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ENHANCING CORPORATE GOVERNANCE
WITH ONE- AND TWO-TIERED
CONVERTIBLE PREFERRED STOCK

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Abstract

This paper sets out a proposal by which two distinctive and new types of preferred stock (one- and two-tiered convertibles) could be used to sharpen up a company's governance. Firstly, the framework of analysis for standard preferreds will be outlined, mainly their valuation, underlying incremental cash flows, control rights and contractual features. Secondly, one- and two-tiered convertible preferred are introduced, setting up their financial design, how they convey control rights and contractual characteristics, and giving heed to a simple valuation for those preferreds. Last of all, it will be shown how the one- and two-tiered convertibles come in handy to deal with some particular governance topics: capital structure, debt refinancing and compensation schemes for management.

JEL: G34, G11, G10

Key words: preferred stock, convertible preferred stock, corporate governance, control rights, compensation scheme.

INTRODUCTION

Preferred stock has been an almost neglected issue for a long time. It was only in the last three decades of the twentieth century when their usage became more common, under the guise of convertible preferred (Engel et al., 1999). Such a process was duly fostered by venture capital financing, and a widespread amount of private placements around some well-developed capital markets. Meanwhile, commercial banks, utilities and insurance companies, taking advantage of new regulations and tax allowances, had been issuing trust-preferred stock (Harvey et al., 2003). In spite of these developments, however, it has been as if the subject were not appealing enough to academics and practitioners. For instance, JSTOR only furnishes with no more than a dozen papers on the subject published in top learned journals over a span of a hundred years. If we look for references in the SSRN electronic library, almost sixty papers can be retrieved that seems related to this issue, although only twenty of them are fully focused on preferreds.

This research intends to make a contribution to the subject, advancing a proposal by which two distinctive financial instruments, to be named ***one- and two-tiered convertible preferreds***, might successfully cope with some hindrances in the way to a better governance.

The paper is organized as follows. In section 1 we deal with bonds and preferred stock that have no special features, that is to say, plain vanilla securities that will therefore be labeled as “standard”. Also, a brief outline of the historic development of preferred stock will be provided at this point. Section 2 copes with valuation issues linked with standard bonds and preferred stock. These sections intend to build foundation to the ones coming next.

Hence, in section 3, we contrast standard bonds and preferred stock from three points of view that are intertwined with corporate governance matters: the nature of their cash flows, their underlying control rights and their contractual features.

Section 4 sets up an analytical framework for both the one- and two-tiered convertible preferred stock, putting forth their financial design, contractual features, control rights, and a simple method of valuation.

Last of all, section 5 will outline how to enhance corporate governance by means of these securities. Firstly, through balancing the capital structure, and swapping old debt for one- or two-tiered convertible preferred. Secondly, to draw up incentives to management that get rid of contingent compensation plans. Beyond any doubt, the recent wave of corporate malfeasance epitomized by Enron in 2001, brought stock options and the like into sheer disrepute (background on the Enron’s disgraceful affair in Apreda, 2002b).

1. STANDARD BONDS AND PREFERRED STOCK

It's worth reviewing the main characteristics of standard bonds and preferred stock, so as to draw a parallel between them.

STANDARD BONDS

- a) Bonds have a finite life span.
- b) Cash flows to any bondholder are contractual and they stem from two main sources:
 - **returns on the investment**, provided either by interest payments or appreciation of the bond when there is an upward trend in prices;
 - at maturity, **the principal** is collected as a lump-sum payment when the bond is bullet or, otherwise, in a string of cash flows before and at maturity date.
- c) Contractual cash flows defined in the bond's indenture must be disbursed regardless of how well or badly the company's performance turns out to be along the lifetime of the security.
- d) If any financial distress arises, bondholders will have a claim on the firm's assets or any other guarantees pledged by the firm, and this claim precedes that of stockholders, even that of investors in preferred stock. If a creditor is not repaid, he can seize or foreclose on the firm's assets, even force the firm into bankruptcy.
- e) In general, standard bonds do not vouchsafe any control decisions or ownership rights to bondholders (background on this issue in Easterbrook and Fischel, 1996, Chapter 3). But when financial problems spring up, control rights can be shifted to debt holders or their trustees.
- f) As regards bank loans, and from the standpoint of a financial engineering approach, they can be blended into synthetic bonds privately placed most of the time. Hence and as from now, we give heed to standard bonds without any loss of generality.

STANDARD PREFERRED

- a) No term to maturity is granted to preferred stock, what amounts to an indefinite maturity.
- b) No principal is given back. As it will be seen in section 1.1, this requirement does not hold for most of the non-standard preferred stock.

- c) The classical model of preferreds makes the assumption that dividends with preference, set at a fixed annual rate, are distributed in perpetuity. From the point of view of constant payments, this likens the security with a fixed-income bond.
- d) Cash flows are contingent upon earnings in the period but, whenever there are strictures in the company's cycle of income and losses, collection could be put off until another payment period by means of a contractual accumulative mechanism. This feature amounts to a protective covenant on the side of the issuer, since preferred stockholders can neither exercise an immediate action nor bring the company to court.
- e) In most cases, contingent control rights are granted. For instance, if some sensitive decision-making that could impair their rights were in the pipeline, preferred stockholders could voice their concerns by voting in favor or against the proposal.

1.1. NON-STANDARD PREFERRED STOCK

The comparison between standard bonds and preferred has brought to light that the latter share some properties with the former and, at the same time, they also bear a resemblance to ordinary stock. In actual fact, preferreds perform as hybrid securities. By far, the most interesting and innovative are those that depart from the standard ones.

Among the many varieties of preferred stock that may be regarded non-standard, some of them are distinctively noticeable:

- Participating
- Callable
- Convertible
- Mandatory Convertible
- Preferreds with Floating Dividends
- Dual Preferred
- Percs
- Trust-Preferred
- Convertible Exchangeable
- Participating Convertible

Exhibit 1 provides a brief outline of these financial hybrids.

