**Convertible Senior Notes – Beyond Meat – March 2021**

**Technical note**

This note includes 2 parts:

1- Reminder on the characteristics of convertible bonds

2- Convertible bond Beyond Meat March 2021

The second part introduces the characteristics of the issue, the analysis of the early redemption clause, the actuarial and optional valuation of the bond, together with the valuation of the instrument selected by the issuer to reduce dilution, a “capped call”.

**1) Reminder on the characteristics of convertible bonds**

A convertible bond is a traditional bond with a conversion option at maturity that allows the investor to opt either for the repayment of the nominal, or for conversion into a certain number of shares contractually fixed at the time of the issue.

Let's take an example.

The stock price of ABC is $100. The firm needs $120M to finance its development. It will select between several instruments:

• Issue debt for an amount of $120M, for example at a rate of 3%

• Make a capital increase for the same amount

• Issue a bond (or a note) convertible into ABC shares.

In the first case (debt), the financial leverage (net debt / EBITDA) and the debt ratio (or gearing, net debt / equity) will increase, which can be prejudicial to the company (increased risk of failure, loss of strategic flexibility, increased competitive vulnerability).

The capital increase is less risky, but more dilutive for shareholders. Indeed, to raise $120M, the firm will issue new shares at a lower price than the current stock market price, which will create a subscription right. Suppose the issue price is $80, then the firm will issue 1.5 million new shares and as many voting rights, which will dilute shareholders who will not have exercised their preferential subscription right.

The alternative offered by the convertible bond is to reduce and delay dilution while limiting the risk and financial burden.

This is what a transmission of convertible bonds of ABC shares could look like:

• Nominal $120

• Number 1 million

• Conversion rate 1 share for 1 bond

• Coupon 1%

• Duration 7 years

The investor pays $120 today, receives $1.2 per year for 7 years and will choose, at the end of this period if it wishes to be reimbursed up to the $120 or receive a share.

This investor will make a deferred choice depending on the evolution of the stock price: cash refund if the stock market price remains below the repayment value, conversion if the stock market price is higher. It holds, therefore, a 7-year-time purchase option (call) whose underlying asset is a share of ABC company with an exercise price that corresponds to the abandonment of the reimbursement of the cash amount at maturity.

The option premium payment consists in receiving a coupon lower than that generated by non-convertible debt (1% instead of 3% in the example).

Several points are important.

First of all, we chose a conversion rate of 1 for 1 and the nominal of the bond ($120) is greater than the stock market price ($100). It seems obvious. Indeed, assume that the obligation is issued at $80. Then, the investor buys the obligation (cash-out: $80), converts the bond into a share and sells it (cash-in: $100). It's called a "free lunch" ...

So, the nominal of a convertible bond is always higher than the stock market price. The consequence is that, for an amount raised (in this case, $120 million), it will be necessary to issue less bonds convertible into shares than shares. It follows a reduced dilution for shareholders. In concrete terms, if it is converted, the bond issue will result in 1 million new shares compared to 1.5 million shares in the event of a capital increase.

Moreover, even if the possibility of conversion is offered before the maturity of the bond, the option is not exercised in an anticipated way because the price of the bond is necessarily higher than the value of the share (or shares if the conversion rate is greater than 1) that the investor would obtain by conversion. This is the same reasoning as before: if the bond price is lower, a "free lunch" is to buy the bond, convert it and sell the share, generating a risk-free profit.

Let's use the terminology of options:

* The convertible bond is always issued "out-of-the-money" to avoid "free lunches"
* The price of a bond is always greater than the immediate benefit of conversion because an option has a value equal to the sum of its intrinsic value (immediate profit) and its time value (uncertainty in the price evolution of the underlying asset for the residual life of the obligation).

As a result, the issuance of a convertible bond presents, at the level of the control of the shareholders, a double advantage:

1. Reduced dilution (less securities issued)
2. Delayed dilution (conversion and creation of new shares at maturity)

In addition, the coupon paid by the issuer is lower because the investor must pay the option premium in the form of reduced remuneration.

The tool presents, therefore, many benefits for the issuer and the Pecking Order theory (Myers & Majluf) naturally positions this hybrid instrument between classical debt and equity in the prioritization of financing.

The investor has a tool for speculating upwards on the underlying asset while standing up against a decline. This advantage nevertheless contains two limits:

1. The bond remuneration is lower (1% instead of 3%), but even more ...
2. The speculative gain is generated only beyond the nominal of the obligation (from $120).

This upside speculation with a downward parachute (cash refund) makes the convertible obligation a valued tool for institutional investors such as pension funds.

But, we should not underestimate the risk of seeing the parachute collapse ... Indeed, if the conversion is not realized, it is because the stock market price has not progressed, a possible sign that the company does not go well. Then, if the investors ask for cash redemption, the issuer may not have the necessary liquidity. This is why we find in many prospectuses the clause that allows the issuer, unilaterally, to reimburse the bond in cash, in shares or any combination of the two modalities.

For example, if the corporate course ABC is equal to $40 at maturity, investors will not exercise and will request cash refund of $120.

Then, the issuer may provide $120 in cash or transfer 3 shares each worth $40 to the investor.

The convertible bond is, therefore, a sophisticated tool and very often mobilized in the development of a financial strategy.

Let's analyze, now, the specific case of Beyond Meat.

**2) Beyond Meat: Senior Convertible Notes March 2021**

First, the general characteristics of the bond:

• Nominal $1,000

• Number 1 million initially (funds raised = $ 1bn)

• Conversion rate 4.8544 shares for 1 bond

• Coupon 0%

• Duration 6 years

An over-allotment option (called Shoe option in the prospectus, this clause is called Greenshoe of the name of its issuer-inventor, the Green Shoe Manufacturing company ...) is offered and will be exercised: in order to satisfy the demand of investors, 150,000 additional bonds will be issued, bringing the fundraising at $1,150 million.

