The Venture Capital Anti-Dilution Solution

WILSON SONSINI GOODRICH & ROSATI
ATTORNEYS AT LAW

by Michael J. O'Donnell
and Anton T. Commissaris

Michael J. O'Donnell is a member of the law firm Wilson Sonsini Goodrich & Rosati, Palo Alto, California, and Anton T. Commissaris is an associate of the firm.

Introduction

"Full ratchet," "weighted average," "broad-based," "narrow-based," "pay to play" — these are some examples of the wide variety of anti-dilution formulas that are used in venture capital preferred stock financings. The purpose of this article is to explain these terms and to offer some guidelines in particular situations.

The term anti-dilution protection as used in this article, and as generally used in the venture capital community, refers to *price-based* dilution, i.e., the subsequent sale of shares of stock at a price per share less than that paid by the preceding venture investor. This term does not encompass protection from dilution arising as a result of the sale of additional stock by the company at a price equal to or greater than that paid by the preceding investor. Although, even in this case, the preceding investor may be diluted in the sense that it may own a smaller percentage of the company following such new stock issuance, the value of the portion of the company owned by such investor has theoretically increased due to the increase in the total company valuation as demonstrated by the higher price per share paid by the new investor. Naturally, if the higher price to be paid by a new investor does not represent a sufficient incremental increase in the overall value of the company to justify the dilution impact on prior investors, they can, to the extent provided for in their agreements with the company, participate in the new financing round and maintain their percentage interest in the company by exercising their right of first refusal on new issuances of the company's securities. This means that the company would have to offer the proposed new shares of stock to its existing investors on the same terms, including price, based on their pro rata percentage interest in the company.

Occasionally, absolute protection is sought by investors against any dilution arising as a result of the subsequent sale of stock, in effect guaranteeing the investor a certain percentage ownership of the company in perpetuity (or perhaps for a specified time period or until the occurrence of a certain event, such as a public offering of the company's securities). Such an arrangement would rarely be appropriate and would have an adverse effect on the company's ability to raise additional capital. This article, then, will deal with price-based anti-dilution protection as described above.

The other type of anti-dilution protection that preferred stock investors obtain as a rule is an adjustment of the conversion price of their preferred stock into common stock upon the occurrence of any subdivisions or combinations of common stock, stock dividends and other distributions, reorganizations, reclassifications or similar events affecting the common stock of the company they have invested in. Taking as an example the stock split, an investor will expect to see in the company's charter documents a provision to the effect that, to the extent the common stock is subdivided by a stock split into a greater number of shares of common stock, the conversion price of each series of preferred stock then in effect shall, concurrently with the effectiveness of such subdivision, be proportionally decreased. This type of anti-dilution protection ensures that the investor holding preferred stock is treated as if such investor held common stock without the need to actually convert into common stock and lose the features associated with the preferred stock held by such investor. Again, this type of anti-dilution protection is not price-based and will not be discussed further in this article.

Reasons for Anti-Dilution Protection

Although occasionally a financing will occur in which the investors do not receive price-based anti-dilution protection, the vast majority of venture capital investors will insist on some such form of protection. Anti-dilution protection, together with the liquidation preference, are two of the fundamental features distinguishing the preferred stock typically sold to investors from the common stock generally held by management and employees. The preferred stock is normally convertible at the option of the holder at any time, usually on a share for share basis, and is typically compulsorily converted upon the occurrence of a qualified initial public offering, i.e., an offering at a pre-determined price per share and one which raises a minimum amount of pre-determined aggregate proceeds for the company.

The basic premise of the price-based anti-dilution adjustment involves increasing the number of shares of common stock into which each share of preferred stock is convertible upon the occurrence of an appropriate liquidity event, i.e., a merger or initial public offering. Not to be overlooked, however, is the immediate impact an anti-dilution adjustment can have on the voting rights of the company's stockholders, for the preferred stockholder is almost always entitled to vote on an as-converted-to-common-stock basis. This impact is particularly marked in a "wash out" financing and can even be such as to result in a change of control away from management, whose common stock equivalent interest will remain static, in favor of the preferred investor whose common stock equivalent interest may increase dramatically.