1.2. HISTORICAL BACKGROUND ON PREFERRED STOCK

In the United States, the earliest issues of preferred stock are found in 1836, related to construction and transportation programs in the states of Maryland and Ohio (interesting background on this subject can be found in Heberton Evans,

EXHIBIT 1 NON-STANDARD PREFERRED STOCK

Participating	holders of preferred shares participate with common shareholders in corporate earnings over and above the stated dividends on the preferred stock.
Callable	it comes with an embedded option in favor of the company to repurchase the stock in the future at a stated price.
Convertible	the stockholder may convert his preferred stock into common stock at a stated price.
Mandatory Convertible	it is compulsorily converted into common stock at maturity, performing like a sort of "deferred equity". (<i>Hegde, 2003</i>)
With Floating Dividends	preferred dividends are adjusted to some benchmark, like a rate of interest or some market index.
Dual Preferred	preferred dividends are paid out in one currency, while principal (or a contractual liquidation value) in another.
Percs	(Preferred Equity Redemption Cumulative Stock) Issued for a fixed term, with pre-specified coupon. It is callable at any time, paying off either in cash or with common stock. If not called before maturity there is mandatory conversion into common stock at that date.
Trust-preferred	issued by an affiliated to the company, playing as an SPV (special purpose vehicle), usually under the guise of a limited liability partnership. Such securities perform as equity-like for financial reporting, and as debt for tax purposes. Most of them have been privately placed using SEC Rule 144a. (<i>Harvey, 2003</i>)
Convertible Exchangeable	similar to convertible preferred, but with an additional right to exchange preferreds for convertible debt securities having identical pre-tax annual cash flows and conversion terms. (<i>Cowan, 1999</i>)
Participating Convertible	mainly used in Venture Capital finance. Upon the portfolio company liquidation or venture capital exit, investors get both the principal amount of the preferred and they receive common stock as well. (<i>Kaplan and Stromberg, 2000</i>)

1929, 1931). Shortly afterwards, utilities issued non-participating preferred stock, with dividends set at 6% paid semiannually, and a deferment period of three years. On the other hand, “new stock with priority of dividends” was commonly issued in England by 1826.

Issuers of stock with “preference or priority of dividends” actually split the universe of equity into two classes that evolved later to reach the current format of ordinary and preferred stock. In the case of the utilities and transportation being financed by preferreds, each state’s government was eager to claim a preferred dividend position in return for their funding.

A second stage in the preferred stock history was fostered by American railroads as from the 1840s. Among the manifold explanations for the issuing of preferred stock, Pilches (1970) points out three of them:

- a) to set up exchange transactions while a refinancing process was taking place;
- b) for canceling floating rate debt and bank loans;
- c) to cope with reorganization strictures.

In most cases, as soon the common stock paid dividends over the rate of the preferred ones, the latter became participative (see Exhibit 1) and disbursed the same dividends as the former. At that instance, the distinction between preferred and ordinary stock faded out eventually. Let us see a current example in those days:

- 7% preferred rate while the dividend rate on common stock was below such level.
- 7% + 3% as from the time the ordinary stock gave 7%.
- After both had received 10%, equal participation with the common stock.

Although public placements were common for utilities and railroads, mainly since state’s governments involved with such investments were big players, it should be underlined that, from the very beginning, preferred stock was also privately issued. The appeal for this style of placement grounded on several reasons:

- the issue could be timed to propitious market situations;
- distribution costs were lowered;
- it was possible to negotiate changes in privately-placed contracts at a later date.

As from the 1850s, it became clear that company charters ought to contain provisions on preferred issues, as well as on control rights, conversion and participation attributes. In 1860, for instance, the Supreme Court of Maine ruled that companies had the right to increase its capital stock and that this behavior

was lawful. Four years before, the state of Ohio had allowed railroads to sell preferred stock to pay floating debts. Later on, provisions were embedded not only in charters but also through by-laws, stock certificates and even statutes (more details are to be found in Fischer, 1968).

There has been a long-standing debate about the so called “puzzle of the preferred stock”, which hinges upon the cumulative mechanism for dividends and double taxation for investors. From this standpoint, it is argued that preferreds should not successfully contest either current debt or common stock.

In the last decades, however, changes were framed so as to overcome the puzzle referred above, and to raise the interest of investors towards preferred stock. For instance, American corporations can deduct at least 70% of their income on preferred they hold in their investment portfolios. Still better, financial engineering actually gave rise to innovations matching market requirements of more responsive varieties of preferred stock, some of which are sampled in Exhibit 1. Last of all, it is the aim of this paper to introduce two new types of preferred stock in the hope of making a contribution to the subject.

2. VALUATION OF STANDARD BONDS AND PREFERRED

Let us assume that the life span of a security, since the valuation date t till maturity T , is given by an investment horizon

$$H = [t; T]$$

that can be split into a string of dates

$$\{ t_0 = t, t_1, t_2, t_3, \dots, t_N = T \}$$

at which the investor can collect cash flows from the security in due course.

▪ **STANDARD BONDS**

Without loss of generality, let us consider only standard bullets, that is to say, bonds that pay out the principal P at maturity, once and for all [Britten-Jones (1998) furnishes an updated rendering of how different types of bonds should be valued].

The monetary value of the bullet at date t follows from

$$V(t) = \left\{ \sum_{1 \leq j \leq N} \frac{CF(j)}{[1 + k(j)]^j} \right\} + \frac{P}{[1 + k(N)]^N} \quad (1)$$

where $CF(j)$ stands for interest cash flows at any payment date along the horizon. Rates of discount

$$k(j)$$

come out of a matching term structure of rates of return.

$$\{ k(1), k(2), k(3), \dots, k(n) \}$$

as available at the valuation date.

▪ **STANDARD PREFERRED**

The standard preferred pays a fixed amount of preferred dividends **CF**. Before the 70s, the conventional wisdom would have worked out the valuation by following the model

$$V(t) = \sum_{1 \leq j \leq \infty} CF / [1 + k]^j$$

To all intents and purposes, life is easier when cash flows and discounting rates are constant. In such case, the preferred would become a perpetuity and the valuation narrow down to

$$V(t) = CF / k$$

Although such valuation model can claim to be user-friendly, discounting rates do follow a term structure pattern, cash flows can be variable, and there are not infinite dates of payments to collect.

Therefore, a more down-to-earth approach gives

$$V(t) = \sum_{1 \leq j \leq M} CF(j) / [1 + k(j)]^j$$

(2)

where **M** stands for a reasonably long period for the ageing of the preferred to become meaningful. The extreme case in which $M = \infty$ is only suitable for modeling or getting boundary conditions.

Let us take a closer look to both relationships (1) and (2).

- a) From a financial engineering point of view they are very similar, but for the explicit payment of principal in (1).
- b) The standard preferred lacks of principal (a feature that keeps them apart from the convertible preferred bond).
- c) In (1), the number N is contractually given, whereas M in (2) comes out of an educated assessment.

- d) The longer the life of the bond, the smaller the discounted value of the principal in (1) and the closer the value to that of the preferred, provided we can use the same term structure of discounting rates.

All in all, standard bonds and preferred stem from a common pattern of cash flows. As for differences, the reader is referred to the next section.

