December 2011



Hutchison Whampoa ²

- Hutchison Whampoa used two hybrids as part of its deleveraging strategy following a series of acquisitions
 - The hybrids supported the deleveraging without having to dilute shareholders
 - Hutch's USD 2bn and CKI's USD 1bn hybrids were viewed as a prudent source of financing by Moody's
 - The CKI³ deal was structured to support the A- credit rating, which was placed on negative watch by Standard & Poor's on August 2. S&P subsequently removed the company from negative watch
 - 50% equity credit from the three rating agencies
- "Moody's says today that it has confirmed its A3 issuer and senior unsecured bond ratings on Hutchison Whampoa Ltd (HWL), following its issuance of USD2 billion in subordinated perpetual capital securities. The confirmation of the A3 rating reflects our expectation that this hybrid issuance will help improve HWL's book leverage and achieve the unadjusted net debt to capitalization ratio of mid-20% targeted by management. The two hybrid issues demonstrate HWL's commitment to deleveraging"*
- A Moody's Senior Credit Officer

ii) Cost-effective capital

As seen in the previous point, hybrid bonds are used by corporates to strengthen credit profile and support senior creditors. From this point of view, equity would have been a

¹ BNP Paribas Corporate Investment Bank, Fixed Income team

² BNP Paribas Corporate Investment Bank, Fixed Income team

³ Cheung Kong Infrastructure: diversified infrastructure company, subsidiary of HWL

better alternative than hybrids since having 100% equity credit from rating agencies and an even better cushion for senior debt holders.

What explains the use of hybrids rather than equity can be summed up in 3 main points: lower cost of hybrids, tax shield and no dilution of shareholders on both counts (voting rights and economic rights).

First, as hybrids are debt-like products, its investors will demand for a lower yield than the required return on equity since they bear less risk than stockholders: no dividend can be paid to equity holders if the company does not pay its interests on its hybrids and hybrids are senior to equity in case of liquidation. Then the yield paid to investors of a hybrid bond is lower than the required return of equity (obtained from the CAPM formula, see IV. C).

Second, hybrids are even cheaper than equity since their interests are tax deductible. Indeed, as developed in the IV. B), most countries treat hybrid debt as regular debt from a tax standpoint.

Last point is that hybrid issuance can have similar effects as a stock issuance but without any dilution effect. This is very attractive for some majority shareholders that do not want to be diluted, which might be particularly the case for family businesses or state-owned companies.¹

Example – No-dilution for a 100% state-owned company



-
- | | |
|---|---|
| <ul style="list-style-type: none">- Major Swedish utilities company- They were pioneers in corporate hybrid market since they issued €1bn perpetual hybrid bond in June 2005- This early adoption of the product is explained by a particular fit between Vattenfall shareholding structure, their need for financial flexibility (which is not allowed by regular bonds) and the characteristics of a hybrid bond- The company was 100% owned by the Swedish State, the option of the hybrid was a way to find new financing similar to equity without injecting more money for the State or being IPOed- Moody's and Fitch granted a 75% equity credit; 50% for S&P | <p><i>"In June, Vattenfall secured funding in the form of Capital Securities of EUR 1 billion. The tenor of the Capital Securities is perpetual and they are junior to all of Vattenfall's unsubordinated debt instruments. Due to the fact that the rating agencies regard the greater part of the amount as equity, Vattenfall's financial flexibility has been enhanced. The transaction is generally considered to be a pioneering one and the bonds have been in great demand among investors."</i></p> <p>Vattenfall 2005 results</p> |
|---|---|

¹ BNP Paribas Corporate Investment Bank, Fixed Income team

² Vattenfall 2005 Annual Report and Bond prospectus

iii) Strong attractiveness for companies without access to capital markets

We already described the similarities between hybrid issuance and equity issuance. This similarity can be very attractive for companies that do not have access to equity capital markets: either for an IPO or for capital increase.

We can differentiate two main situations in which the company might not have access to capital markets: either they are completely closed and there is no appetite for any IPO or capital increase or the company has some specificities that make it unattractive for investors.

The first type of situation, a complete close of the market, affects all companies of a same country or region. It means that even companies with sound financial results and good equity story might not be able to reach financial markets. Indeed, the volatility on the market is so high that investors (i.e. asset managers, pension funds etc.) are not willing to take risk on a new stock with no track record.

Companies with poor equity stories or poor financial performance and forecasts are also concerned by this argument. In this case, the general environment on the market might be satisfactory for equity investors (great economic performance, low volatility, visibility etc.) but the company in itself does not attract them. The reasons for that could be multiple: either business driven (shrinking market share, unpromising position in the value chain etc.), financially driven (company might be close to financial distress for e.g.) or even managerial reasons (if the management team is not able to properly communicate with investors).

The importance of hybrid capital is seen on the effect it can have on investors. Indeed, in this case, no investor is ready to take equity risk on those companies. However, some investors are interested in taking hybrid risk on the same company. The debt-like features of hybrid capital make this product less risky than equity and then attractive for investors.

iv) Retain financial flexibility

Retaining financial flexibility can be considered as a secondary reason for issuing hybrid capital; it won't be the main reason given by the company to justify its financing. Flexibility can be understood in two ways: either as flexibility in the payment of hybrid interests, or flexibility for future financing.

Flexibility (in terms of interest payments) is one of the characteristics of a hybrid bond that bring it closer to equity. As described in section I., coupon deferral allows the

company to defer or suspend its interest payment for a given period of time. If the company faces financial distress, this option might be very valuable.

In case the company might need, in the coming months or years, to raise capital either to finance a capex plan or an acquisition; it wants to keep some financial leeway to do so. This would be especially the case for companies that have a restricted access to capital markets.¹

Financial flexibility comes from the fact that hybrid investor class is tapped by the emission leaving room for further emissions in other investors classes as standard bond and equity.

v) Larger investment base

A company needs to create a relationship with investors based on trust and good track record. To implement its operational strategy, diversified sources of financing are needed and having a good relationship with the investment community is valuable to implement on a timely manner new operating decisions.

Hybrid capital is key in this strategy to entertain and create new relationships with investors. Indeed, there are mainly two types of investors in hybrid capital: either they are specialised in this type of assets or they also invest in other securities.

If an investor is from the first type, this would be the occasion for the company to create a new relationship and diversify its providers of financing. They could be some asset managers or hedge funds specialised in this types of assets.

In the second case, there are institutional investors that have to invest part of their liquidities in hybrid capital. The relationship is valuable not only for the issuance of hybrids but also for any potential further issuance of regular bonds or equity.

B) Impact on cost of capital and value of the company

Our goal in this section is to prove that adding hybrid debt to the capital of a company would lower its Weighted Average Cost of Capital (WACC) and thus increase the value of the company.

The question of the impact of the capital structure on the WACC has been fully addressed by many academics and even practitioners. The results still contested

¹ Unicredit (January 2010): "To call or not to call, that is the question!"

nowadays but it seems accepted that there is an optimal level of debt at which the WACC is minimal.

We will go through a quick overview on the main findings about the relationship between the WACC and the capital structure in order to assess the same issue including hybrid capital in the structure.

In June 1958, Franco Modigliani and Merton H. Miller publish “The cost of capital, corporation finance and the theory of investment” in The American Economic Review. This paper is seen as the first milestone in the field of capital structure and cost of capital.

One strong assumption taken by the two academics in this first paper is that there is no corporate tax. Their main conclusion will be that the WACC remains constant whatever the corporate structure: an increase in debt will cause an increase in the cost of equity (due to higher risk) which will offset the effect of having an increase in the proportion of cheaper capital (debt).¹

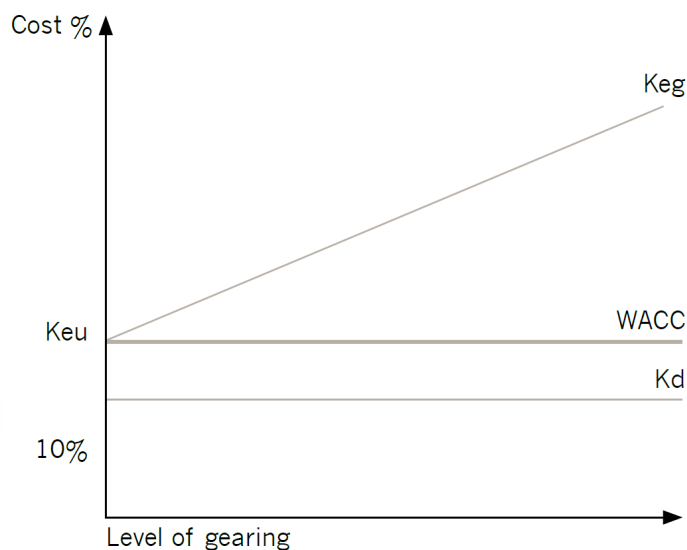


Figure 14 – Cost of capital in Modigliani Miller no-tax model ²

In June 1963, Franco Modigliani and Merton H. Miller publish “Corporate Income Taxes and the Cost of Capital: A Correction” in The American Economic Review. In this article, the two academics start from their conclusions of 1958 adding to their reasoning corporate taxes. In this case, the benefits of cheaper debt are higher than the increase in the cost of equity.³

¹ F. Modigliani, M. H. Miller (June 1958): “The cost of capital, corporation finance and the theory of investment”, The American Economic Review

² Figure extracted from “Student Accountant 06/2009”

³ F. Modigliani, M. H. Miller (June 1963): “Corporate Income Taxes and the Cost of Capital: A Correction”, The American Economic Review

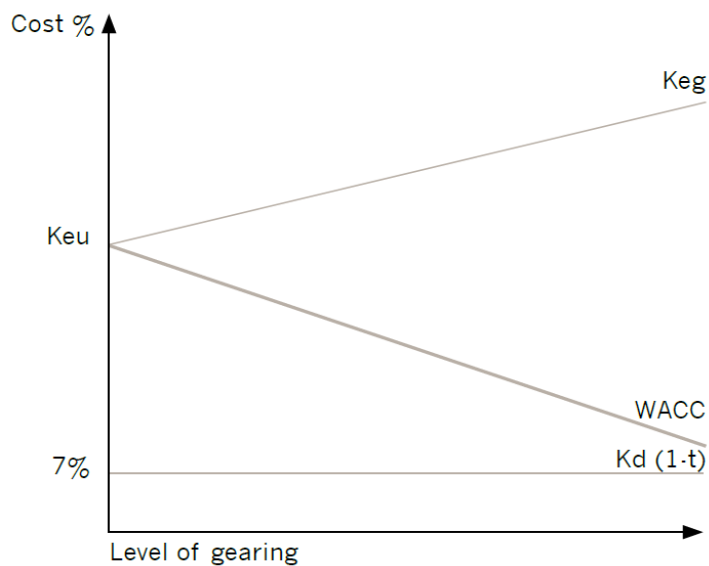


Figure 15 – Cost of capital in Modigliani Miller with-tax model ¹

However, this theory has a major drawback: it does not include the bankruptcy costs. Indeed, Modigliani Miller assumed perfect capital markets and therefore funding would always be available for the company (constant cost of debt). In the real world, costs for having a high level of debt are multiple: direct costs (costs of bankruptcy, legal costs etc.) and indirect costs (reputation, tougher payment conditions from suppliers, employees leaving the company etc.).