The primary difference between the various anti-dilution formulas is the magnitude of the adjustment under different circumstances. Each of these different formulas have advantages and disadvantages both from the perspective of the investor and from that of the company. In practice, the formula which is utilized in any particular financing is likely to be based on the formula utilized in the company's last round of financing, or the formula which is typically used by the lead investor or its attorneys, without significant discussion of the specific advantages and disadvantages of the chosen formula with regard to the characteristics of the particular financing transaction.

Description of Various Approaches

Before proceeding to any discussion of the advantages and disadvantages of the different approaches, it is necessary to understand the meaning of the various terms and how the formulas work.

The Weighted Average Formula

The most common approach to anti-dilution protection is the traditional weighted average formula. This formula calculates a weighted average conversion price based upon the amount of money previously raised by the company and the price per share at which it was raised as well as the amount of money being raised by the company in the subsequent dilutive financing and the price per share at which such new money is being raised. This weighted average price (which will always be lower than the original purchase price following a dilutive financing) is then divided into the original purchase price in order to determine the number of shares of common stock into which each share of preferred stock is then convertible, which will be greater than one. Thus, a new reduced conversion price for the preferred stock is obtained, which results in an increased conversion rate for the preferred stock when converting to common stock.

In the event of an issuance of new stock at a price per share lower than the conversion price then in effect for a particular series of preferred stock, the conversion price of such series will be reduced to a price determined by multiplying the conversion price by the following fraction[1]:

$$\frac{\text{[CS IOS pre-deal]} + \text{[CS issuable for CON at CP]}}{\text{[CS IOS pre-deal]} + \text{[CS issued in deal]}}$$

There are two primary variations of the weighted average formula and they are essentially based on a different interpretation of what constitutes "issued and outstanding common stock." The first, and probably more common, is referred to as the "broad-based" weighted average while the second is referred to as the "narrow-based" weighted average.

The broad-based formula includes in the calculation of issued and outstanding common stock, all shares of stock outstanding, common as well as preferred, and typically also includes the common stock reserved for future issuance to management and other employees pursuant to the company's stock option plan and any other outstanding convertible securities, such as warrants.

The broad-based formula can be stated as follows:

> CS IOS = CS IOS plus CS issuable upon conversion of PS IOS, plus CS issuable upon conversion or exercise of outstanding convertible securities (e.g., convertible debt) and options and warrants.

Based on the pre-financing capital structure and example dilutive issuance set forth in *Exhibit A* of this article, the results of the application of the broad-based formula would be as set forth below:

1) CP of SAPS = $1.00 multiplied by:

$$\frac{\text{[CP IOS prior to deal]} + \text{[CS issuable for CON at CP]}}{\text{[CS IOS prior to deal]} + \text{[CS issued in deal]}}$$

$$\frac{= 7{,}000{,}000 + 1{,}000{,}000 = 8.0}{7{,}000{,}000 + 2{,}000{,}000 = 9.0} = \$1.00\ (8/9) = \$0.88$$

2) Shares of CS issuable upon conversion of SAPS = (2,500,000) x ($1.00 / 0.88) = 2,840,909
– Conv. rate = 1.13:1

3) CP of SBPS = $2.00 multiplied by:

$$\frac{\text{[CS IOS prior to deal]} + \text{[CS issuable for CON at CP]}}{\text{[CS IOS prior to deal]} + \text{[CS issued in deal]}}$$

$$\frac{= 7{,}000{,}000 + 500{,}000 = 7.5}{7{,}000{,}000 + 2{,}000{,}000 = 9.0} = \$2.00\ (5/6) = \$1.67$$

4) Shares of CS issuable upon conversion of SBPS = (2,000,000) x ($2.00 / $1.67) = $2,395,209
– Conv. rate = 1.19:1

The narrow-based formula only includes the common stock issuable upon conversion of the particular series of shares of preferred stock outstanding in the issued and outstanding common stock to be adjusted. The narrow-based formula can be stated as follows:

> CS IOS = Only the number of shares of the series of PS that is being adjusted (probably will be drafted as PS IOS, rather than as CS IOS).