3. CONFRONTING STANDARD BONDS WITH STANDARD PREFERRED STOCK

It is when we give heed to the following lines of analysis:

- singling out the residual nature of cash flows linked to preferred stock;
- balancing out their control rights; weighing up their contractual features;
- weighing up their contractual features;

that it becomes noticeable why issuing preferred stock really makes a clear difference to bonds and bank loans alternatives.

3.1. RESIDUAL INCREMENTAL CASH FLOWS

In the following insert, the Earnings and Losses Statement provides a stylized framework to discuss the linkages of preferred stock with residual cash flows, as well as those of bonds with contractual cash flows.

Earnings before interest and taxes

- *Interest payments to bondholders (or bank loans)*
- *Taxes*
- = *Net Income*

Net income distribution:

- *Preferred dividends*
 - *Ordinary dividends*
 - *Retained earnings*
-
-

From this broad view, interest outflows become a cost item and they are worked out before rounding off the net income. In contrast, preferred stock attains full meaning only after net income is properly balanced out of all income and cost items. As ordinary stock, preferred dividends are not tax-deductible.

Furthermore, being net income a residual, it must be split into three components: cash flows firstly directed to preferred stockholders, then those directed to ordinary stockholders and, lastly, retained earnings to self-finance the company.

At this point, it's worth recalling how the incremental cash flow model allocate the economic value turned out by assets to debt holders, preferred stockholders and common stockholders [a detailed rendering in Apreda (2002a, 2003b)]:

$$\begin{aligned} \Delta CF(\text{assets}) &= \Delta CF(\text{debt holders}) + \\ &+ \Delta CF(\text{preferred stockholders}) + \Delta CF(\text{ordinary stockholders}) \end{aligned}$$

Bondholders are entitled to their contractual cash flows independently of how well or badly the company had performed. Their incremental cash flows can be broken down into four components

$$\begin{aligned} \Delta CF(\text{debtholders}) &= \Delta CF(\text{interest}) + \Delta CF(\text{principal}) + \\ &+ \Delta CF(\text{debt repurchase}) - \Delta CF(\text{new issues}) \end{aligned}$$

In-built covenants attached to bond contracts allow for seizure or forfeiture of company's assets, income streams, or securities in the company's portfolio. They set tight constraints, shaping in this way the disciplinarian feature of the debt.

On the other hand, when we deal with preferred,

$$\begin{aligned} \Delta CF(\text{preferred stockholders}) &= \Delta CF(\text{preferred dividends}) + \\ &+ \Delta CF(\text{preferred stock repurchase}) - \Delta CF(\text{new issues}) \end{aligned}$$

the former summary does not fully apply. There are two reasons for this to happen:

- i. Standard preferred stock has no principal.
- ii. Preferred stocks are quasi-bonds but with a striking and distinctive covenant in favor of the company: they attach a right to deferral with accumulation.

It is worthy of being noticed that in the bond market the closest example of a debt security allowing a deferral of interest is the so-called **Income Bond**.

Although payments from Income Bonds can also be deferred we have to bear in mind their intrinsic qualifications:

- Income Bonds pay either on deferred basis or do not pay at all on that period, whenever the income does not cover cash flows to be addressed to bondholders.
- Accrued interest from Income Bonds is worked out as an cost item and before net income is obtained. Hence, it is deductible.

In point of fact, preferreds and Income Bonds share the deferral feature, in the sense that neither bondholders nor stockholders can claim or bring the company to court in case the company fails to meet interest or principal commitments in due time.

3.2. CONTROL RIGHTS

In their pioneering and classical work, Easterbrook and Fischel (1996) argued that

“Firms are in motion. They build new plants and enter or retreat from markets. They also change their own structure – setting up new divisions, entering or leaving markets, buying or selling plants, acquiring or being acquired, increasing and decreasing leverage, going public or private, selling stock or buying it back (generally from particular investors). We call these changes “corporate control transactions” “.

In a nutshell, control rights attempt to efficaciously deal with control transactions, so that owners and their appointed Boards could direct and managers run the company.

Since the earliest days of the preferred stock, different approaches have been attempted on how the control rights should be allocated:

- It was customary in the 19th century, for example, that board control passed to preferred stockholders whenever preferred dividends were not paid.
- In the early stages and mainly for utilities, preferred stockholders got access to the same voting rights as common stock. It is well known that the States of Baltimore and Ohio took a preferential position in the appointment of Directors by 1836 in some preferred subscriptions (Heberton Evans, 1929).
- One long-standing covenant in the preferred stock contracts has been the requirement of their approval for any subsequent issue of debt securities, or additional issues of equity.

- As Fergusson (1952) pointed out, a two-third affirmative vote of the preferred stockholders was required to approve a sale of assets, a merger or consolidation, even any amendment in the Charter.
- Since preferred stock legally stands for equity, covenants do not convey the same contractual commitments than with debt.
- When issuing preferred stock, the company grants their holders a voluntary agreement to share some control rights with them. This is common procedure in venture capital finance (details on this topics in Kaplan and Stromberg, 2000).
- As a rule, standard bonds have been prevented from bestowing access to control rights. However, this picture is fading out because of the **financial contracting viewpoint**, which focuses on the complex deals that financiers and borrowers are ready to commit themselves when choosing how to finance an organization in the context of incomplete contracts . Another reason can be traced to the overwhelming role assumed nowadays by powerful latecomers: institutional investors, venture capital funds, private-equity funds, convertible bondholders, and convertible preferred stockholders [the financial contracting viewpoint is well developed in Hart (2001)].

Corporations attempt to solve the problem of control through the Board of Directors. How successful the Board becomes is an empirical issue, however. The Board performs a fiduciary role towards shareholders, and directors become the primary overseers of the company. The core mission of the Board is to ratify and monitor the management decisions on behalf of their principals, that is to say, the shareholders. Hand in hand with this task, the Board hires, compensates, or fires managers. In general, it retains the highest decision control rights. (Monks and Minow, 1995). The job of the Board, as well as rights and duties of Directors are predicated on the Charter and the By-Laws of each company.

By far, voting rights are of the essence as regards control rights. Preferred stockholders need to have a voice in appointing directors and cast their votes for or against strategic proposals.

In general, there are three types of voting rights currently found in preferred stock:

Full voting rights

Also denoted **permanent voting rights**. They vest in preferred stockholders rights to participate in the company's decision-making. Albeit this is definitely not a feature tractable in seasoned companies, there is a widespread application in

the stage finance procedure managed by venture capital funds for starting or very young companies.

Contingent voting rights

They are known as **temporary voting rights**. Bradley (1948) defined them as being granted in the charter

“upon the happening of certain events, or the failure of certain events to occur, such voting rights continuing until the condition has been remedied which brought them into existence.”