Assuming these costs, we achieve the traditional view of how the WACC evolves with capital structure:

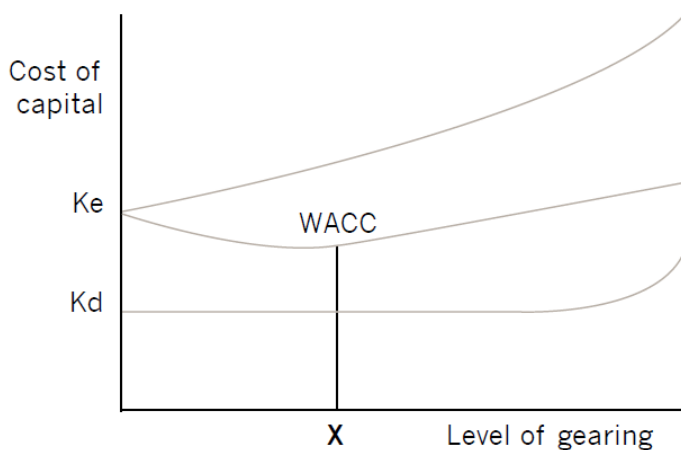


Figure 16 – Cost of capital and capital structure – “traditional view” ²

¹ Figure extracted from “Student Accountant 06/2009”

² Figure extracted from “Student Accountant 06/2009”

With these assumptions, there is an optimal gearing for the company at which the benefits of the tax shield are higher than the bankruptcy costs (optimal gearing is the point x from above figure). This is the view accepted by most CFOs and investment bankers nowadays in the market.

However, there is a major drawback from this view: it includes corporate taxes but not personal taxes paid by investors. Indeed, in most countries interests are taxed at a higher level than dividends for individuals. **In May 1977**, Merton H. Miller publishes “Debt and Taxes” in the Journal of Finance in which he takes into account both corporate and personal taxes. In this paper, he claims that the taxes paid by investors compensate those paid by the company; thus the cost of capital remains stable whatever the structure of the capital.¹

With the following example, we tempt to demonstrate the positive impact of hybrid capital on WACC. Our proposal here is to conduct you through a 5-step reasoning, which is more an illustrated point of view, based on assumptions and financial common sense than rigorous financial evidence.

i) Cost of hybrid is lower than cost of equity and higher than cost of senior debt....

The starting point of our reasoning is to show that the cost of hybrid capital is lower than equity and higher than senior debt.

Theoretically, the risk taken by equity holders is larger than the one taken by hybrid bondholders: hybrid capital is senior to equity and dividends cannot be distributed if the full interests on hybrids are not paid. Similarly, senior debt is senior to hybrid bond and senior debt holders do not face the same uncertainty on interest payments than hybrid investors.

Empirical observations prove it:

- Average cost of equity (K_e): $K_e = R_f + \beta \times \text{Equity Risk Premium}$ (CAPM² formula). Since we are looking at an “Average” cost of equity over a long period of time for the market, the relevant β is 1. According to Aswath Damodaran³ online updated database⁴, the average Equity Risk Premium of France, Germany, Italy and Sweden and the United Kingdom is 5.8%⁵. The countries were selected because most corporate issuers of hybrids are from these areas. Using the French 10 year OAT as risk free rate (2.10% as of 01/04/2014⁶), it leads to a cost of equity of **7.9%** on average.

¹ M. H. Miller (May 1977): “Debt and Taxes”, The Journal of Finance

² Capital Asset Pricing Model

³ Teacher at the Stern School of Business at New York University, he releases many relevant data for corporate valuation (ERP among others) which are used by students and also practitioners

⁴ <http://pages.stern.nyu.edu/~adamodar/>

⁵ Updated in January 2014

⁶ From Banque de France website

- Average cost of hybrid capital (K_h). From an analyst note¹ (see appendix A), we compute an average yield to call² from 44 European hybrids of **3.5%**.
- Average cost of senior debt (K_d). The same analyst note provides spreads of hybrids to zero-coupons (theoretical) for the companies. Doing an average for the 44 companies leads to a **1.1%** cost of debt. This very low value is justified by the fact that hybrids issuer are generally mature multinational groups with very sound financial profile and the current low level of interests rates.

ii) ... Which is far from being enough to prove that hybrids decrease the cost of debt

Knowing that the cost of hybrids is lower than the cost of equity is not enough to assess anything about how the WACC evolves when adding some hybrid capital. Indeed, an important characteristic of the WACC formula is that all parameters are inter-dependent.

By extension of traditional WACC formula, we can add hybrid capital in the following manner:

$$K_c = K_d \times (1 - T) \times \frac{V_d}{V_d + V_h + V_e} + K_h \times (1 - T) \times \frac{V_h}{V_d + V_h + V_e} + K_e \times \frac{V_e}{V_d + V_h + V_e}$$

Where:

K_c : cost of capital / K_d : cost of debt / K_h : cost of hybrid debt / K_e : cost of equity

V_d : value of debt / V_h : value of hybrid debt / V_e : value of equity

T : corporate tax rate

In this formula, adding up more debt will increase subsequently the cost of equity and also the cost of hybrid debt due to higher risk borne by the company. Similarly, adding up more hybrid debt will have an impact on the cost of equity and the cost of debt.

This is why we do not have enough information to conclude about the impact of hybrid capital on WACC at this stage. To do so, we are trying on the next step to “express” hybrid debt as a decomposition of debt and equity.

iii) Decomposition of hybrid debt as a mix of equity and debt

One way that we found to assess the impact of hybrid capital on WACC is to express a hybrid debt as a mix of equity and debt.

Does it make sense from the point of view of debt and equity holders?

-**Debt holders' point of view.** It seems to make much sense from a credit perspective considering the work done by rating agencies. In terms of risk, they consider from a

¹ Societe Generale (March 2014): “Call me maybe – Focus on 2015 call hybrids”

² Yield assuming a call at first call date

credit perspective, as reflected in their senior ratings, that hybrid capital is a mix of debt and equity. The relative percentage depends on the different characteristics of the hybrid (deferability, cumulative or not...).

-Equity holders' point of view. Since the shareholders need to pay interests each year and repay the bond at some call date¹ one could think that hybrid debt can be considered as regular debt. However, the equity-like attribute can be observed in times of financial distress. In those times, interests on hybrids will be stopped and some of the losses made by the company will be absorbed by the product. While a vanilla debt product would have precipitated the company into bankruptcy, a hybrid product might absorb some losses and allow the company to avoid bankruptcy. Basically, from a shareholders standpoint, a hybrid product is similar to debt when the company is financially sound and similar to equity in case of financial distress.

To be in line with the treatment of most hybrids by rating agencies and for simplification purpose, we will assume for the next steps that a hybrid bond is equivalent to 50% vanilla debt and 50% equity.

iv) Would lead to a null impact on WACC

Now that we have split hybrid debt into standard debt and equity, we can more easily tackle the issue of its impact on WACC.

To deal with the impact on the cost of capital, we will use the findings of Merton Miller in 1977 which assume that the capital structure has no effect on WACC².

For the purpose of our illustration, we consider a company with a financial structure of V_e / V_d and no hybrid. We note K_c , K_d and K_e their cost of capital, debt and equity. We have the following formula for the original cost of capital, noted WACC 1 (i.e. before any hybrid is added to the capital structure):

$$\mathbf{WACC1: } K_c = K_d \times (1 - T) \times \frac{V_d}{V_d + V_e} + K_e \times \frac{V_e}{V_d + V_e}$$

Let us assume that the company raises some hybrid capital, and note V_h the value of it. We note K_c' , K_d' , K_e' the cost of capital, debt and equity after the fundraising. Similarly, we note WACC2 the new cost of capital of the company.

$$\mathbf{WACC2: } K_c' = K_d' \times (1 - T) \times \frac{V_d + \frac{1}{2} \times V_h}{V_d + V_h + V_e} + K_e' \times \frac{V_e + \frac{1}{2} \times V_h}{V_d + V_h + V_e}$$

In the formula WACC2, we have split the hybrid between debt and equity and we know from the previous explanation that $WACC1=WACC2$.

¹ Even for perpetual bonds, assuming an early repayment at a call date seems the more reasonable assumption due to coupon step-ups

² Using the assumption that there is an optimal structure would not have changed the reasoning. Indeed, since we add the same amount of debt and equity, the impact on leverage would be minimal for most companies with acceptable level of gearing (no impact for a gearing of 1 for example)

v) *Except for the extra tax-shield permitted by hybrid capital*

However, in the previous formula we can observe that only half of the value of the hybrid capital is considered as tax deductible. The whole advantage of hybrid lies in the fact that even if, in terms of risk, it is perceived by shareholders and debt holders as being 50% debt and 50% equity; it is 100% tax deductible.

Taking into account this additional tax shield, we can re-write the previous expression of the cost of capital as follows (noted WACC 3 and Kc''):

$$\text{WACC3: } Kc'' = Kd' \times (1 - T) \times \frac{Vd + \frac{1}{2} \times Vh}{Vd + Vh + Ve} + Ke' \times \frac{Ve}{Vd + Vh + Ve} + Ke' \times (1 - T) \times \frac{\frac{1}{2} \times Vh}{Vd + Vh + Ve}$$

Since WACC1 = WACC 2 and WACC 3 < WACC 2, we found that the WACC resulting from the addition of hybrid capital is lower than the original one: WACC 3 < WACC 1.

We deduct from this that hybrid capital lowers the WACC and then increases the value of the company. This is then an additional reason why some CFOs will opt for hybrid capital instead of straight debt or equity.

vi) *Numerical Example*

We assume a company that has a Vd= 50 and Ve=50. We also assume an unlevered beta of 0.38, which corresponds to the one of the utility sector according to New York University of Stern (using data from S&P, Capital IQ and Bloomberg).

