



{ Alternative Investments and Leverage }

LEVERAGE AND INVESTMENT PERFORMANCE AND RISK

Managers of various alternative investment strategies frequently employ leverage to achieve their desired investment results. However, for most investors, “leverage” may carry a negative connotation, particularly during times of market stress or dislocation when the best-known financial periodicals are replete with front-page stories of “over-levered” hedge funds encountering difficulties. During such times, we often receive questions from our clients regarding how leverage is used by their alternative investment managers and the implications which that leverage may have for those managers’ performance and for the overall risk to the managers’ funds. After reading this paper, the reader will be familiar with how leverage is generated and measured, how leverage affects investment performance, and most importantly, how to evaluate leverage and its impact on the risk of various alternative investments.

EXECUTIVE SUMMARY

In this paper, the reader will learn that:

- Hedge funds most commonly create leverage through bank loans, margin borrowing, shorting, repurchase (“repo”) agreements and the purchase of instruments with embedded (sometimes referred to as “structural” or “notional”) leverage;
- Leverage amplifies both a fund’s returns (whether positively or negatively) and its volatility;
- Leverage, by itself, is not a particularly good measure of a fund’s risk, and evaluating that risk requires, among other things, weighing how much leverage a fund employs against the extent of a fund’s market exposure;
- A hedge fund’s market exposure is defined in various ways, including: *gross*, *long*, *net* or even *short*, and the relevance of a measurement depends on a fund’s investment strategy; and
- Leverage is a necessary element of various fund strategies, and is used most appropriately within well-hedged portfolios.

HOW HEDGE FUNDS CREATE LEVERAGE

A fund acquires assets in excess of its equity capital (creates leverage) in various ways:

- Borrowing money (on either a collateralized or uncollateralized basis) from a bank
- Borrowing money through a margin account with a brokerage house¹
- Borrowing stock from a brokerage house and selling that stock short

Similarly, a fund can acquire market exposure in excess of its equity capital by purchasing instruments with “structural” (or “notional”) leverage. These approaches differ in the amount of leverage that can be created and sustained, as well as in the “visibility” of the leverage to the investor, as described below.

¹ A fund can also create arrangements with its prime brokers which effectively allow a fund to borrow in excess of Reg. T’s margin borrowing limits. (Federal Reserve Reg. T governs the minimum collateral required in a margin account.) One such arrangement is called a “Joint Back Office.” In this type of arrangement, the hedge fund essentially forms a joint venture through which the prime broker can provide as much unsecured capital to the hedge fund as the prime broker wishes. This capital is not necessarily defined as a “loan,” but of course the hedge fund pays a fee to the prime broker for the service.



BANK LOANS

Banks regularly make loans to hedge funds and require collateral – the size of which depends on the banks’ view of the collateral’s quality and liquidity. A dollar of a high quality, liquid asset (e.g., government bonds) may receive a loan of 90 to 95 cents, whereas a dollar of a lesser quality, less liquid asset (e.g., a common stock) may receive a considerably smaller loan. The maximum loan to value ratio is specified in Federal Reserve Reg. U, though individual banks are free to impose higher limits than Reg. U mandates. Note that the maximum leverage for a collateralized bank loan typically ranges from about 1.5:1 to 1.9:1 (measured by gross exposure), and is less than the maximum leverage for margin loans, as discussed below.

MARGIN LOANS

Hedge funds can also borrow money from a brokerage house through a margin account. The minimum collateral required in a margin account is governed by Federal Reserve Reg. T, which initially is set at 50%, measured by the equity value in the account divided by the market value of all assets in the margin account.² Thus, a hedge fund using margin may initially be levered up to 2:1 (assets to equity capital). As time progresses, that ratio of equity capital to the market value of all assets in the margin account must be maintained at no less than 25% under Reg. T. Thus, a hedge fund’s leverage could potentially “drift” as high as 4:1 before a margin call is issued by the brokerage house.³

SELLING SHORT

Hedge funds can also borrow stocks from a brokerage house and sell those stocks short. While the “loan” is outstanding, the hedge fund can earn interest on the cash proceeds of the short sale (or deploy those dollars in another trade) but also owes the lender any dividends paid on the stock sold short while the “loan” is outstanding. The hedge fund also receives a “short rebate” on the collateral it posts with the broker to support the securities the fund sold short. Note that borrowing to sell short is subject to the same limits imposed by Reg T on margin borrowing. In other words, shorting is simply the reverse of borrowing on margin to buy securities long.