By far, they are widely used, at least under the guise of minority representation after a conventional waiting period of four quarterly dividends in arrears. In this case, it can also include the right to vote in the election of the board.

Regular voting rights

Sometimes they are labeled **consent voting rights** as well. Granted whenever decision-making could bear harmful consequences to the interests of preferred stockholders. For instance, those actions that lead either to mergers or acquisitions, charter changes, and the increasing of debt ratios.

3.3. CONTRACTUAL FEATURES

Since their earliest time, preferred stock have been developing into a distinctive bundle of contractual provisions, among which the following have become customary:

- cumulative rights,
- liquidation rights,
- redemption rights,
- non-refundable provision,
- sinking fund provision,
- purchase fund provision,

whereas the next covenants seem to be less frequently used:

- the right of first refusal,
- drag-along rights,
- pre-emptive rights,
- participation rights.

We are going to focus on cumulative rights, liquidation rights, redemption rights and the sinking fund provision, leaving for Exhibit 2 a brief outline of the remaining rights and provisions.

Cumulative Rights

The company vouchsafes investors their rights to periodic payments even when ordinary dividends could not be met. It is a two-layered covenant:

- **Seniority**, that plays against ordinary dividends to be distributed to shareholders in case of financial strictures [refinancing, liquidation, reorganization (even bankruptcy)].
- **Deferral with accumulation**, allowing payment of preferred dividends to be deferred and paid by means of a cumulative procedure, hence forestalling any prior distribution of ordinary dividends until the former are duly paid off.

Liquidation Rights

The liquidation event forces the company to close and make cash out of its assets so as to pay creditors. It can take place because of the company's will (voluntary liquidation) or a court decision (compulsory liquidation). In the case of preferred stockholders, liquidation rights come under two varieties: involuntary and voluntary.

- **Involuntary**, which empowers investors to preference over other stockholders to the extent of the initial capital contribution plus all accrued dividends.
- **Voluntary**, by which investors are entitled to the current redemption price (usually set above par, or some stated value of the stock).

Redemption Provision

Normally, a general redemption provision states that this right is at discretion of the issuer, often at a premium price. In some contracts, the redemption price is scaled decreasingly through ageing.

In practice, however, it is suitable to bestow similar rights on counterparts:

- **Holder Redemption Right**: it is usually staged on a yearly basis and holders can require the company to redeem the convertible preferred units.
- **Company Redemption Right**: by which the company follows a staged schedule.

Non-Refundable Provision

A distinction is currently made on the way the redemption becomes operational: either the company redeems the preferred stock from cash excess or from new issues. The non-refundable provision states that funds from new issues cannot be allocated to redeem old preferred issues.

Sinking Fund Provision

This is a covenant that has been increasingly requested by institutional investors, any time corporations choose being financed through preferred stock or any type of bonds. The issuer must proceed to redeem a promised percentage of the outstanding security in predetermined dates, either by a lot procedure or

purchases in the open market, and only after a deferment period that could span for five to ten years. In practice, it is a staged redemption mechanism, a callable covenant with a stated price of redemption, aiming at the removal of the preferred stock from the capital structure.

Setting up a sinking fund covenant seems a suitable mechanism to strengthen the preferred stock. A trustee can handle this fund since the time the preferred is

EXHIBIT 2 OTHER CONTRACTUAL FEATURES IN PREFERRED STOCK

Purchase Fund Provision

A company must periodically attempt to purchase a certain number of preferred stock from investors at or below the par value (or other stated value in the contract) doing so by tender or open market operations. It is worthy of being noticed that no obligation follows if the preferred stock cannot be purchased at scheduled prices, this feature making such provision different from the sinking fund one. In fact, it plays like an implicit put option.

Right of First Refusal

When a holder wants to sell (or otherwise transfer) its investment to a third party who had made an offer, the holder must offer the preferred firstly to the company, secondly to non-selling holders.

Pre-Emptive Rights

All holders of preferred stock have, under this provision, a pro-rata right to participate in subsequent equity financing of the company.

This sort of rights are unusual because new preferred stock issues do not convey harmful consequences to older ones (at least to the extent of dividends and previous covenants).

Drag Along Rights

Holders representing 50% or more of the stock, in the instance of selling the company, may compel the remaining members to consent to, and participate in, such sale.

Participation Rights

This covenant amounts to additional dividends beyond a base contractual amount. By far, it is uncommon nowadays. But this was not the case in earlier times (see section 1.1)

Source: Black's Law Dictionary (1999 edition)

issued, either in private or public placements. However, as Wilsey (1947) countered, most of the time it is the corporation itself that manages this fund:

“money in preferred sinking funds has never taken on the character of funds in trust for the benefit of the creditors. The only specific protection that has been offered by the courts to the preferred stockholders’ interests has been aimed at a clarification of their rights under the rather common charter provision that allows any money credited to the sinking fund to be used for general corporate purposes until expended for the purchase of the stock.”

On the other hand, the penalty for failure to make the sinking fund contribution is the prohibition of common stock dividends as long as contributions remain in arrears.

Preferred stock with sinking fund provisions have been fostered since 1979 in the United States by regulation in the Insurance Industry that allowed to carry on sinking fund issues at book value instead of market value (Sorensen-Hawkins, 1981).

4. ONE- AND TWO-TIERED CONVERTIBLE PREFERRED STOCK

We are going to work out the design of two distinctive types of convertible preferred stock:

- a) In the first case, the preferred has only one tier within which there is a mandatory conversion trigger.
- b) In the second case, the preferred consists of two tiers, one with a conversion trigger, and the other with a provision granting an outright redemption in cash.

It goes without saying that other types might have been chosen. However, it is our contention that “one- and two-tiered” preferreds do exhibit some advantages to deal with corporate finance matters, which are not suitable matched by most of the varieties included in Exhibit 1:

- A plain valuation procedure that avoids options from being used, as it will be showed in sections 4.1 and 4.2.
- They are tailored to both private and public placements.
- In the one-tiered convertible, no cash disbursements are requested at redemption date.
- Broad appeal for institutional investors that are constrained by regulations or follow investment accounting practices.

- When intended as compensation packages for the management, they offer an alternative beyond contingent plans and stock option schemes that have been used so far.

Moreover, we intend to make out a case for these securities when coping with some corporate governance key points, namely balancing capital structure, internal swapping of debt with equity-like instruments, and incentive programs to the management.

For both financial instruments, particular stress will be laid upon the following characteristics: financial design, contractual features, control rights and a simple method for their valuation.