The issue costs are $23.15 million and the first use of funds will be the reimbursement of a JPMorgan Chase credit line of $25M.

At maturity, investors will decide to convert the bond into shares if the stock market price is greater than $1,000 / 4.8544, or $206: this figure is called the Strike (or Exercise) Price (abbreviation: EX) that refers to the optional process related to the bond.

Three technical aspects of the bond are interesting to study:

1. The prospectus contains an early redemption clause
2. The actuarial and optional assessment of the bond
3. The purchase by Beyond Meat of Capped Calls to limit the dilution

a) Early redemption clause

The prospectus mentions the capacity of the issuer to carry out early redemptions from March 2024 if the stock price of Beyond Meat exceeds 130% of the Strike Price for at least 20 days of quotation (not necessarily consecutive) over a 30-day period.

The redemption is carried out at the nominal value of the bond, which may seem strange at first sight: why refund $1,000 an obligation worth more than $1,300? In fact, the investor has a period of about a month to "decide" conversion or refund.

Obviously, the choice will be on the conversion and the so-called early redemption clause is actually a "forced conversion" clause ...

This clause *de facto* limits the gain related to the conversion option, but it appears in virtually all convertible bond issues ...

b) Evaluation of the bond

It is a complex process because two components must be addressed: the actuarial value of the bond and the optional value of the conversion faculty.

Let's start with the simplest, actuarial value.

The value of a financial asset lies in its ability to generate funds flows discounted at a rate that reflects investor expectations for this risk category.

The bond does not generate any financial income and the unique cash flow will be the potential refund in 6 years for the nominal value of $1,000.

The question that arises is that of the discount rate. If Beyond Meat was a classic bond issuer, its rating would translate the high risk of its economic model that has not yet demonstrated its profitability. You can anticipate a "speculative grade" rating, for example BB. Then the risk premium would be around 3% to 4%.

Let's take 3% as a risk-premium that we add to the risk-free rate (US T-Bonds 10 years) equal to 1.6% to obtain a rate of 4.6%.

The actuarial value of the bond is $1,000 / $e^{6\*4.6\%}$= **$759** (continuous discounting).

Now let's calculate the value of the option.

As the firm does not distribute dividends, we use the Black-Scholes formula that requires two intermediate calculations.

1. Calculation of s$\sqrt{t}$ where s is the standard deviation of the share return and t is the life of the option. For the valuation of stock options, Beyond Meat uses a 55% standard deviation that we resume in the calculation. The duration is expressed in years: 6. The calculation gives 55% \* $\sqrt{6}$ = **1.35**
2. Calculation of the current stock price divided by the present value at the risk-free rate of the exercise price. The stock price is equal to $138 at the time of issue. The exercise price (Strike Price) is $206. The present value of the exercise price is $206 \* $e^{-6\*1.6\%}$ = $187. By dividing 138 by 187, we obtain **0.74**.

With these two figures, we can use any formula or financial table (corporate finance textbooks) to conclude that the value of a purchase option represents 43% of the underlying asset price, in this case $138.

So, the value of the call is equal to **$59**. As the convertible bond contains 4.8544 conversion options, the optional value of the bond is **$286**.

The total value of the convertible bond is the sum of its actuarial value and its optional value, or $759 + $286 = **$1,045**.

Considering that the bond is issued at $1,000, we can conclude that the pricing is "aggressive" ...

c) Evaluation of the capped call

The company declares mobilizing some of the funds raised to purchase options (same maturity as the convertible bond) on Beyond Meat shares from a group of investors to limit the dilution generated by the conversion of the bonds.

The exercise price is set at $206 because there will not be conversion if the stock price does not reach this level. If, at maturity, the price reaches for example $250, the firm will be able either to exercise the option and redeem its own shares, reducing the dilution, or request a cash settlement and get $44 per option. One can imagine that Beyond Meat uses a combination of the two modalities, the cash from the second to pay the shares of the first at the price of $206.

But these options have a cost. In order to reduce the amount invested in the calls, the agreement between the company and its bankers is to "cap" that is to say, to limit the exercise of the call to a stock price equal to $279.32.

In concrete terms, Beyond Meat will profit from any capital gain between $206 and $279.32, but not beyond.

In terms of financial structuring, it is equivalent to buying a call (EX = $206) and sell a call (EX = $279.32) of the same maturity. The objective is to reduce the price of the first call, but accepting a limitation of the gains.

We already know the value of the first call: $59, or 43% of $138.

For the calculation of the value of the second, we proceed to the same calculation, but by modifying the current value of the exercise price: $279.32 \* $e^{-6\*1.6\%}$= $254. By dividing $138 by $254, we obtain 0.54 and the value of the call represents (same financial table) 35% of the stock price, or 35% \* $138 = $48.

The net cost of Capped Call is, therefore, equal to $59 - $48 = $11.

As investors have exercised the over-allotment option, there are 1.15 million convertible bonds each comprising 4.8544 options, or 5.58 million options. The total cost should be 5.58m \* $11 = $61.4m.

However, the quarterly report Q1 2021 (period ending at the end of March 2021) indicates, in the cash flow statement, that the cost of capped call was nearly $84m, or 37% more than the calculated value.

The pricing of the bond was quite aggressive for investors, but the valorization of capped call suggests a significant margin.

However, we must not forget that we have made a calculation mobilizing the well-known B&S formula that starts from the assumption of a log-normal distribution of the underlying asset returns.

This hypothesis can be challenged in favor of a distribution a little more "extreme" with considerable variability and, therefore, a potentiality of very high losses for option sellers. Unfortunately, we do not have the model used by the investors in the bond issue prospectus ... Too bad ...