We have the following equation:

$$\beta_{Unlevered} = \beta_{equity} \times \frac{Ve}{Vd \times (1 - T) + Ve} + \beta_{debt} \times \frac{Vd}{Vd \times (1 - T) + Ve}$$

We assume that $\beta_{debt} = 0$ for simplification purposes and we obtain:

$$\beta_{equity} = \beta_{Unlevered} \times \left(1 + \frac{Vd \times (1 - T)}{Ve} \right)$$

Then:

$$\beta_{equity} = 0.38 \times \left(1 + \frac{50 \times (1 - 40\%)}{50} \right) = 0.61$$

Resulting in (using same assumption for Rf and ERP as in i):

$$Ke = Rf + \beta \times \text{Equity Risk Premium} = 2.10\% + 0.61 \times 5.8\% = 5.64\%$$

We then obtain (using the same cost of debt as i):

$$WACC = 5.64\% \times \left(\frac{50}{100} \right) + 1.1\% \times (1 - 40\%) \times \left(\frac{50}{100} \right) = 3.15\%$$

We now assume that this company raises 30 of hybrid capital. We now have, assuming that hybrid capital is 50% debt and 50% equity:

$$\beta'_{equity} = 0.38 \times \left(1 + \frac{65 \times (1 - 40\%)}{65} \right) = 0.61$$

We then have the same $K_e = 5.64\%$. Since we added the same amount of debt and equity, we also assume that the cost of debt remained constant at 1.1%.

Then we have, using the formula of WACC 3:

$$\begin{aligned} \text{WACC3: } Kc'' &= Kd' \times (1 - T) \times \frac{Vd + \frac{1}{2} \times Vh}{Vd + Vh + Ve} + Ke' \times \frac{Ve}{Vd + Vh + Ve} \\ &+ Ke' \times (1 - T) \times \frac{\frac{1}{2} \times Vh}{Vd + Vh + Ve} \\ &= 1.1\% \times (1 - 40\%) \times \left(\frac{65}{130} \right) + 5.64\% \times \left(\frac{50}{130} \right) + 5.64\% \times (1 - 40\%) \times \left(\frac{15}{130} \right) \\ &= 2.89\% \end{aligned}$$

With this simple numerical example, we can evaluate the positive impact of hybrid capital on the WACC. Indeed, the WACC decreased from 3.15% to 2.89% thanks to a very significant hybrid emission.

C) Uses of hybrid capital

After the study of the reasons why corporates opt for a hybrid capital issuance more than a standard debt or equity one; it is important to see how corporates use the funds they have raised.

We distinguish four main uses of hybrid capital¹:

- **Acquisition or Capex financing.** While generally financed through debt or equity issuances, European corporates have started financing acquisitions with hybrid capital. In such cases, hybrids generally represent 20% - 50% of the whole financing package. When cash flows are not enough to finance capex plans, corporates use external financing and some have started using hybrids.



Example: In March 2013, the UK water company Pennon group issues a £300m perpetual bond to fund short-term capex at its waste subsidiary Viridor. This choice was stimulated by senior covenants limiting the emission of senior debt and the non-dilutive effect of this capital.



Example: In March 2014, Volkswagen announced the issuance of two hybrids for a total of €3bn. Part of these proceeds were used to finance the €6.7bn offer

¹ Unicredit (January 2010): "To call or not to call, that is the question!"

to buy the portion of Sweden's Scania (truck maker) it did not already own.

- **Debt refinancing.** It is a more classic usage of debt; the refinancing might concern either a standard debt or a hybrid debt (at call dates mainly).



Example: Bayer issued in July 2005 a €1.3bn 100-year subordinated hybrid bond in order to refinance a standard bond due on April 2007.



Example: Eurofins issued on January 2013 a €150m hybrid bond in order to refinance existing hybrid capital and to maintain "full balance sheet flexibility"¹.

- **Pension funding.** Due to its long-term profile, hybrid bond is suitable for the financing of pensions. "Companies' treasury departments frequently see pension provisions as a permanent financing instrument. If these provisions are carved out, a new comparable long-term financing instrument has to be found"²



Example: In November 2005, Henkel issued a €1.3bn hybrid bond for the purpose of financing the Company's pension obligations in Germany. The proceeds of the bond were allocated to a special-purpose Contractual Trust Arrangement.³

- **Secure financial flexibility.** Similarly to the point IV. B) iv), issuing a hybrid is a way to keep the possibility of a further equity issue or even to improve the potential of a company for further debt issuances.



Example: Vattenfall issued a €1bn hybrid bond in June 2005. This was done in preparation of an acquisition: the credit profile of the company improved after the issuance which allowed further debt raising without a downgrade.

¹ Eurofins (January 2013): Press Release

² Unicredit (January 2010): "To call or not to call, that is the question!"

³ Henkel corporate website

V. Corporate hybrid market

The European hybrids market boomed in 2013, with four times more emissions than in 2005 (higher year of emission up to now)! We will try in this section to understand the key drivers and features of the hybrid market in Europe. To do so, we assess the volumes and trends of the market, the drivers of the activity as well as the rationale of investors. Finally, we will try to identify who are the investors of the market.

A) Market evolution

i) Volumes and trends

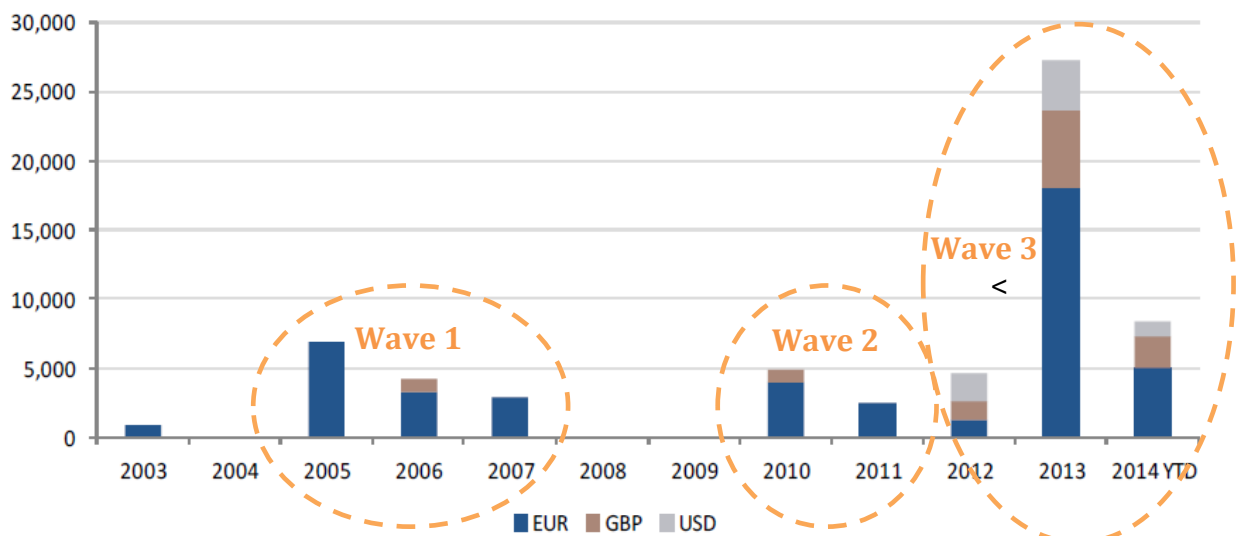


Figure 17 – Corporate hybrid issuance in €, £ and \$ (€m equivalent) - European issuers only – as of March 2014 ¹

Corporate hybrids have developed in three waves, which basically corresponds to the evolution of rating agencies methodologies. Each new wave corresponds to a different type of hybrid instruments. We can identify a first wave in 2005-2007, which corresponds to the development of fixed to floating coupon instruments; the 2010-11 wave has to do with legally binding RCC and the wave from 2012 onwards is dominated by equity credit loss at call date and more coupon step-ups.²

Throughout the crisis, it appears that the market is completely closed due to volatility and uncertainty. However, European corporate hybrids have outperformed similarly rated standard bonds. Indeed, they generated better risk-adjusted return due to the fact

¹ Societe Generale (March 2014): “Call me maybe – Focus on 2015 call hybrids”

² Royal Bank of Scotland (October 2013): “Corporate Credit Hotspots”

that most hybrids are rated BBB and are typically issued by companies with a rating of A.¹

In February 2010, two corporates Hero and Tennet make the first issuances since Lehman's collapse.

In 2011, emerging countries issuers appear in the market. Australian, Brazilian, Indian, Chinese, Singapore and Hong Kong based issuers choose hybrids in order to preserve rating and deleverage.

2012 is dominated by a resurgence of European issuers, mainly companies that already had issued a hybrid bond in the past. This opened the way for a historically high level of issuances in 2013 (c. €27bn vs. less than €5bn for 2012), driven by better economic environment (end of global financial crisis and better outlook for the European difficulties) and a recovery of the M&A market.

We also observe from 2012 onwards a much higher proportion of £ and \$ denominated bonds in order to attract a new investor base (see IV. D).

With €8.4bn emissions since the beginning of 2014, issuances seem to follow a similar pace as in 2013 on a yearly basis. Throughout the year, the market should again be boosted by economic recovery and M&A activity.

ii) Non-financial corporate sectors

While hybrid capital has been mainly issued by Utilities companies in the years 2010-2012, the surge of 2013 was marked by a diversification of the sectors. Companies with high capex or poor operating results and desiring to maintain their rating in a challenging European environment went for hybrids in 2013.