4.1. FEATURING THE ONE-TIERED CONVERTIBLE PREFERRED STOCK

Financial Design

From an engineering point of view, the building block of this financial asset consists of a mandatory convertible preferred. But the complex bundle of financial and contractual features, control rights and valuation into which it is embedded, sets the one-tiered convertible a world apart from its ancestor. (Exhibit 3)

At maturity, in the range of 5 to 10 years, the company exchanges preferred stock for ordinary shares, following a contractual conversion rate **CR** established at issuing date.

Such conversion rate links with the contractual principal value **K(T)** of the preferred,

$$\mathbf{K(T) = CR \times (\text{implicit price of an ordinary share at T})}$$

and establishes how many common stock units will be exchanged at maturity for a unit value of preferred (for instance, if the principal for a unit of preferred is \$100 and the **CR** is chosen as 10, then at maturity the investor will receive ten ordinary shares, at the implicit price of \$10 per unit).

On the other hand, at date **T**, the ordinary shares has a market value equal to

$$\mathbf{s(T)}$$

If the stock were privately placed, then **s(T)** would be a technical value.

Hence, the principal of the preferred stock amounts to a market value (or a technical value) in terms of the underlying stock. Such value is worked out as

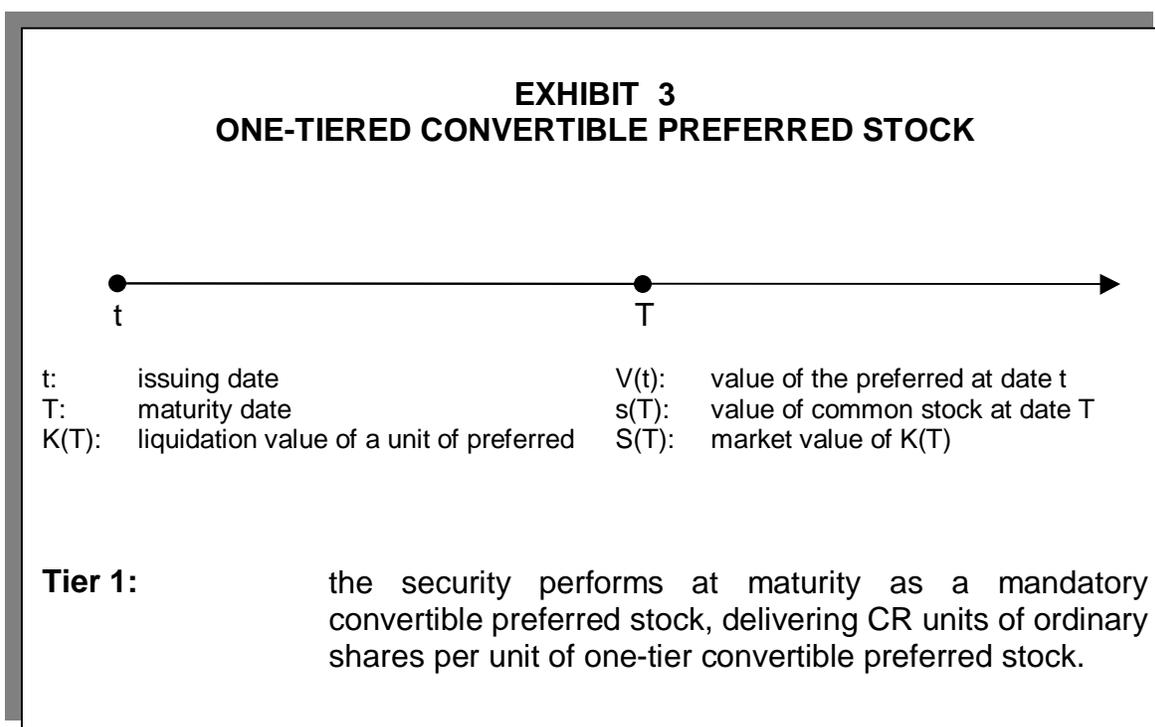
$$S(T) = CR \times s(T)$$

This allows to compare the contractual value $K(T)$ with the market (or technical value) $S(T)$.

Contractual Features

Contractual features for preferred stock were developed in section 3.2. Four of them play an essential role in the design of one-tiered convertible preferreds:

- Cumulative rights.
- Liquidation rights.
- Right of first refusal.
- Pre-emptive rights.



Besides, this security embodies three “reliability drivers”:

- **Mandatory credit rating**
Either private or public placements must be rated. In the first case, because it comes handy for institutional investors, mainly when trading regulations like 144A are enforceable. In the second case, it contributes with the transparency that global markets are increasingly requiring.

- **Bond-like covenants.**

This driver furnishes both the one- and two-tiered convertible preferreds with tight budget constraints, restraining common stockholders rent-seeking. Besides, it curtails conflicts of interest arising from management discretion and opportunistic behavior.

- **Collateral safeguards under the management of a trustee.**

Frequently, the company pledges assets on behalf of creditors (equipment, real estate, inventories, accounts receivable). A trustee improves this safeguard mechanism, by securitizing the liability outright, enhancing the monitoring over managers by following up the compliance of debt covenants and liquidation rights.

It's worth highlighting that both the one- and two-tiered convertible preferreds are prevented from having four provisions that are customary in other kinds of preferred stock: sinking fund, redemption, non-refundable and the purchase fund provision.

Control Rights

For the security we are describing, two of them cannot be excluded

- Full voting rights
- Board rights

The first kind of rights ensures a distinctive governance advantage to the one-tier preferred stockholder. But for ownership, he is on a par with common stockholders. Board rights intend to strengthen the oversight, and curb conflicts of interest with the management.

Valuation

This security offers a contractual principal $K(T)$, with a value $V(t)$. From the investor point of view, and given a term-structure of expected rates of interest, it holds that

$$V(t) = \sum_{1 \leq j \leq T} CF(j) / [1 + k(j)]^j + \\ + K(T) / [1 + k(T)]^T + \text{Appreciation}(T)$$

such that

$$CF(j) = \alpha \cdot K(T)$$

In this line of analysis, the last relation states that cash flows to preferred stockholders are constant. But this security can also be designed to offer a

preferred dividend fixed in real terms, by means of a suitable indexing procedure, as it could be of the essence in developing countries (more background on this issue in the Appendix).

At maturity, there can be an appreciation whenever the underlying common shares perform better than their contractual implicit value $K(T)$. One way to work out the appreciation value would be the following:

$$\text{Appreciation}(T) = \langle E[S(T)] - K(T) \rangle / [1 + k(T)]^T$$

and $E[S(T)]$ comes out of the value at t of a long future over the underlying share or some matching benchmark for that future (for instance, an index or a synthetic future eventually).