Repurchase (“Repo”) Agreements are another method of creating leverage and are analogous to bank loans or shorting (depending on which side of the transaction one sits). A repo agreement involves one party selling to another a security at a specified price with a commitment to buy the security back at a later date for another specified price. Economically, the transaction is a secured loan, where the party purchasing the security makes funds available to the seller and holds the security as collateral. The difference between the sale and repurchase prices constitutes interest on the loan.

Repo transactions are typically short term (e.g. overnight to 28 days) and most commonly involve government or corporate debt. Repos enable parties to access funds (the sellers) or to procure specific securities (the buyers), e.g. to close out short positions, on relatively favorable terms compared to other available options.

² The margin percentage in an account is calculated as the investor’s (i) equity in the account divided by (ii) the market value of all assets in the account - not as the debt/equity ratio (which, e.g., would be 1:1 for a margin account at 50% margin).

³ Note also that most brokerage houses will issue a margin maintenance call on equity securities when that ratio decreases from 50% to on-average 35%, and will only allow fixed income securities to drift down to a 25% ratio.



STRUCTURAL (NOTIONAL) LEVERAGE

Certain derivative securities, such as options, futures and swaps, possess return characteristics that essentially replicate the return characteristics of a leveraged position in some underlying instrument. A hedge fund manager would use this technique because he or she can leverage the portfolio more (i.e. with less capital) than would be the case if he or she borrowed from a bank or a broker. For example, let us assume that a three-month option on stock RST (currently trading at \$20 per share) with a strike price of \$20 per share currently costs \$400, given a premium of \$4 per share.⁴ If, at the time of the option's expiration, stock RST has increased in value to \$30 per share, the option would be worth \$1,000 (calculated by [\$30 minus \$20] multiplied by 100 shares), thus generating a profit of \$600 on a \$400 investment, or 150% profit. In contrast, with the same amount of capital - \$400 - the manager could have bought an additional \$400 of stock on margin, for a total of 40 shares at \$20 per share. If RST had appreciated to \$30 per share, the manager could sell that stock for \$1,200, and after retiring the \$400 loan, would generate a profit of \$400 on \$400 of capital (or 100% profit), ignoring borrowing costs. Thus, by purchasing a derivative - here, an option - the hedge fund manager is effectively employing an amount of leverage greater than he or she could have employed had he or she borrowed on margin to buy the stock long.

Hierarchy of Leverage

If one were to rank the potential amount of leverage that one could achieve in any particular trade or derivative instrument, that ranking (from least to greatest) would be:

1. *Bank Debt and Margin Borrowing - to buy securities long*
2. *Shorting - similar leverage to bank debt or margin, but with unlimited loss potential as well as the possibility of short squeezes*
3. *Options – higher leverage potential than 1 or 2 but can have less loss potential depending upon the nature of the instrument. For example, if one buys a call option on a stock and the price of that stock drops to zero, the investor has only lost the cost of the call option, i.e. the premium. Whereas, if one sells a call option but does not own the stock (a "naked" call option), and if the stock is called, the seller would be forced to go into the market and buy the stock, thus facing theoretically unlimited losses.*
4. *Futures – futures contracts (predominantly used for commodities, currency, interest rates or financial indices) possess large inherent leverage due to the minimal amount of collateral that must be contained in the account to first buy the contract. For example, initial collateral requirements for a typical commodities futures contract can range from 5-10%, which would allow leverage of 10-20x (e.g. a fully invested 100% position with only 5% initial collateral is 20x leverage).*
5. *Swaps – lastly, swaps have the greatest potential for inherent exposure. They are contracts between two parties that can concern any particular financial matter. For example, one form of swap is an Interest Rate Swap which allows one party (the long party) to pay a fixed interest rate (the "swap rate") to another party (the short party) while receiving in exchange from the other party a variable interest rate payment. (These payments of course are based upon a notional amount of principal, e.g. \$1M.) This is akin to an insurance contract where the short party is betting that the floating interest rate does not exceed the fixed rate, while the long party wants to limit its interest rate exposure (per unit of notional principal) to the fixed rate. Thus, the risk inherent in a swap contract depends upon the nature and extent of the risk being "swapped." Because these risks are contingent, exposures inherent in swap contracts are not "balance" sheet items.*