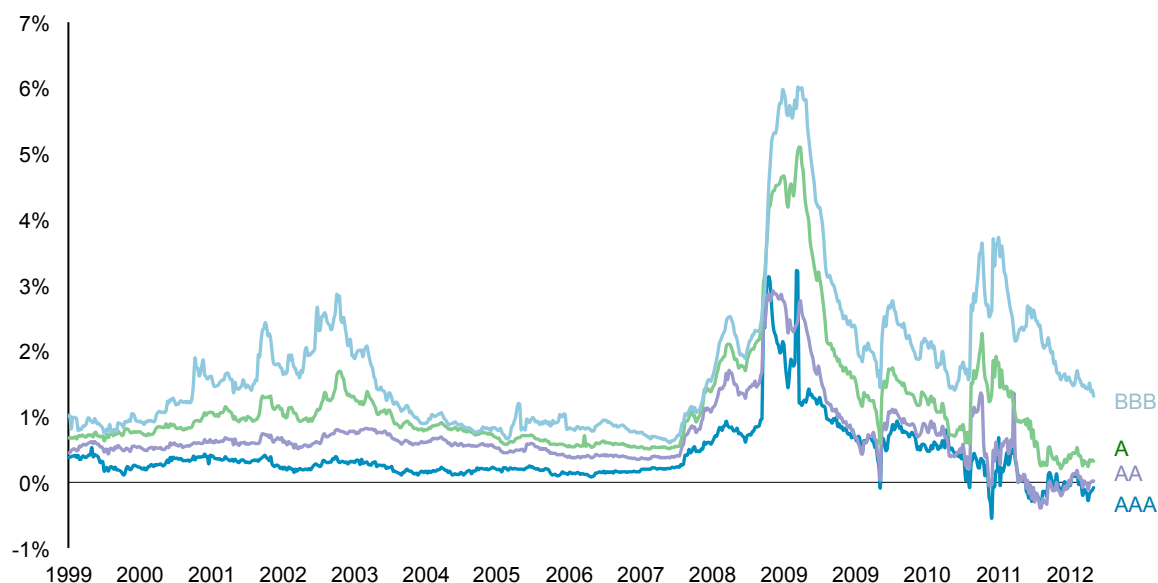
There are two main reasons why the utilities sector has been predominant in the hybrids panorama²:

- They have high capex level combined with strong visibility on cash flows (particularly for regulated utilities). This means they can bear a significant leverage and they are very concerned by their rating. The partial treatment by rating agencies as equity is then very attractive for them. As it can be seen from Figure 18 below, the impact of rating on spreads is significant and has been increasing since 2007. For example, a downgrade from A to BBB for an issuer would increase its spread by c.1% (in April 2013). Since utilities' companies have

¹ Royal Bank of Scotland (February 2013): "The Revolver"

² Standard & Poor's (March 2013): "Inside Credit: European Hybrid Issuance Grows In Popularity As More Sectors Join The Mix"

structurally an important quantum of debt in their balance sheet, they have a strong incentive to protect their rating and issuing hybrids is a way to do so.



Source: Datastream.

Figure 18 – Spreads in Europe by rating (including governments and private companies)

- Second reason is that many utilities companies still being owned by states or municipalities. Hybrid capital is then a way to avoid dilution¹ (or even avoiding the equity market at all for unlisted company) with a diversification of funding sources and a strengthening of their balance sheet.

Telecom actors have joined the hybrid market in 2013. Indeed, they are facing difficult operating conditions in Europe, which is pressuring their ratings. However, they need to invest heavily in fourth-generation mobile and fixed broadband networks to remain competitive.²



Example: KPN NV, Dutch telecom company. Following a downgrade in February 2013 due to falling operating margins and fiercer competition, the company announced a €3bn rights issue and on 7 March 2013 the emission of a €1.56bn hybrid bond (in two tranches, € and £).

¹ See IV. B) ii)

² Standard & Poor's (March 2013): "Inside Credit: European Hybrid Issuance Grows In Popularity As More Sectors Join The Mix"

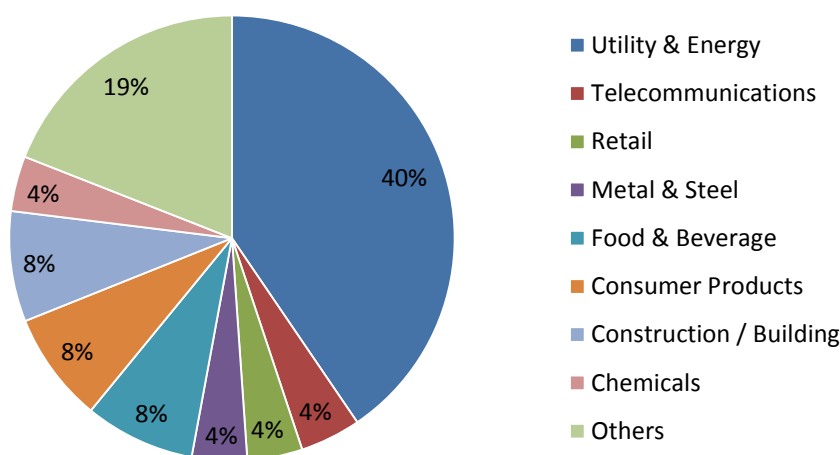


Figure 19 – European hybrid issuers by sector 2005-2013 (as of 8 March 2013) ¹

Key themes are currently driving the sector diversification of the market: mainly recovering M&A activity and opportunistic issuances linked to relative low rates in the hybrid market and investors’ appetite for this type of product.

Sector	Existing issuers	Comment	Potential issuers
Aerospace & Defense, Capital Goods	Rexam, Siemens	Hybrid issuance typically linked to M&A activity	Alstom, Schneider
Automotive & Auto Parts	Volkswagen International Finance	Weak ratings, high cyclicality, lack of visibility are hurdles to hybrid issuance	Daimler
Building Materials	Wienerberger	Weak credit ratings and high debt levels remain key hurdles	Saint Gobain
Chemicals	Bayer, Linde, Solvay	Hybrid issuance typically linked to M&A activity	None
Consumer	Henkel, Lottomatica, Suedzucker, TUI	De-leveraging post-acquisitions typically achieved through FCF generation	None
Infrastructure	Vinci	Hybrid issuance typically linked to M&A activity and capex plans	Atlantia, possibly Abertis, APRR
Metals & Mining	ArcelorMittal, voestalpine	Opportunistic issuance targeting retail/PB clients	GlencoreXstrata, ThyssenKrupp
Retail	Casino	Funding mix and credit ratings make hybrid issuance unattractive	None
Telecoms	KPN, Telekom Austria, Telecom Italia, Telefonica	New sector to the hybrid market but we see a lack of obvious additional candidates	Telecom Italia
Utilities/Oil & Gas	Alliander, BG Energy, DONG, EDF, EnBW, Enel, GDF Suez, Iberdrola, National Grid, OMV, RWE, SSE, Suez Environnement, TenneT, Vattenfall, Veolia	Will likely remain the most active sector, given the need to improve credit metrics, preserve shareholder structures and investor appetite	Enel, Fortum, E.ON, Statkraft

Table 5 – Market analyst’s views on sectors and further hybrid issuances ²

¹ Standard & Poor’s (March 2013): “Inside Credit: European Hybrid Issuance Grows In Popularity As More Sectors Join The Mix”. Dealogic and in-house calculations are mentioned as source. Percentage by issuer count.

² Societe Generale (September 2013): “Still growing strong”

The table shown above presents the views of an analyst regarding to which sector might be promising for the hybrid market. Some sectors seem to be inadequate by nature. The automotive sector for example is not adapted to this market due to weak ratings (meaning that the hybrid would have even lower rating as hybrids are generally rated 2 notches below senior debt, which is not attractive for investors) and strong cyclical.

iii) 2015 call hybrids

Between Q4 2014 and end-2015, many hybrids will become callable. This will be an important test for investors and rating agencies:

- All hybrids that become callable at this period are currently trading on the assumption that they will be called. Since hybrid market is relatively new and immature this test will be crucial for further trading levels.
- In most cases, the replacement covenant is present on a best-efforts basis. Rating methodologies might evolve if companies choose to call the hybrid without replacing the existing instrument.

Hybrid issues	First Call Date (FCD)	Current YTC	Current z-spread to FCD	Reset spread at FCD	Estimated reset coupon at FCD	Estimated coupon on New Hybrid (similar terms than existing hybrid)
DONGAS 5.5% 3005	29-Jun-15	2.3%	180	320	3.5%	c5%
VATFAL 5.25% perp	29-Jun-15	2%	154	295	3.25%	4.5-5%
SZUGR 5.25% perp	30-Jun-15	2.2%	177	310	3.4%	>6%
BAYNGR 5% 2105	29-Jul-15	1.4%	103	280	3.1%	c5%
SEVFP 4.82% perp	21-Sep-15	2.6%	221	290	3.9%	4-4.5%
RWE 4.625% perp	28-Sep-15	2.8%	230	265	3.7%	4-4.5%
SSE 5.025% perp	01-Oct-15	2.2%	179	315	4.15%	c4.5%
SSE 5.453% perp	01-Oct-15	2.8%	201	324.9	5.2%	c5%
DGFP 6.25% perp	13-Nov-15	1.6%	110	375	4%	4.5-5%
HENKEL 5.375% 2104	25-Nov-15	1.4%	88	285	3.15%	4-4.5%

Table 6 – Comparison of reset coupon at first call date with current yield and estimated coupon on new hybrid ¹²

Comparing the two last columns of the table, we can estimate the cost for the company of calling the bond and replacing it compared to keeping the bond. From a pure financial point of view, many companies from the above list would have a strong incentive to keep their actual bond. However, there is more than financial interest cost in the

¹ Societe Generale (March 2014): “Call me maybe – Focus on 2015 call hybrids”

² FCD: First Call Date / Z-spread to FCD: Zero Spread to First Call Date / Reset spread: spread at first call date after reset / YTC: yield to call

decision to call or not the hybrid. Indeed, most investors expect the hybrids to be called most companies should do so in order to entertain good relationship with capital markets.



Example: At the call date, the coupon on the Vattenfall 5.5% perp should decrease to c. 3.25% and become cheap financing. However, since the company is unlisted and has no access to equity markets, they rely on debt markets to fund their further needs. For this reason, analysts expect them to call their hybrid as soon as possible.



Example: Südzucker (noted SZUGR in the table) has an estimated reset coupon on its 5.25% perp of 3.4%. This cheap financing could be replaced by a new hybrid but for an estimated coupon of more than 6%. The bond is callable every quarter and recent investors' presentation from the company shows that the bond is no longer considered as maturing in 2015. According to market analysts, this bond is the most probable case of extension risk for investors¹.

B) Key drivers of the market

In the recent years, the hybrid market has been dominated by a series of themes and dynamics that have impacted the market. The market has very much evolved in the past few years not only in terms of volumes but also regarding the structure of the hybrids, the investors and the issuers.

- **Search for yield.** The main driver of the market in the recent years is the appetite for yield from investors. Indeed, yields on the market are at an all-time low and hybrids offer a solution in the fixed income panorama. Of course, investors are bearing a higher risk to earn the spread with senior bonds but they seem to accept such risk in order to preserve their returns.
- **Willingness to take subordination.** In their search for yield in the fixed income market, investors are facing a choice: either investing in the high yield market, including senior bonds but for lower rating issuers or make the choice to invest in hybrid bonds which means accepting to be subordinated but buying notes from a strong credit profile company. Part of the boom in 2013-2014 can be explained by an increasing number of investors making the second choice based on empirical observations. Indeed, as mentioned in IV. A) i), hybrids have better performed during the crisis than equally rated senior bonds.
- **Asian retail demand.** Hybrid market is source of increasing interest by retail market comprised of high net worth individuals from Asia but also from Europe and the Middle East. Indeed, they are keen to introduce greater stability in their

¹ See IV. C) ii)

portfolio in a context of volatile equity markets. Fixed income product represent on average 30% of Clients' portfolio, up to 15% in 2006 ¹; they generally invest in \$ denominated products.