Summing up,

$$V(t) = \sum_{1 \leq j \leq T} CF(j) / [1 + k(j)]^j + \\ + K(T) / [1 + k(T)]^T + \langle E[S(T)] - K(T) \rangle / [1 + k(T)]^T$$

Thus,

$$V(t) = \sum_{1 \leq j \leq T} CF(j) / [1 + k(j)]^j + E[S(T)] / [1 + k(T)]^T$$

4.2. FEATURING THE TWO-TIERED CONVERTIBLE PREFERRED STOCK

Financial Design

It resembles the design of the one-tiered convertible preferred whenever at maturity the price $S(T)$ of the underlying stock in the embedded conversion rate, be higher than $K(T)$. (Exhibit 4)

But it will be redeemed in cash at $K(T)$ whenever at maturity the price $S(T)$ of the underlying ordinary shares in the embedded conversion rate, is less than $K(T)$.

Contractual Features

The same as in the one-tiered convertible preferred stock but for an addition:

- Non-callable sinking fund provision, under the management of a trustee.

As regards the non-callable sinking fund provision, it commits the company to set aside resources periodically, so as to build up the principal amount that eventually could be redeemed at maturity, if this were the case.

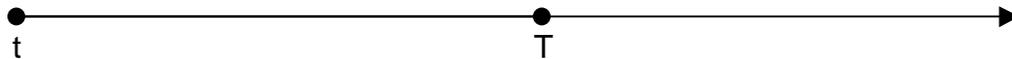
It goes without saying that conventional usage makes the sinking fund a device not only used to put aside cash flows but also to apply them to partial redemption in what can be seen a multi-callable option.

Nevertheless, a much broader sense is attached to the notion of “sinking fund” in financial mathematics: a periodic apportionment of funds to capitalize and built up a desired capital at maturity. This is the meaning to bear in mind when speaking about a “non-callable sinking fund provision”.

Control Rights

The same as in the one-tiered convertible preferred stock, with the caveat that only if the preferred were paid in cash at maturity, control rights would be forfeited outright, as from that moment.

EXHIBIT 4 TWO-TIERED CONVERTIBLE PREFERRED STOCK



t:	issuing date	V(t):	value of the preferred at date t
T:	maturity date	s(T):	value of common stock at date T
K(T):	liquidation value of a unit of preferred	S(T):	market value of K(T)

Tier 1: the security performs at maturity as a mandatory convertible preferred stock following the rule

If $S(T) \geq K(T)$, then the company exchanges preferred for common stock.

Tier 2: the security performs at maturity as a redeemable preferred stock following the rule

If $S(T) < K(T)$, then the company pays the principal or liquidation value $K(T)$ in cash.

Valuation

As it was the case with the one-tiered convertible preferred, this security also delivers a contractual principal $K(T)$ and is currently placed, either privately or publicly, at a value equals to $V(t)$. From the investor point of view, and given a term-structure of expected rates of interest, it will hold that

$$V(t) = \sum_{1 \leq j \leq T} CF(j) / [1 + k(j)]^j + \\ + K(T) / [1 + k(T)]^T + \text{Appreciation}(T)$$

where

$$CF(j) = \alpha \cdot K(T)$$

At maturity there can be an appreciation whenever the underlying common shares perform better than their contractual implicit value $K(T)$. One way to work out the appreciation value would be the following:

$$\text{Appreciation}(T) = \text{Max} \{ 0 ; S(T) - K(T) \} / [1 + k(T)]^T$$

and $S(T)$ comes out of the value at t of a long future over the underlying share or a benchmarking future for that purpose.

In short,

$$V(t) = \sum_{1 \leq j \leq T} CF(j) / [1 + k(j)]^j + \\ + K(T) / [1 + k(T)]^T + \text{Max} \{ 0 ; S(T) - K(T) \} / [1 + k(T)]^T$$

At maturity, there are only two mutually exclusive outcomes:

$$\left\{ \begin{array}{l} \text{if } S(T) < K(T), \text{ then the company pays the investor } K(t) \text{ in cash} \\ \text{if } S(T) \geq K(T), \text{ then the company exchanges preferred for common stock} \end{array} \right.$$

Remarks:

- At issuance date 't', $V(t)$ is the current price whenever ordinary shares are traded in secondary markets. Otherwise, we take a fair technical valuation as it is customary in any private placement.

- Maturity does not involve a financial option because neither the company nor the investor enters an option-like transaction. The plain fact is that maturity triggers off mutually exclusive outcomes.
- This preferred comes as distinct from a convertible bond, which is callable along the exercise period and at maturity the principal is paid if the option is not exercised. It also widely differs from a Percs, which is callable at any time, paying in cash or common stock, with a mandatory conversion into common stock at maturity (see Exhibit 1).

5. ENHANCING CORPORATE GOVERNANCE

For many years capital structure has been designed to meet the requirements of two broad types of investors:

- those who own ordinary stock,
- and those who give credit to the company.

In the first group, common stock was the usual vehicle, while preferred stock performed rather an ancillary role. As regards the second group, here we can single out two main players: those who finance the firm through bonds, and those who lend from the side of commercial, investing, mutual or cooperative banks.

But such a picture has undergone deep changes since the 1970s, when institutional investors and financial innovations alike started to request more covenants and paved the way for an extensive usage of financial hybrids. In particular, non-standard preferred stock.

It comes as no surprise that, in the meantime, those three decades brought to light corporate governance issues to the extent of shaping a new field of research and scholarship. (On the semantics of governance, see Apreda, 2003a)

The choice of capital structure conveys a particular design of governance, but it also gives rise to new concerns, under the guise of conflicts of interest between stockholders, creditors and managers. [On this topic Williamson (1996) and Roe (2002) seem to be extremely useful]

Which likely role does it fit better for the one- and two-tiered convertible preferreds? Next table highlights how preferreds could successfully step in the thriving subject of corporate governance.

We are going to expand on three alternative employment of one- and two-tiered preferreds:

- to manage capital structure
- to refinance old debt
- to provide managers with compensation and incentive schemes

ONE- AND TWO-TIERED CONVERTIBLE PREFERRED STOCK			
Governance Driver	Company's Target	First-Best Vehicle	Stage of Placement
Capital Structure	Deferrred Equity Rights Issue Project Finance Venture Capital Private Equity Seasoned Offer Global Portfolios	Two-tiered One-tiered Two-tiered Two-tiered Two-tiered One- or two-tiered Two-tiered	Public Private or public Public Private Private Public Public
Refinancing and Reorganization	Swapping Bond Debt Swapping Bank Loans Mergers Acquisitions	One- or two-tiered One- or two-tiered One- or two-tiered One- or two-tiered	Private Private Private or public Private or public
Conflicts of Interest	Compensation and Incentives Institutional Investors Minority Rights Problem	One-tiered Two-tiered Two-tiered	Private Private Public

5.1. CAPITAL STRUCTURE

The following insert illustrates how the securities designed in sections 4.1 and 4.2, that is to say, the one- and two-tiered convertible preferred stock, may contribute to capital structure choices.