1 Capitalized abbreviations have the meaning given to them in *Exhibit A* of this article.

Another version of the narrow-based formula would include the common stock issuable upon conversion of all shares of preferred stock outstanding in the issued and outstanding shares to be adjusted. For illustrative purposes, the first of these two versions of the narrow-based formula will be used in this article.

The effect of including the additional shares can readily be seen in the broad-based formula as it reduces the magnitude of the anti-dilution protection afforded to the holders of preferred stock as compared to the narrow-based formula. The narrow-based formula provides a greater number of additional shares of common stock to be issued to the holders of preferred stock upon conversion, than does the broad-based formula for any particular dilutive financing. The extent of this difference depends upon the size and relative pricing of the dilutive financing as well as the number of shares of preferred stock and common stock outstanding.

Based on the pre-financing capital structure and example dilutive issuance set forth in *Exhibit A* of this article, the results of the application of the narrow-based formula would be as set forth below:

(CS IOS = CS issuable upon conv. of particular series of PS)

1) CP of SAPS = $1.00 multiplied by:

$$\frac{\text{[CS IOS prior to deal]} + \text{[CS issuable for CON at CP]}}{\text{[CS IOS prior to deal]} + \text{[CS issued in deal]}}$$

$$\frac{2{,}500{,}000 + 1{,}000{,}000 = 3.5}{2{,}500{,}000 + 2{,}000{,}000 = 4.5} = \$1.00\ (7/9) = \$0.77$$

2) Shares of CS issuable upon conversation of SAPS = (2,500,000) x ($1.00/$0.77) = 3,246,753
Conv. rate = 1.29:1

3) CP of SBPS = $2.00 multiplied by:

$$\frac{\text{[CS IOS prior to deal]} + \text{[CS issuable for CON at CP]}}{\text{[CS IOS prior to deal]} + \text{[CS issued in deal]}}$$

$$\frac{2{,}000{,}000 + 500{,}000 = 2.5\dagger}{2{,}000{,}000 + 2{,}000{,}000 = 4.0} = \$2.00\ (5/8) = \$1.25$$

4) Shares of CS issuable upon conversation of SBPS = (2,000,000) x ($2.00/$1.25) = 3,200,000
– Conv. rate = 1.6:1

Variations on Traditional Weighted Average Formula

There are variations on both the traditional broad-based and narrow-based weighted average formulas. Among such variations is what might conveniently be called the "middle" formula. Here again, the play is on what constitutes issued and outstanding common stock of the company. The middle formula can be written as follows:

> CS IOS = CS IOS plus CS issuable upon conversion of PS IOS (i.e., don't include CS issuable upon conversion or exercise, as the case may be, of debt, options and warrants).

Another variation is the "broad swing-based" formula. This formula provides for the conversion price to be subject to adjustment on a traditional broad-based weighted average basis but also takes into account issuances of additional shares at prices both greater and lesser than the applicable conversion price, although the conversion price will never be greater than the original purchase price of the preferred stock being adjusted. The broad swing-based formula can be particularly favorable to the company and its common stockholders and should be resisted by the astute preferred investor due to the potential effect it can have of taking back some or all of the anti-dilution protection initially afforded from an earlier down financing round in the event of a subsequent up financing round. The principal arguments a preferred investor might invoke against the use of the broad swing-based formula are that first, the traditional broad-based formula is already quite favorable to the company and in most cases affords the preferred investor limited anti-dilution protection. Secondly, when a preferred investor participates in an early financing round, such investor is paying a particular price relative, among other things, to the greater risk exposure involved in early stage financings due to the greater length of time that will elapse before the company can reasonably be expected to achieve a liquidity event and provide the preferred investor with a return on its investment. An anti-dilution adjustment in

the event of an intervening down round acknowledges the risk exposure taken on by the early investor. To take back all or part of that protection by resetting the conversion price adjustment of the preferred stock due to an intervening up round would be to deny the early investor adequate risk protection in circumstances where it is quite normal that the later stage investor is willing to pay a higher price for its preferred stock. This is because the later investor will acquire such stock with much less risk due to the expected relatively short time-span between its investment and an appropriate liquidity event.