- **Emerging countries issuers.** The years 2010 / 2011 were dominated by a surge in emerging issuers. Significant part of them has a restrictive shareholding structure (often family owned groups), the non-dilutive aspect is very attractive in their case. Many Brazilian, Chinese, Indian, Filipino companies entered the hybrid market. ²
- **Homogenous asset class.** As described in I. C) ii), the structure of hybrid bonds has evolved throughout the years. This could lead to some confusion among investors between different types of clauses and conditions within this complex sector. Redemption of vintage hybrid bonds as the redemption in July 2013 of the Linde 6% perp issued in 2003 accelerates this process. As of July 2013, new market structures already represented 60% of the market in Europe³; this movement should be accelerated by 2015 early calls.

¹ BNP Paribas Corporate Investment Bank, Fixed Income team

² BNP Paribas Corporate Investment Bank, Fixed Income team

³ Société Générale (July 2013): "Corporate hybrids : Rich and cheap bonds abound"

C) Rationale for investors

Now that we have a view of the market and its evolution, we are trying to understand the hybrids from the standpoint of investors. How do they assess the market? What are their main motivations to invest? And finally, to which risks are they exposed?

i) Investors' views on the market

- **Yield appetite.** Main driver of demand in the hybrid market in the past few years is related to investors looking for yield. Indeed, spreads for senior bonds are at very low levels and senior bonds with similar rating as hybrids do not perform as well.
- **A separate asset class.** Due to recent development of European hybrid market, hybrid bonds are now approached as a separate asset class. Indeed, they are not comparable to senior bonds due to different risk-return profile: they bear more risk due to subordination and contingency of coupon payments. Very low spreads on senior bonds promoted the development of hybrids in the recent years. Hybrid capital is seen as a diversification asset; a way to introduce some equity component in a debt portfolio.¹
- **Focus on the structure of the product.** Institutional investors' class is mainly composed by asset managers, insurance and pension funds. They represent the vast majority of hybrids investors² and are strongly sensitive to the way the product is structured. Indeed, they look for some maturity in the product and the presence of incentives to redeem as coupon step-ups at call dates. Minimal liquidity will also be a pre-requisite to attract this type of investors.³
- **Companies with capital markets' instruments.** The focus of investors for this type of complex product will be on companies that already have bonds or stocks outstanding on the market. In this case, valuation is easier and it simplifies relative-value analyses.
- **Convincing credit story.** To attract demand on the hybrid market, there is need to have shown a strong credit profile and business prospects. It is similar to the "equity story" in the equity capital market.
- **Demand from passive investors.** Since the inclusion of hybrids in some global indexes as the iBoxx or Merrill Lynch HY Index, a new demand came from

¹ Unicredit (January 2010): "To call or not to call, that is the question!"

² See V. D)

³ BNP Paribas Corporate Investment Bank, Fixed Income team

benchmark-oriented investors. Indeed, some investors will try to replicate the index by buying part of its bonds.¹

ii) Risk exposure

A hybrid investor is exposed to a series of risks; to analyse them we are going to decompose the yield received by investors into a series of different components. The first component of the yield would be the **risk free rate** that we can consider as being the Libor.

The second component would be the **senior spread**. It corresponds to the compensation received by a senior creditor for taking a non-deferrable, senior unsecured credit risk.

The next risk would be **subordination risk**. Indeed, all hybrids are subordinated to all other type of debts which needs to be compensated to investors through a higher yield.

Then there is the **hybrid compensation**. It corresponds to the difference between the yield-to-worst (ytw)² and the sum of the risk free rate, the senior spread and the subordination risk (see illustration below).³

This hybrid compensation can be split in different risks. **The two main risks linked to hybrid compensation are: extension risk and deferral risk.**

There is a major structural difference between hybrids and senior bonds: the investor of corporate hybrid is exposed to a deferral or suspension of coupon payments. This **deferral risk** is dependent on the structure of the bond and what are the conditions for deferral. Most hybrids have cumulative deferral clause; which means that the unpaid coupons are not lost but are a liability from the company to the investor. In this case, if we assume a non-default of the issuer, the deferral risk is limited to a delay in coupon payments. Cumulative deferral settled via ACSM⁴ has an intermediary level of risk between cumulative deferral (less risky) and non-cumulative deferral (riskier).⁵

The market generally assumes that the hybrid will be called at its first call date and hybrids are priced accordingly. However, even if companies are incentivised to call the bonds through coupon step-ups and other mechanisms, there is no guarantee for the

¹ Unicredit (January 2010): "To call or not to call, that is the question!"

² Hybrids have several possible 'yields', which are for example yield to maturity and yield to first call date, depending on whether the bond is redeemed or not. YTW provides a conservative approach by representing the lowest yield across all scenarios

³ Morgan Stanley (May 2013): "Update: Corporate Hybrids Playbook"

⁴ Alternative Coupon Settlement Mechanism, See I. B) v)

⁵ Unicredit (January 2010): "To call or not to call, that is the question!"

investor that the choice of the company will be in line with its expectations: the investors are facing **extension risk**. In itself, extension of a hybrid bond is not a serious issue for the investors as soon as the company is still paying its coupon. Extension might be worsened by the combination of 2 issues: i) if the company does not have access to equity or hybrid markets anymore, and ii) it does not generate enough cash flows for the principal repayment; the extension might then be long and become a serious issue.¹

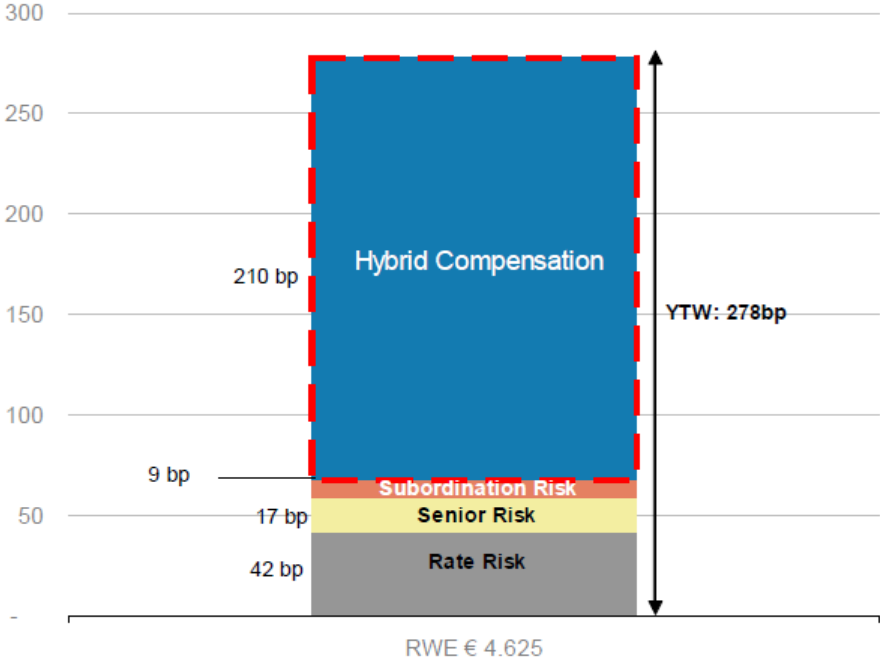


Figure 20 - Illustration of risk compensation with RWE €4.625% hybrid²

If we consider two corporate hybrids with the same maturity (for example perpetual bonds) and exactly the same feature in terms of RCC, deferral etc.; the one with higher hybrid compensation should be more attractive.

¹ Unicredit (January 2010): “To call or not to call, that is the question!”

² Morgan Stanley (May 2013): “Update : Corporate Hybrids Playbook”, data as of 29/05/2013

D) Investors' profile

i) Investors' types

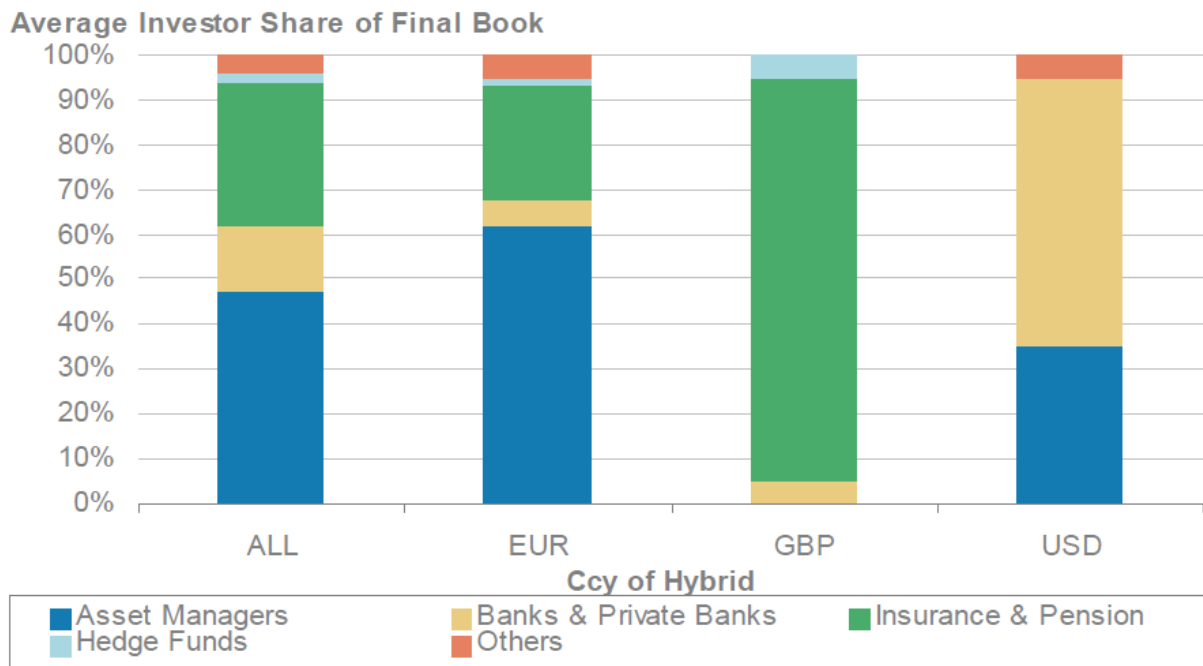


Figure 21 - Investor base by currency of issue - European issuers ¹

We observe there is a strong difference of investors' type depending on the issuance currency. Asset managers seem to be the main investors in euro hybrids while GBP issues seem to target more pension and insurance funds. USD hybrids from European issuers mainly attract private investors. It is important to keep in mind that these averages are only based on 7 issuances, which might affect the reliability of the data.