Equity-like behavior

If preferred stock has to be akin to ordinary equity, although keeping their residual features, we should grant their holders more control rights.

- The one- and two-tiered preferred vouchsafe full voting rights, as if they were ordinary shares.
- Board rights allow the monitoring of a more accountable and responsive ownership structure
- From the point of view of ownership rights, one- and two-tiered preferreds convey full control rights but not full claim to residual cash flows. Because of this constraint they do not become owners [on this issue, Hansmann (2000) develops an insightful analysis].

Bond-like behavior

If preferred has to remain closer to bonds, we should endow them with as many protective covenants as those found in current bond issues.

- Board and trustees keep management abiding by the law and codes of good practices.
- Credit ratings improve transparency and external overseeing.

Distinctive features

- Investors profit from an upside potential that comes out of the underlying common stock and the mandatory convertibility.
- They defer full ownership till the conversion at maturity, avoiding early conflicts of interest with older blockholders.
- Trustees of one- and two-tiered preferreds are invested with voting and board rights.
- Remarkably, mutual funds, insurance companies, pension funds, venture capital funds get access to an equity-like financial asset that hedges their portfolios much better than ordinary shares usually do.
- Besides, market analysts, investors watchdogs and regulators carry out their duties with a capital structure broken down into three layers of stakeholders:
 - i. creditors,
 - ii. preferred stockholders (mainly those who hold non-standard varieties),
 - iii. common stockholders.

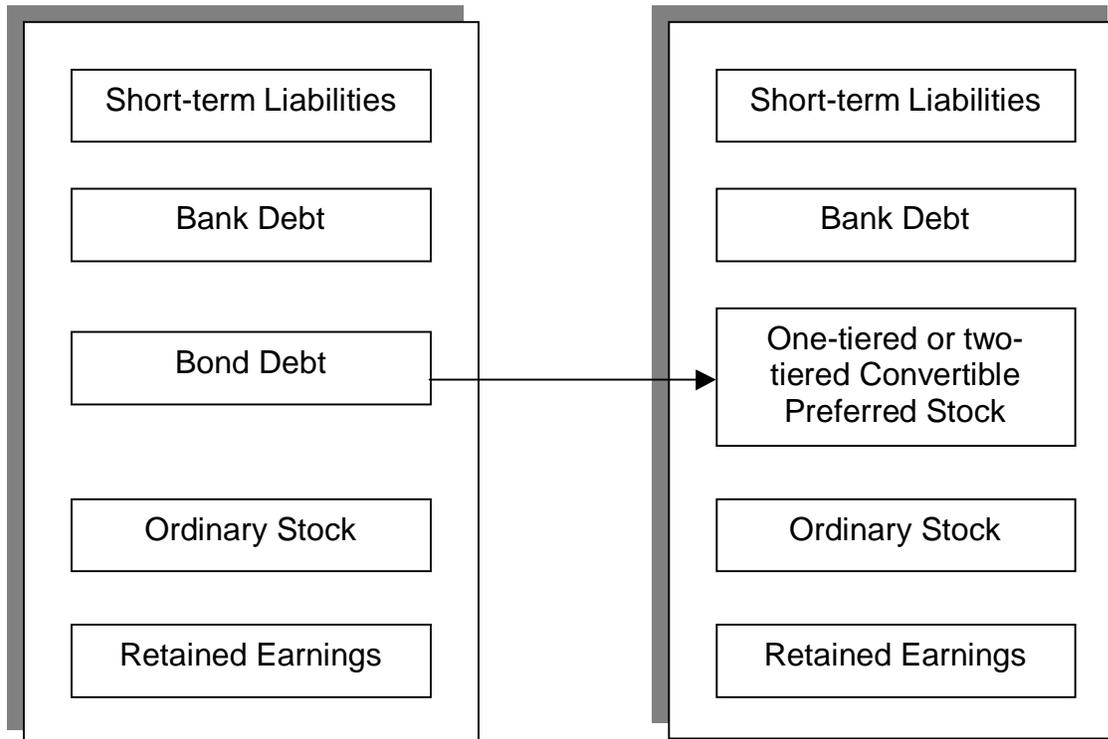
5.2. DEBT AND EQUITY-LIKE SWAPPING

Let us assume that there is a certain amount of standing debt around a former bond issue or a bank loan that the firm cannot duly comply with it in the original terms. The most direct way to handle this financial distress should be entering into another contract with creditors so as to refinance the likely defaulted liability. Instead of dealing with the former creditors, however, the company might issue standard bonds and repurchase the old debt with the proceedings. But this negotiation shift usually does not free the company from higher transaction costs and asymmetric information.

Another choice would consist of swapping the substandard debt into one- or two-tiered convertible preferred stock, as the next picture attempts to make clear, stressing the case in which bonds are refinanced (a similar approach, whenever

regulations allowed for that, it might hold for swapping bank loans into these sort of securities).

This internal swap (exchange) brings noticeable consequences for the company's governance, namely in its capital structure, the contractual features of the new arrangement and the valuation mechanism.



Capital Structure

- a) If we look at the usual debt/equity ratio, it will follow a decrease of such measure. For this to happen, equity should comprise both preferred and ordinary stock.
- b) If we introduce a broader measure of indebtedness, taking into account the three main sources of financing commitment (FC), we will have

$$FC = Debt + Preferred Stock + Ordinary Stock$$

and the new ratio springs from

$$Debt Ratio = \text{Outstanding Debt after Swap} / FC \text{ after Swap}$$

and this ratio also falls down in most cases, mainly when the old debt principal is kept the same as the new principal with preferreds.

Contractual Features

One- and two-tiered convertible preferreds keep the most cherished covenants of the bond or loan to be substituted for the preferreds. Furthermore, they add a mandatory trustee in case the old debt had not been endowed with one.

Control Rights

Here we find an appealing property exhibited by the one- and two- tiered convertible preferreds, which vouchsafe full control rights. Negotiation with debtholders might be eased, and the final arrangement less costly than otherwise.