The Full Ratchet

The full or direct ratchet anti-dilution formula is conceptually much simpler than the weighted average approach, and its effect on the company is considerably more severe in the event of a dilutive financing. Under the full ratchet formula, the conversion price of the preferred stock outstanding prior to such financing is reduced to a price equal to the price per share paid in such dilutive financing. For instance, if the outstanding preferred stock was previously sold at a price of $1.00 per share, and the new preferred stock in the dilutive financing is sold at a price of $0.50 per share, the effective conversion price of the previously outstanding preferred stock would be reduced to $0.50 per share. Each share of such preferred stock previously convertible into one share of common stock would then be convertible into two shares of common stock. Under the full ratchet formula this same result is obtained whether the company raises $100,000 at a price of $0.50 per share or raises $10,000,000 at a price of $0.50 per share, in contrast to the weighted average formula where the amount of money raised in the dilutive financing is an important factor in determining the new conversion price.

Based on the pre-financing capital structure set forth in *Exhibit A* of this article, the results of the application of the full ratchet formula would be as out set below:

1) (a) CP of SAPS becomes $0.50.
   (b) Shares of CS issuable upon conversion of SAPS = (2,500,000) x ($1.00/$0.50) = 5,000,000
   Conv. rate = 2:1

2) (a) CP of SBPS becomes $0.50.
   (b) Shares of CS issuable upon conversion of SBPS = (2,000,000) x ($2.00/$0.50) = 8,000,000
   Conv. rate = 4:1

At first glance, the full ratchet formula might seem quite attractive for the investors as it completely protects their investment from any subsequent price erosion until the occurrence of an appropriate liquidity event (at which time the preferred stock would normally be converted to common stock), notwithstanding its apparent harshness from the standpoint of the company. The company would argue that it is unfair to have it bear all the downside price risk where there is no limit on the upside potential for the investors. The full ratchet formula can also be a problem for the investors when applied to a syndicate. Because the prior money invested is fully protected with regard to price decreases, if the company's prospects deteriorate and the company is forced to undertake a dilutive financing, there is no incentive for all of the investors to participate in the new dilutive round. It can therefore become quite difficult for the lead investor(s) to induce the smaller investors in the syndicate to continue to participate, and the burden of continuing to fund the company can fall heavily on the lead investor(s). In addition, the application of the full ratchet will be disclosed to the incoming invstors in the new round upon review of the company's charter documents in the due diligence process. This will make the company appear significantly less attractive to invest in and will exacerbate the problems of an otherwise already difficult financing. This results in significant problems, both for the lead investor(s) and the company.

The solution that has been developed for this problem is generally referred to as "pay to play."[2] Only those investors who participate in the dilutive financing are entitled to the benefit of the anti-dilution formula in effect. Investors who elect not to participate do not receive any anti-dilution protection. This technique is advantageous, both for the company and for the investor group, as it encourages all investors to continue to fund the company during those times when such incentive is

2 This concept might more correctly be termed "play or pay," in the sense that investors must "play" in the dilutive round or "pay" the penalty of not receiving any anti-dilution protection. Nevertheless, it will be referred to here as "pay to play."

most needed, i.e., when the company is undertaking a difficult financing.

The pay to play concept can be combined with either the weighted average or the direct ratchet formula. When utilized with a direct ratchet, it eliminates the major disadvantage of that formula—the disincentive for the investors to participate in the dilutive financing. Instead, it creates an incentive for investors to participate—or face the possibility of being washed out in the financing if they fail to do so. This incentive can be strengthened by a variation on the pay to play concept. Instead of merely losing anti-dilution protection with regard to the initial dilutive financing in which the investor does not participate, the investor loses anti-dilution protection with regard to such initial financing and all subsequent dilutive financings which may occur. Mechanically, this can be accomplished by creating a "shadow" series of preferred stock identical in all respects to the original series but without any anti-dilution protection. In the event that an investor fails to participate in a dilutive financing, all shares of preferred stock held by such investor are automatically converted into the shadow preferred.