The chart above shows the importance of the choice of the emission currency since each of them targets a precise type of investors. The investor base of a bond is important because the two main types of investors (institutional and retail) do not have the same characteristics and expectations from the bond. The table below summarises what are the main advantages / disadvantages of each investors' type.

¹ Morgan Stanley (May 2013): "Update : Corporate Hybrids Playbook". Average based on 7 issuances from 2012 and May 2013.

	<i>Institutional</i>	<i>Private banking / Retail</i>
Description	<ul style="list-style-type: none"> - Broad investor base, also buyers of senior unsecured - Investors prefer minimum liquidity of EUR 300m 	<ul style="list-style-type: none"> - Appetite for long dated investments - Focus on coupon
Characteristics	<ul style="list-style-type: none"> - Typical structure: Perpetual NC5/10 or 60-year NC5/10 - Investor focus: Economic maturity through step-up or other incentives to redeem - Typical fixed-income investors (mutual funds, asset managers, insurance companies, hedge funds and pension funds) 	<ul style="list-style-type: none"> - Typical structure: Perpetual NC5 - Investor focus: Coupon and maturity - Retail investors looking for high-yielding annuity with reset - True perpetual accepted - High net worth investors covered by private banks across Asia, Europe and South America
Advantages	<ul style="list-style-type: none"> ✓ Deepest, most liquid and established hybrid market ✓ For the right name significant size is achievable ✓ In the current low yield environment, this product is very attractive for credit investors 	<ul style="list-style-type: none"> ✓ Retail investors generally less sensitive to the structural differences of the offered securities ✓ Available for foreign names with strong roadshow ✓ Offers the issuer investor diversification
Disadvantages	<ul style="list-style-type: none"> ✗ Synthetic maturity required and S&P's RCC may be necessary ✗ Little diversification from traditional institutional investor base 	<ul style="list-style-type: none"> ✗ Total yield market which was historically difficult to achieve for the best names. This has changed now ✗ Potentially lower volume
Examples		

Table 7 – Characteristics of investors ¹

¹ BNP Paribas Corporate Investment Bank, Fixed Income team

ii) Geography of hybrid investors

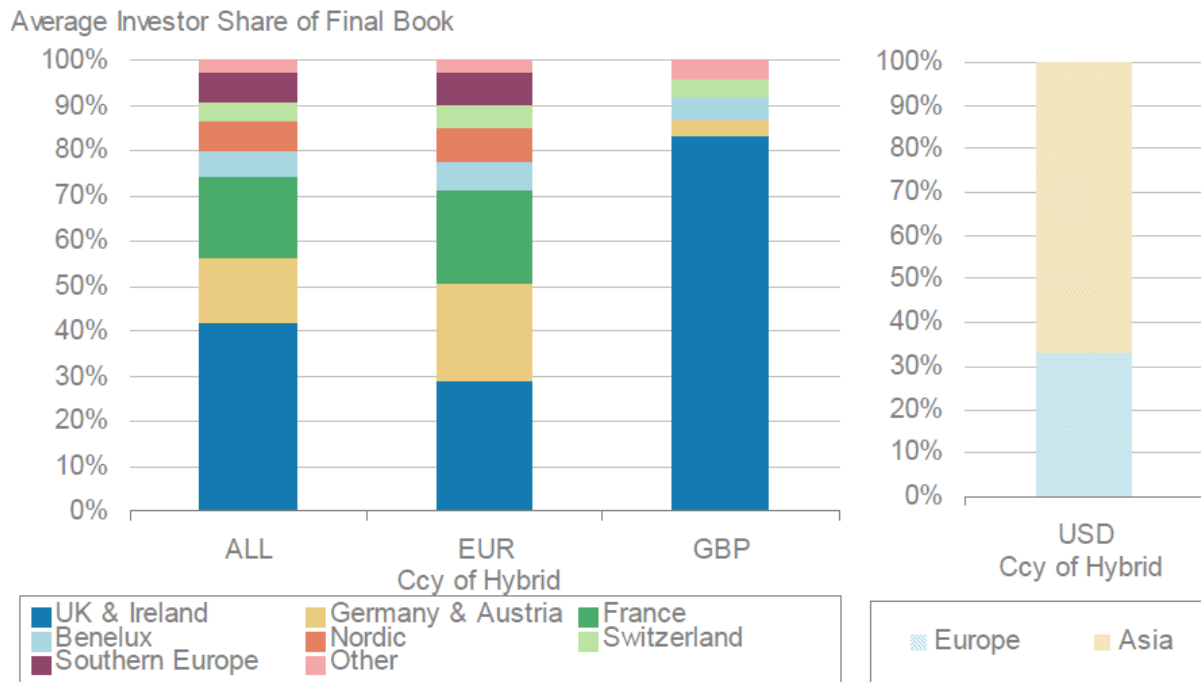


Figure 22 - Geographic mix of investors - European issuers ¹

The first interesting conclusion from the above chart is that almost all the investors in Euro and GBP hybrid issuances are European investors. We also notice that GBP issuances are almost only subscribed by UK and Ireland investors. Among European investors, we see the predominance of three geographic entities (UK and Ireland, Germany and Austria and France); they represent more than 70% of all investors.

If we analyse the Figure above along with the Figure 20, we now understand why European corporates issue USD nominated hybrids. Indeed, they are mainly subscribed by Asian private banks, which is a growing segment of investors.

¹ Morgan Stanley (May 2013): "Update : Corporate Hybrids Playbook". Average based on 7 issuances from 2012 and May 2013.

VI. Case Study EDF January 2013

Largest ever combined hybrid issuance

EDF hybrid issuance in January 2013 was exceptional on many different aspects and paved the way for other emissions resulting in the busiest year for the product with c.€27bn from European issuers.

With approximately €6.1bn, the issuance represented the largest corporate hybrid issuance ever achieved with three different currencies and 4 tranches¹:

- \$3.00bn at 5.25% coupon; 10-year first call date
- €1.25bn at 4.25% coupon; 7-year first call date
- €1.25bn at 5.375% coupon; 12-year first call date
- £1.25bn at 6% coupon; 13-year first call date

This issuance was also the first one to have multiple euro tranches with different call dates and also included a tranche with the longest first call date on a hybrid issuance.²

Its importance for further issuances during 2013 was recognized by many professionals as Brendon Moran, global co-head of corporate origination in debt capital markets at Societe Generale who affirmed that “it was immensely significant in opening the market for dozens of subsequent deals and it gave issuers the confidence to explore and consider the product, and made them realise that hybrids can be a valuable funding tool if used in the correct way”³

Global coordinators and joint bookrunners for all four tranches were BNP Paribas, Citigroup and HSBC.⁴

¹ EDF (January 2013): “EDF completes its inaugural hybrid bond offering, to raise more than €6 billion in total”, Press Release

² International Financing Review (April 2014) : “European Investment Grade Corporate Bond: EDF’s €6.2bn equivalent hybrid bond”

³ International Financing Review (April 2014) : “European Investment Grade Corporate Bond: EDF’s €6.2bn equivalent hybrid bond”

⁴ International Financing Review (April 2014) : “European Investment Grade Corporate Bond: EDF’s €6.2bn equivalent hybrid bond”

Tranche	EUR PerpNC7	EUR PerpNC12	GBP PerpNC13	USD PerpNC10
Call Options	– January 2020, and every interest payment date thereafter	– January 2025, and every interest payment date thereafter	– January 2026, and every interest payment date thereafter	– January 2023, and every interest payment date thereafter
Loss of S&P equity credit	– January 2020	– January 2025	– January 2026	– January 2023
Interest Rates	– Until 2020: 4.25% fixed rate, payable annually – Thereafter: reset every 7 years to a new fixed rate of €7-year mid-swaps + 3.021% + step-up	– Until 2025: 5.375% fixed rate, payable annually – Thereafter: reset every 12 years to a new fixed rate of €12-year mid-swaps + 3.544% + step-up	– Until 2025: 6.0% fixed rate, payable semi-annually – Thereafter: reset every 13 years to a new fixed rate of £13-year mid-swaps + 3.708% + step-up	– Until 2023: 5.25% fixed rate, payable semi-annually – Thereafter: reset every 13 years to a new fixed rate of \$10-year mid-swaps + 3.459% + step-up
Step-ups	– From January 2023: +25bps (i.e. interest rate of €7-year mid-swaps + 3.271%) – From January 2040: +100bps (i.e. interest rate of €7-year mid-swaps + 4.021%)	– From January 2025: +25bps (i.e. interest rate of €12-year mid-swaps + 3.794%) – From January 2040: +100bps (i.e. interest rate of €12-year mid-swaps + 4.544%)	– From January 2026: +25bps (i.e. interest rate of £13-year mid-swaps + 3.958%) – From January 2046: +100bps (i.e. interest rate of £13-year mid-swaps + 4.708%)	– From January 2023: +25bps (i.e. interest rate of \$10-year mid-swaps + 3.709%) – From January 2040: +100bps (i.e. interest rate of \$10-year mid-swaps + 4.459%)
Maturity	– Perpetual			
Ranking	– Subordinated, senior only to ordinary and preferred shares			
Special Event Call Option	– Tax deductibility / Accounting / Rating Agency / Minimal of 20% of initial amount outstanding (all at 101% of par), Gross-Up (at par)			
Interest Deferral	– Cumulative and compounding optional deferral; deferred interest repayable within 10 business days following certain distribution and other payments on equity or parity securities (“pusher on deferred interest”)			
Rating	– S&P: BBB+ for hybrid tranches (vs. A+ for the group, two notches of difference) – Moody’s: A3 for hybrid tranches (vs. A2 for EDF standalone Baseline Credit Assessment ¹ , difference of one notch, and Aa3 for EDF’s senior rating, difference of three notches) – Fitch: A- for hybrid tranches (vs. A+ for the group, two notches of difference)			
Equity Credit	– S&P: 50% equity credit (intermediate equity content) – Moody’s: 50% equity credit (Basket C) – Fitch: 50% of equity credit			

Table 8 – EDF Bonds’ structures¹²

¹ “Baseline credit assessments (BCAs) are opinions of issuers’ standalone intrinsic strength, absent any extraordinary support from an affiliate or a government”, Moody’s Rating Symbols and Definitions, it then excludes any help from the French government in case of distress.