On Valuation

Negotiations starting at date t , the first thing counterparts must agree about it seems to be the nominal value of the new principal

$$W(T)$$

In practice, however, it should be advisable to match the new principal on par value with the old one, through the same investment horizon:

$$V(T) = W(T)$$

Let assume the current design by which the present value of the old debt is also attached to the new instrument. It follows from section 4

$$V(t) = \sum_{1 \leq j \leq T} CF(j) / [1 + k(j)]^j + \\ + K(T) / [1 + k(T)]^T + \text{Max} \{ 0 ; S(T) - K(T) \} / [1 + k(T)]^T$$

There are two degrees of freedom to proceed so as to reach a final arrangement:

- the coupon amount
- the conversion rate

For clarity's sake, we are going to give heed to only one choice, in which the coupon remains the same. Therefore, the key variable is the conversion rate:

$$K(T) = CR \times (\text{implicit price of an ordinary share at } T)$$

5.3. MANAGERS' INCENTIVES AND COMPENSATION

A long-term compensation plan for high executives in a company could be devised from the one-tiered convertible preferred. The ensuing argument will take advantage of Exhibit 5.

Stage 1: Launching of the Program

The Board of Directors, if it has been provisioned in the Charter, or stockholders at the Annual General Meeting set up a date for the starting of the compensation program. In the Exhibit 5, it is called t .

Stage 2: Deferment Period till Leaving Date

There should be a deferment period $[t ; T]$ during which neither delivery of the actual preferred stock nor the preferred dividends are delivered to managers. This is of the essence for aligning the interests of managers with those of stockholders.

As this stage evolves, annual preferred dividends go to an accrual account for the executive till the moment he leaves the company, by retirement or voluntary agreement.

Stage 3: Exit strategies as from Leaving Date

We intend to highlight two alternatives, without meaning that they are the only or the better available. But we choose them because are consistent with the nature of the one-tiered convertible preferred stock, and they are simple enough to give feasibility to this program, bearing in mind that usefulness for emergent economies goes hand in hand with basic procedures and transparency.

Exit type 1

The executive profits from the preferred as if it were a perpetuity but only when he leaves. Accrued dividends up to that date are submitted in cash or transferred to a banking account in the name of the recipient. It can be seen as a retirement plan variety, grounded on a standard preferred stock.

Exit type 2

Instead of being granted with a perpetuity, the executive is offered a one-tiered convertible preferred which exhibits the following schedule of events:

At date " t " the compensation package becomes fully enforceable.

Along the period [t ; T] there is an accrual account for preferred dividends.

At date " T "

a) the executive leaves the company, either on retirement or agreement with the Board;

b) accrued preferred dividends are transferred to a bank account in the name of the recipient.

EXHIBIT 5 COMPENSATION PACKAGE WITH PREFERRED STOCK



t date when the compensation package becomes enforceable.

T date when the executive leaves the company, either on retirement or agreement with the Board.

TT date when the contract settles the mandatory conversion feature.

EXIT TYPE 1 (Perpetuity by means of a standard preferred)

- From t through T, there is an accrual account for preferred dividends.
- At T, accrued preferred dividends are transferred to a bank account in the name of the recipient.
- When leaving the company, at T, the executive enjoys a perpetuity of preferred dividends.

EXIT TYPE 2 (One-Tiered Convertible Preferred)

- From t through T, as Type 1.
- After that it follows a vesting period, from date T till date TT, where he cannot dispose of the securities. The vesting period is not essential, however.
- At date TT, he gets access to ordinary stock through mandatory conversion.
- If regulations allow, the company enjoys the tax advantage depicted in section and Exhibit 3.

Along the period [T, TT]

the company pays in cash preferred dividends. Although this period is not essential, there are instances that make it suitable. For instance, when the executive signed at date " t " a non-

compete clause by which he can't work for another firm in the same industry for some time in case he leaves.

At date "TT"

he gets access to mandatory conversion. The distinctive feature of this type of one-tiered preferred lies on another proposal of this paper, over tax benefits for the company. Let us give some heed to this point:

- The compensation plan with deferred stock is single-purpose: the company cannot issue this sort of preferred stock to be also applied for any other sort of investment decision, but for incentives only.
- Therefore, as the company accrues the dividends on a yearly basis, it does so by expensing them. So it gets a tax deduction. Exhibit 6 helps to understand this point.

EXHIBIT 6 A TAX ADVANTAGE FOR THE ISSUER

When the one-tiered convertible preferred is issued, a tax allowance could be set up for the company to make a backward adjustment to their past income and losses statements, so as to expense preferred dividends already paid before conversion takes place. Such allowance could foster the inception of this preferred into current usage by companies.

Example

Year 1 (tax rate 30 %)		Year 1 (ex-post adjustment)	
Net Income	100	Preferred Dividend	021
Preferred Dividend	030	Net Income	079
Ordinary Dividend	030	Ordinary Dividend	030
Accumulated Earnings	040	Accumulated Earnings	049

CONCLUSIONS

Hybrids instruments like non-standard types of preferred stock lead to innovative paths linked with better governance.

This paper has set forth two new hybrids, the one- and the two-tiered convertible preferred stock.

The one-tiered convertible preferred has a compulsory conversion feature into ordinary shares, at maturity. On the other hand, the two-tiered convertible preferred brings in two exit features: either an outright conversion into ordinary shares, or a down payment in cash.

Among the most important properties preferreds convey, those linked to control rights and contractual features are of the essence. Preferred stockholders are granted full control rights and the contractual features liken the preferreds with bonds in depth.

The particular financial design of the one- and the two-tiered convertible preferreds allow them to shape up corporate governance. The paper has shown how this could be accomplished in issues such as capital structure, debt refinancing and incentive schemes for management.

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APPENDIX

CHOICES TO PREFERRED DIVIDENDS VALUATION

Preferred dividends may be customized by contract to meet different circumstances. Among the many alternatives available, three of them are worthy of being displayed with the aim of rounding out sections 4.1 and 4.2.

Scenario 1

$$CF(j) = \alpha \cdot K(T)$$

Here, α is constant and independent of any period "j". For instance, it can be a contractual fixed rate matching an interest rate. Or it is a rate signaling a contractual proportion to be worked out from the principal.

Scenario 2

$$CF(j) = \alpha \cdot K(T, j)$$

In this case, α is a rate of interest translated into real terms, constant and independent of any period "j". However, $K(T, j)$ is adjusted by inflation. In fact:

$$K(T, j) = K(T, t) \times [1 + \Pi(t, j)]$$

where $\Pi(t, j)$ stands for the rate of inflation along the period that starts at "t" and finishes at "j", and $K(T, j)$ for the nominal value of the principal adjusted to the inflation up to date "j".

Scenario 3

Preferred dividends are assimilated to floating rate coupons in standard bonds, to offer a dividend that comes from the following relationship:

$$CF(j) = \alpha(j) \cdot K(T, j)$$

where $\alpha(j)$ stems from for an expected floating rate chosen as benchmark for period "j".