Another variant is to provide that upon an investor's failure to participate in a dilutive financing, such investor's preferred stock is converted into common stock with the result that such investor will lose not only its anti-dilutive protection, but also its liquidation preference, redemption rights, if any, and other special rights of the preferred. This approach may appear to be somewhat draconian, as it does seem unfair where a particular investor may be unable to participate due to circumstances outside of its control (for instance, the fund is out of money). Most investors would probably not wish to give up the liquidation preference and preferred rights other than anti-dilution protection merely because they elected (or were unable) to participate in a particular dilutive financing.

A disadvantage of the automatic conversion approach, whether into common stock or preferred stock, is that once an investor has been converted, the pay to play clause provides no further incentive for that investor to participate in the next dilutive financing. If the goal for the company and the lead investors is to maximize the incentive for all investors to participate in all dilutive financings, the better approach would be to provide that if an investor fails to participate in the initial dilutive financing, such investor receives no anti-dilution protection with regard to such financing, but in the event that such investor elects to participate in a subsequent dilutive financing, such investor would be entitled to anti-dilution protection with regard to such subsequent financing. Although this formula can be implemented with regard to multiple dilutive financings by creating several series of shadow preferred, each having a different conversion rate, this approach results in a very complicated capital structure for the company which can become overly cumbersome. Another approach that has been utilized involves providing for a "springing warrant" which is then issued to each investor who participates in a dilutive financing. This warrant is exercisable (at a nominal exercise price) for the additional number of shares of common stock equal to the number of additional shares which the applicable anti-dilution formula would allocate to such investor. This approach results in a simpler capital structure for the company as it avoids the necessity of creating the shadow series of preferred.

The pay to play concept is based upon requiring participation by the investor in the dilutive financing. This raises the question of the appropriate level of participation. Pay to play clauses are often written to require each investor to participate in the dilutive financing to the extent of its percentage ownership of the company. Although this is typically the amount of the financing which the investors are entitled to purchase by reason of their contractual rights of first refusal, this approach misses the mark because the sum of the ownership percentages of the various investors will be less than 100%, and the primary purpose of the pay to play clause is to assist the company in raising the total amount of financing which it requires. Requiring each investor to purchase a percentage of the dilutive financing equal to its pro rata ownership among the investor group won't quite work either because

the sum of these percentages will always be 100%, leaving no room for a potential new investor. The correct approach is to require each investor to purchase a percentage equal to its pro rata ownership among the investor group of that portion of the financing allocated to the existing investors by the board of directors of the company, with the balance of the financing (if any) being purchased by the new investors. Under this formula, if all of the preceding investors participate, together with any new investors, the company will receive 100% of the funds it is seeking to raise. If the required percentage is higher than the percentage which such investor has a contractual right to purchase, the company must offer the investor the opportunity to purchase this greater amount in order to implement the pay to play clause.

As previously noted, the pay to play concept can be used with any of the anti-dilution formulas: broad-based or narrow-based weighted average or full ratchet. Clearly, the more favorable formulas from the investor viewpoint will create the strongest incentive for an investor to participate in the dilutive financing.

Recommendations

The initial question is why have anti-dilution protection at all? From the company's standpoint, there is no cap on the upside potential for the investor, so why should there be downside protection? In addition, some would argue that the clauses in corporate charter documents that provide for anti-dilution protection typically run on for several pages and that they are unduly complicated, not often reviewed by the investors or the company and even less often understood. In addition, in most cases the broad-based weighted average formula is adopted which more often than not results in insignificant adjustments, hardly worth legal counsel's time and cost spent reviewing and negotiating these provisions. Another view is that the best anti-dilution protection an early investor can obtain is to get the right valuation in the company in the first place, rather than relying on contractual provisions to mitigate what in retrospect turns out to be an overly optimistic view of the company and its valuation. The astute investor will also carefully review the company's stock plan when evaluating the pre-money valuation of the company in order to ensure that there is an adequate long term pool of options available to attract and maintain key management and technical employees. In appropriate cases the incoming preferred investor will insist on an increase in the option pool which will result in a lower price per share in the proposed round due to the fact that the company's pre-money valuation is divided by the fully diluted number of common share equivalents prior to the financing (including the increased option shares). This technique not only lowers the preferred investors' price per share but also helps ensure that subsequent financing rounds will be priced favorably in an upward trend by lessening the need to ratchet down the future price per share with further increases in the option pool.