Ratings' considerations – Focus on S&P

– *BBB- rating*

The hybrid bond is rated BBB-, ie two notches below EDF stand-alone credit profile (which S&P assesses at A). The difference of two notches, can be divided in:

- One notch deduction because the corporate credit rating on EDF is investment-grade (above BBB-)
- One notch deduction to reflect the flexibility on interests payments: the company has the option to defer interests when needed³

– *Deferability assessment*

Deferability of interests is discretionary and without any limit of time. Interests are cumulative and settled in cash; this remains acceptable for an intermediate rating by S&P since “once the issuer has settled the deferred amount, it can choose to defer payment on the next interest payment date”.⁴

EDF Rationale

– *Fit with Balance sheet optimisation efforts*

During the three years preceding the issuance, the group has conducted a strategy of “balance sheet optimisation”. Debt was managed in a way to have a longer average maturity (from 7.4 years end of 2009 to 8.6 years as of September 30, 2012) and a lower average coupon. This effort was completed by the inclusion of RTE in the dedicated assets improving nuclear liabilities coverage (dedicated assets / nuclear provisions) without any impact on earnings.

In this context of balance sheet management, the hybrid issuance was a way to decrease the net debt of the group as the security is considered as 100% equity under IFRS.

¹ EDF (January 2013): Prospectuses

² EDF (January 2013): “Investor Presentation – European Deal Roadshow”

³ Standard & Poor’s (January 2013): “France-Based Power Utility Electricite de France Proposed Junior Subordinated Securities Rated 'BBB+'”

⁴ Standard & Poor’s (January 2013): “France-Based Power Utility Electricite de France Proposed Junior Subordinated Securities Rated 'BBB+'”

In billions of euros

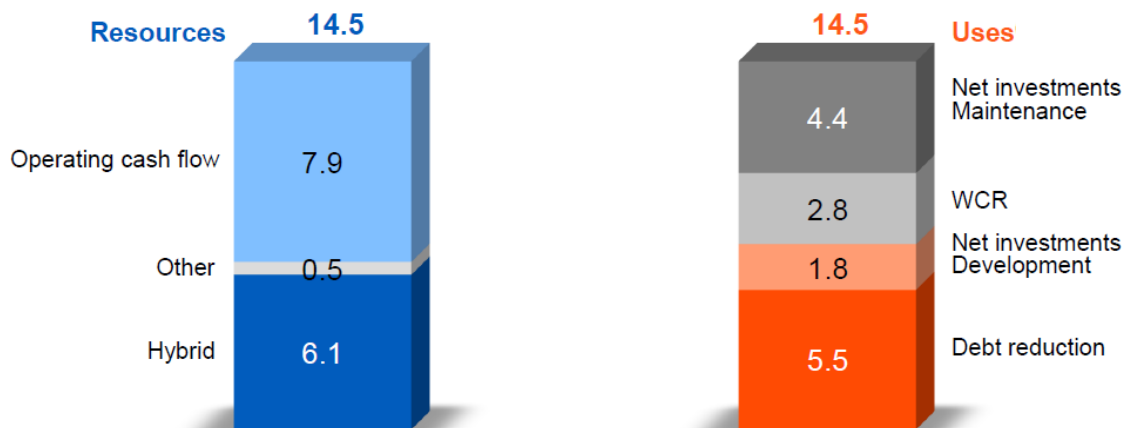


Figure 23 – Strengthening of Financial Structure H1 2013¹

The figure above shows how the €6.1bn from hybrid issuance financed debt reduction. Indeed, operating cash flows are naturally matching investments and working capital requirements while the additional “extraordinary” amount from the issuance was used for debt reduction.

The reduction corresponds to a decrease in net debt since the company received €6.1bn from investors without any impact on gross debt in the first place (100% IFRS treatment).²

– *Strengthening rating profile*

Hybrid bond was granted 50% equity credit by main rating agencies which meant for EDF a strengthening of their rating. In a context of European sovereign debt crisis, EDF was downgraded by S&P on 18 January 2012 from AA- to A+ following France downgrade and Moody’s had a negative outlook for the rating of the group.

EDF reaffirmed its objective of conserving the best rating of the industry (see figure below) and the hybrid bond seems to be a good fit with this strategy in a context of credit tension.

¹ EDF (July 2013): “2013 Half-Year Results”

² See next section “Use of issuance’s proceeds” for more details

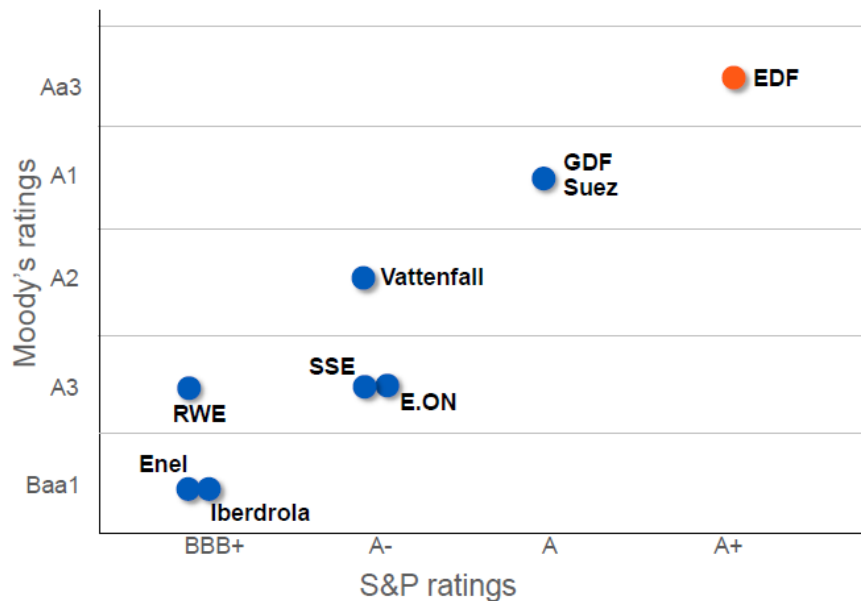


Figure 24 – Comparative debt ratings – Utilities sector ¹

We see from the figure that EDF is better rated than all European competitors considering S&P and Moody's.

- *Limited access to equity market*

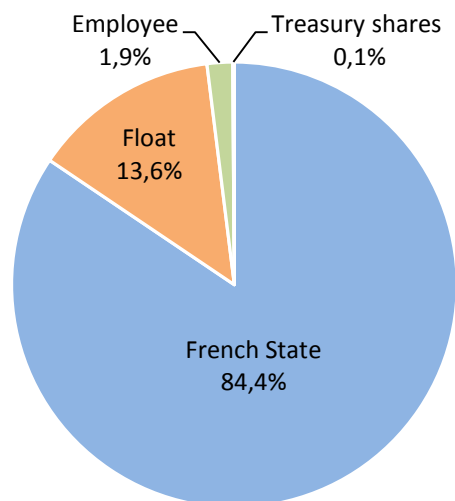


Figure 25 – EDF % of share capital as of 31/12/2012 ²

French state is majority shareholder of EDF and has legal constraint to keep at least a 70% stake in the company (article L. 111-67 of the French Energy Code). In this context, as seen in section III for the example of Vattenfall, hybrid capital is a way of strengthening the balance sheet and credit profile without any dilution for shareholders.

¹ EDF (February 2014): “2012 Annual Results - Appendices”

² EDF (2012) : “Reference document”, Section 18 “Major Shareholders”

– *Other Rationales*

Among other reasons mentioned by the management, there is cost of capital management. Indeed, as seen in section IV, there is a positive effect on WACC from hybrid issuances.

Another advantage for EDF that has been mentioned by the group is a larger investment base.

Use of issuance's proceeds

EDF message regarding the issuance was focused on the rationales more than uses of the proceeds. An analysis of H1 2013 cash flow statement makes it clear on how the group did use the €6.1bn.

<i>(in millions of Euros)</i>	Notes	H1 2013	H1 2012 ⁽¹⁾
Financing activities:			
Transactions with non-controlling interests ⁽²⁾		(46)	(237)
Dividends paid by parent company	19.2	-	(1,072)
Dividends paid to non-controlling interests		(187)	(115)
Purchases / sales of treasury shares		8	(1)
		(225)	(1,425)
Cash flows with shareholders			
Issuance of borrowings		2,163	8,489
Repayment of borrowings		(7,066)	(1,786)
Issuance of perpetual subordinated bonds	19.3	6,125	-
Funding contributions received for assets operated under concessions		74	85
Investment subsidies		43	72
Other cash flows from financing activities		1,339	6,860

Table 9 – Financing Cash Flow H1 2013 ¹

The above table shows a cash flow of c. €7bn of debt repayment during the first half of 2013 that is partially financed by the issuance of the hybrid tranches. Paying down debt is in line with balance sheet optimisation strategy detailed in the previous section.

<i>(in millions of Euros)</i>	Bonds	Loans from financial institutions	Other financial liabilities	Loans related to finance-leased assets	Accrued Interest	Total
Balances at 31/12/2012	43,869	4,908	9,388	427	1,340	59,932
Increases	314	943	902	-	33	2,192
Decreases	(1,776)	(1,954)	(3,332)	(4)	(150)	(7,216)
Translation adjustments	(352)	-	(32)	(1)	(3)	(388)
Changes in scope of consolidation	-	(72)	19	18	-	(35)
Other changes	(535)	45	(16)	(2)	8	(500)
Balances at 30/6/2013	41,520	3,870	6,929	438	1,228	53,985

Table 10 – Changes in loans and other financial liabilities H1 2013 ²

¹ EDF (June 2013): “Half year financial report”

² EDF (June 2013): “Half year financial report”

The figures highlighted from the table below correspond to a detailed list of the €7,066m Repayment of borrowings. Almost half of this amount is used to repay “Other financial liabilities”, there is no details on this category on EDF’s financial reports but it generally represent derivative instruments that are owned for hedging purposes or not under IFRS.

Views of the market

– Oversubscription

Despite offering subordination premium of just 210bp-235bp (vs. 350bps in average in our computation conducted on IV.B)i)), the issuance was highly oversubscribed with the combined order books reaching the equivalent of more than €23bn. It was significantly over the €5bn minimum set by the group.