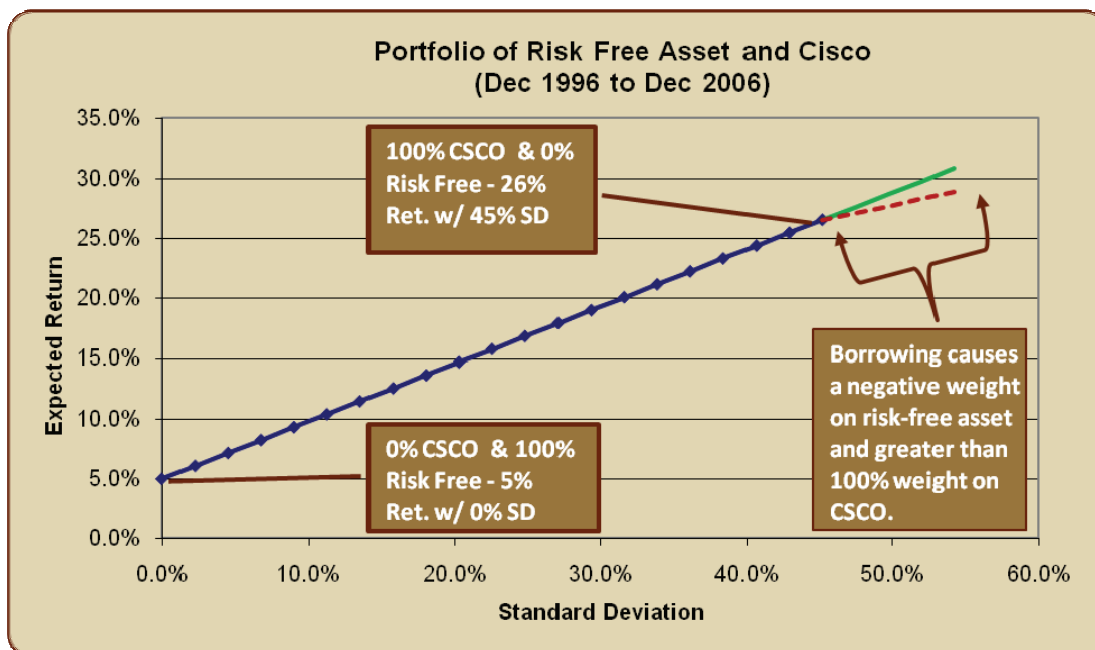
⁴ Recall that options are traded in 100-share baskets.



In the case of instruments with structural leverage, that leverage would typically not appear in a fund's market exposure calculation (discussed below) because that leverage is "built into" the instrument's market value and is essentially "off- balance sheet." Thus, that leverage may not be visible to the average investor. Nevertheless, understanding that leverage is possible -- but it requires knowing the composition of the fund's portfolio, examining closely the behavior of the fund's portfolio's returns over time, and dissecting information received through conversations with the manager and reports provided by the manager.⁵

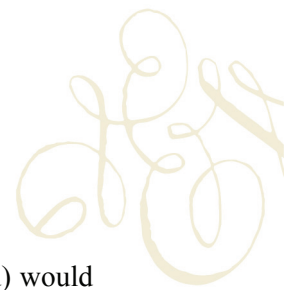
IMPACT ON RETURNS AND VOLATILITY

Put simply, leverage amplifies an investment's profits or losses. The graphic below shows the impact of leverage by representing the return of a portfolio consisting of two assets: Cisco (CSCO) and a risk-free asset (e.g. cash).⁶ The blue portion of the line plots the return and standard deviation of the combination of those two assets, beginning at 0% CSCO and 100% risk-free asset and ending at 100% CSCO and 0% risk-free asset. For the blue portion, each of those assets has a positive weight, where one asset's weight is "x" and the other asset's weight is "1-x". The only way to move beyond the blue portion of the line, i.e. from where CSCO constitutes 100% of the portfolio, is to borrow cash and buy more CSCO (refer to the green portion of the line).



⁵ Unless, of course, one has direct access to the Fund's accountants, portfolio managers, traders and/or prime brokers.

⁶ Returns and standard deviation for CSCO are calculated from actual monthly returns for December 1996 through December 2006. For that same period, the risk free asset is assumed to earn 5% annually, with no variance in those earnings, and borrowings of the risk free asset are assumed to reduce overall returns.