Transactions in which the investors do not receive any anti-dilution protection are certainly not unheard of, and it can be argued that where the investors can purchase all of the new securities to be issued by the company in a financing transaction, no anti-dilution protection is necessary because the investors will simply set the per share price of the new financing low enough so that the average price paid by such investors for the old and the new shares is the same average price that would have resulted from anti-dilution protection. However, this solution will not work where there are one or more new investors participating in the financing who will receive the benefit of such artificially low price.

The standard investor position is that some measure of anti-dilution protection is one of the rights normally provided to the investors who are purchasing preferred stock at a significantly higher price than the common stock issued to the founders and the company's management. Aside from tradition, there are valid reasons for anti-dilution protection. Consider the case of the start-up company seeking its first seed financing at an aggressive valuation. The investors may be willing to accept such valuation but are concerned that, unless everything goes according to plan, the company will be unable to raise additional funds at a higher valuation. If the investor group consists of one or two seed investors who do not typically invest in later rounds, it would seem appropriate to provide such investors with full price protection with regard to the subsequent round. This would permit the company to achieve its desired valuation while providing

the seed investors with the comfort they require. A modified version of the full ratchet formula might be used to achieve this result, the modification being that the full-ratchet would only remain in effect until the company raised an agreed upon amount of additional equity, and after such time, a weighted average formula would apply. Because a smaller seed investor may be unable to participate in subsequent rounds, the pay to play concept might not be appropriate. The rationale for changing to a weighted average formula effective immediately following the subsequent financing is to avoid the necessity of granting full ratchet anti-dilution protection to the new investors, which would be disadvantageous both to the company and the existing investors.

The case of a start-up company being initially funded at an aggressive valuation by a sole larger investor who contemplates participating in future rounds might be appropriate for the full ratchet formula with a pay to play clause. This would permit the company to achieve its desired valuation while protecting the sole investor from getting "punished" on price as it seeks to bring new investors into the company in follow-on financings. Because of the incorporation of the pay to play clause, the disadvantages of the full ratchet can be avoided and the pay to play clause will provide an incentive for future participation by all investors.

The more typical case of a start-up company being financed by a syndicate of investors at a valuation the investors perceive as fair (perhaps deriving comfort from the fact that such valuation has been validated by a number of different investors) might be well suited for the pay to play, narrow-based weighted average formula. The narrow-based formula coupled with the pay to play concept provides a stronger incentive for future investor participation than does the broad-based formula, and the company would argue that the absolute price protection of the full ratchet is unnecessary because the investor syndicate has already been formed and has agreed on the initial valuation. The company would also argue that utilizing a weighted average formula, rather than the full ratchet, will provide the investors with an incentive to maximize the per share price of any dilutive financing in which a new investor participates as the existing investors will not be fully protected with regard to price decreases (the venture investors may well respond that they have sufficient motivation to maximize such price due to portfolio valuation concerns).

Investors should also realize that whatever formula they decide to utilize in a particular round will be the starting point for negotiations with the new investors in the next round. Investors should be sensitive to the implications of adopting the formulas which are most favorable to the investors, particularly for companies such as those in the biotech industry that anticipate undertaking corporate partnerships that may involve the sale of equity at premium prices to the corporate investor who is likely to be the sole participant in such high-priced round and therefore will derive the greatest benefit from the anti-dilution protection.

The important lesson of the foregoing discussion for both investors and portfolio companies is to carefully consider the pros and cons of the various formulas in deciding on the correct anti-dilution solution for each particular venture capital financing.

EXHIBIT A

Abbreviations

CON = Consideration Received
CP = Conversion Price
CS = Common Stock
IOS = Issued and Outstanding
OIP = Original Issue Price
PS = Preferred Stock
SAPS = Series A Preferred Stock
SBPS = Series B Preferred Stock
SH = Share

Pre-Financing Capital Structure

Security	No. of Shares
Common Stock	1,500,000
Series A Preferred Stock ($1/share)	2,500,000
Series B Preferred Stock ($2/share)	2,000,000
Options	1,000,000
Total:	7,000,000

Diluting Issuance

2,000,000 shares of Series C Preferred Stock at $0.50 per share, for total gross proceeds of $1,000,000.