This substantial support from all types of investment-grade investors has been seen also in the secondary market with good performance of the bond. Indeed, by November 2013, the subordination premium dropped below 200bps.¹

– Brokers’ views – Positive reaction from analysts

The majority of analysts has seen this emission as a success. The very good fit of this instrument with EDF business model was highlighted, in particular:

- The group was in high investment phase, this rating-supportive instrument was then helpful in order to defend its rating²
- Expensive bonds issued in 2008-09 to finance the British Energy and Constellation deals needed refinancing³
- Despite the amount of funds that were raised by EDF, some financial flexibility is kept due to hybrid bond’s features⁴ (mainly deferability of interests)
- Analysts estimate EDF could further issue from €5bn to €10bn of hybrid capital

However, analysts showed their scepticism on two main points regarding the emission.

First, the treatment of the hybrid bond as Shareholder’s equity without any specific distinction in EDF balance sheet resulted in a significant decrease in net debt. An analyst at Kepler Cheuvreux qualified this treatment as “surprising”⁵. Indeed, other issuers (particularly RWE) tend to differentiate on their balance sheet pure equity from hybrid

¹ International Financing Review (April 2014): “European Investment Grade Corporate Bond: EDF’s €6.2bn equivalent hybrid bond”

² JP Morgan (April 2013): “EDF: Attractive dividend and room for capital appreciation”

³ JP Morgan (April 2013): “EDF: Attractive dividend and room for capital appreciation”

⁴ HSBC (April 2013): “Drax and EDF: Well placed in UK generation”

⁵ Kepler Cheuvreux (August 2013): “EDF”

bonds in order to highlight the structural difference between those two securities, Kepler analyst strengths that “the day a company is shut down, none of the hybrid bond money can be taken by investors (shareholders)”¹.

Also, Credit Suisse highlights the necessity to retreat hybrid interests payments in order to be included in earnings. If they are not, shareholders are deprived from part of the EPS due to hybrid remuneration. While this argument does not have any theoretical base, it might be important regarding financial communication. Indeed, investors are very much focused on EPS and payout ratio, it is then important for a company to take into consideration those ratios even if they do not reveal any type of value creation.

¹ Kepler Cheuvreux (August 2013): “EDF”

Summary and Conclusion

To analyse a hybrid bond, there is more to assess than simply interest rates, maturity and subordination as for standard bonds. For these aspects, as seen in section I, hybrids are generally perpetual securities, deeply subordinated and with a premium to senior bonds. However, the singularity of this security lies in other characteristics as coupon deferral, call options and coupon step-ups. Indeed, hybrids coupons can be deferred under some conditions, the security can be called after a period of generally 5 to 10 years and there are some incentives to do so (mainly coupon step-ups and replacement language).

The hybrid structure of the security makes it dependent on an important number of stakeholders: not only the issuer, investors and regulators have an influence on the emission. Since hybrids' history is relatively short compared to other securities, rules are not fixed and they effectively evolve often. Decisions from rating agencies have a strong impact on the whole market as seen in 2005. Compared to vanilla securities and due to their complex structure and relative short existence, there is need to make extensive work around rating agencies, accounting and tax considerations before making the choice of hybrids. The clearer the rules about hybrids, the more development is expected on this market.

All the interest of hybrid bonds lies in a combination of debt and equity features. On the one hand they are perpetual, deeply subordinated, considered as equity by rating agencies (partially) and accountants and with deferrable coupons; but on the other hand, they have fully deductible interest rates, do not dilute current shareholders and are generally repaid at call dates. The attractiveness of a hybrid bond is determined by two main factors: its structure and its treatment by other stakeholders (rating agencies, tax authorities etc.).

From the investors' standpoint, the interest for this security has been growing and we can say that after the more than €27bn issuances from European companies in 2013, hybrids must be considered as a separate asset class. We observed in recent years a higher complexity on the investors' base with an increasing demand from Asian private banking for example. Further development is expected on the market, analysts forecast more than €25bn of issuances for 2014 ¹(from European companies) and the 2015 calls should also bring further growth in the market.

Structure of hybrids is the starting point of our analysis and it also the result of it. Growing complexity in hybrids' characteristics is the result of the willingness of all different actors of the market. We consider that the market will be mature when

¹ AgEFI (March 2014) : « Le marché de la dette hybride a de brillantes perspectives »

structures won't have evolved for a certain number of year and when the treatment of hybrids by all stakeholders will be stable.

Appendices

Appendix A – Hybrid Bonds list ¹

Company	Interest rate	Maturity	Next call date	Zero-Spreads		Yield to call		Market Price	Rating
Alliander	3,25%	Perpetual	27/11/18	1,75%	1,65%	2,70%	2,60%	102,8	A3/A
Bayer	5,00%	2105	09/07/15	1,50%	1,32%	1,70%	1,50%	104,6	Baa3/BBB-/BBB+
BG Group	6,50%	2072	30/11/17	2,28%	2,15%	2,90%	2,80%	113,0	Baa1/BBB/BBB
Casino	4,87%	Perpetual	31/01/19	2,25%	3,18%	4,30%	4,20%	102,8	BB/BB
Vinci	6,25%	Perpetual	13/11/15	1,54%	0,96%	2,00%	1,40%	107,9	Baa3/BBB-/BBB-
Dong	6,25%	3013	26/06/23	2,90%	2,84%	4,60%	4,40%	112,8	Baa3/BB+/BBB-
Dong	4,88%	3013	08/07/18	2,42%	2,25%	3,30%	3,20%	106,9	Baa3/BB+/BBB-
EDF	4,25%	Perpetual	29/01/20	2,07%	2,02%	3,30%	3,20%	105,5	A3/BBB+/A-
EDF (\$)	5,25%	Perpetual	29/01/23	2,26%	2,19%	5,00%	4,90%	102,4	A3/BBB+/A-
EDF (\$)	5,63%	Perpetual	22/01/24	2,46%	2,43%	5,30%	5,30%	102,5	A3/BBB+/A-
EDF	5,38%	Perpetual	29/01/25	2,47%	2,44%	4,40%	4,30%	108,9	A3/BBB+/A-
EDF	5,00%	Perpetual	22/01/26	2,33%	2,31%	4,40%	4,40%	105,9	A3/BBB+/A-
EnBW	7,38%	2072	02/04/17	2,44%	2,28%	3,00%	2,80%	113,3	Baa2/BBB-/BBB
ENELIM	6,50%	2074	10/01/19	3,32%	3,24%	4,20%	4,10%	110,4	Ba1/BB+/BBB-
ENELIM	5,00%	2075	10/01/20	3,17%	3,10%	4,40%	4,30%	103,6	Ba1/BB+/BBB-
ENELIM (\$)	8,75%	2073	24/09/23	4,42%	4,36%	7,00%	6,90%	112,9	Ba1/BB+/BBB-
GDF Suez	3,88%	Perpetual	10/07/18	1,85%	1,80%	2,75%	2,70%	105,0	A3/BBB+
GDF Suez	4,75%	Perpetual	10/07/21	2,03%	1,97%	3,45%	3,40%	108,8	A3/BBB+
Henkel	5,38%	2104	25/11/15	1,35%	0,78%	1,80%	1,30%	106,9	Baa1/BBB/BBB+
KPN	6,13%	Perpetual	14/09/18	3,76%	3,65%	4,60%	4,50%	106,5	Ba1/BB/BB
Linde	7,38%	2066	14/07/16	1,25%	0,85%	1,80%	1,40%	113,6	Baa2/A-
National Grid	4,25%	2076	18/06/20	2,28%	2,20%	3,60%	3,50%	104,4	Baa3/BBB/BBB-
OMV	6,75%	Perpetual	26/04/18	2,87%	2,75%	3,60%	3,40%	112,7	Baa3/BBB
RWE	4,63%	Perpetual	28/09/15	2,59%	2,33%	3,00%	2,80%	102,7	Baa3/BBB-/BBB-
Suez Env.	4,82%	Perpetual	21/09/15	2,51%	2,19%	2,90%	2,60%	103,3	Baa2
Siemens	5,25%	2066	14/09/16	1,41%	1,03%	1,90%	1,70%	108,9	A2/BBB+/BBB+
Solvay	6,38%	2104	02/06/16	1,05%	1,73%	2,50%	2,30%	108,8	Baa3/BBB-/BBB
Solvay	5,43%	Perpetual	12/11/23	2,77%	2,72%	4,55%	4,50%	107,4	Baa3/BBB-
Solvay	4,20%	Perpetual	12/05/19	2,51%	2,44%	3,60%	3,50%	103,2	Baa3/BBB-
SSE	5,63%	Perpetual	01/10/17	2,45%	2,34%	3,10%	3,00%	108,7	Baa2/BBB/BBB
Suedzucker	5,25%	Perpetual	30/06/15	2,59%	1,82%	3,00%	2,30%	103,8	Ba1/BB+
Telefonica	6,50%	Perpetual	18/09/18	3,49%	3,38%	4,30%	4,20%	109,4	Ba1/BB+/BBB-
Telefonica	7,63%	Perpetual	18/09/21	4,12%	4,05%	5,40%	5,30%	114,3	Ba1/BB+/BBB-
Tennet	6,66%	Perpetual	01/06/17	2,38%	2,22%	2,90%	2,80%	111,8	Baa3/BBB
Telekom Aus.	5,63%	Perpetual	01/02/18	2,95%	2,82%	3,70%	3,60%	107,5	Ba1/BB
Vattenfall	5,25%	Perpetual	29/06/15	1,93%	1,63%	2,40%	2,20%	104,0	Baa3/BBB-/BBB
Veolia	4,45%	Perpetual	16/04/18	3,12%	3,00%	4,00%	3,90%	102,2	Baa3/BB+/BB+
VW	3,88%	Perpetual	04/09/18	1,82%	1,74%	2,70%	2,60%	105,0	Baa2/BBB
VW	5,13%	Perpetual	04/09/23	2,15%	2,10%	3,90%	3,80%	110,3	Baa2/BBB

¹ Societe Generale (March 2014): “Call me maybe – Focus on 2015 call hybrids”

Appendix B – Comparison of characteristics between hybrid instruments with debt and equity

Debt	Hybrid	Equity
Deferability of interest payments		
Non deferrable interest	Optional or contractually deferrable	
Cumulative interest payments		
Cumulative interest payments	Non-cumulative dividend payments	
Maturity Date		
Fixed maturity date	No maturity date - perpetual	
Convertability		
No conversion	Mandatory or optional conversion	
Subordination		
Unsubordinated and issued by or guaranteed by operating companies	Deeply subordinated, both legally and structurally (issued by company further away from operating cashflows)	
Investor Put / Investor Call		
Neither a debt or equity-like feature, however the pricing of the security can differ materially depending on whether the instrument is priced to the option date or its legal maturity date		

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