By being 100% long in CSCO, one's maximum return (annualized over the noted 10-year period) would have been 26.6%. By borrowing (ignoring for the moment borrowing costs), one could have bought more CSCO and increased one's return beyond 26.6% to almost 31% (given the assumed amount of borrowing and again, annualized over the noted 10-year period).⁷ This is possible only by borrowing (in other words, shorting the risk free asset), and thus, enabling the risk free asset to have a negative weight in this portfolio of two assets, and causing CSCO to have a weight greater than 100%.

By applying this concept to hedge funds, even if two funds have the exact same securities positions and the exact same net exposure (please refer to the example of Fund ABC and XYZ below in the Market Exposure section), the fund that had the greater leverage (Fund XYZ) would perform better when its common positions increase in value, but would perform worse when its common positions decline in value. This is solely because of XYZ's higher gross exposure, attributable to its higher leverage.

Not only does leverage amplify returns (whether positive or negative), leverage also increases portfolio volatility. Please refer again to the graphic above. As one borrows to buy more CSCO, not only do returns increase, but so does annualized standard deviation, from 45% to 54%. In other words (ignoring borrowing costs for the moment), the relationship between risk and return remains constant; as returns increase, so does risk (as measured by standard deviation) as illustrated by the green line.

In reality, borrowing requires interest payments, and thus, the dotted red line represents a more realistic relationship: returns are decreased by the amount of the borrowing cost but the standard deviation continues to increase as expected. Therefore, if a hedge fund borrows to increase its gross exposure, the portfolio's returns are amplified (whether positive or negative), but with a reduction due to borrowing costs, while risk (measured by standard deviation) should increase at the expected rate. Thus, once borrowing is introduced, returns are amplified (reduced somewhat by borrowing costs) and the variance of those returns is amplified as well.

Despite that observation, a hedge fund's standard deviation (i.e. a measure of the volatility of its returns) is not, by itself, an adequate measure of the fund's riskiness. As will be discussed in greater detail below, that riskiness is dictated, in part, by the relationship between a fund's leverage, market exposure and the strategy it pursues. First, however, let us explore further what we mean by market exposure and how one measures it.

⁷ Recall that the return of a portfolio is the sum of each of the following: the weight of each asset in the portfolio multiplied by its return. Or, $(R) = W$ [denoting weight of asset A] x Return of Asset A + W [denoting weight of asset B] x Return of Asset B. . . .



MARKET EXPOSURE

There are various ways to define “market exposure,” but the one that we prefer is: the extent to which changes in value of a hedge fund’s portfolio is dependent upon changes in value of the market generally. Moreover, common metrics that we employ to measure a hedge fund’s market exposure are:

Measures of Market Exposure	
LONG EXPOSURE	The aggregate market value of a hedge fund’s long security positions, expressed as a percentage of the fund’s equity capital.
SHORT EXPOSURE	The aggregate market value of a hedge fund’s short positions, expressed as a percentage of the fund’s equity capital.
GROSS EXPOSURE	The sum of a hedge fund’s long positions and the absolute value of its short positions, again expressed as a percentage of its equity capital.
NET EXPOSURE	The percentage of the fund’s capital that remains exposed to long or short market risk after netting short positions against long positions.
LONG/SHORT RATIO	The ratio of a portfolio’s long exposure to the absolute value of its short exposure.



Let us review some examples to put these measures into context.

EXAMPLE – ABC AND XYZ FUNDS

The ABC Fund has equity capital of \$100 million. It purchases \$90 million of long equity positions and borrows \$90 million worth of short equity positions. Accordingly, ABC Fund has \$1.80 of assets for each \$1 of equity capital. The XYZ Fund also has equity capital of \$100 million. However, it borrows \$20 million from a bank and purchases \$120 million of long equity positions. It also borrows from its prime broker \$120 million of equity positions and sells them short. The market exposures of these two funds can be calculated as:

Market Exposure Calculations			
		ABC FUND	XYZ FUND
LONG EXPOSURE	Long positions divided by equity capital	\$90/\$100 or 90%	\$120/\$100 OR 120%
SHORT EXPOSURE	Short positions divided by equity capital	(\$90)/\$100 or (90%)	(\$120)/\$100 or (120%)
GROSS EXPOSURE	Long positions plus absolute value of short positions	90% + [Abs (90%)] or 180%	120% + Abs(120%) or 240%
NET EXPOSURE	Long positions plus short positions	90% + (90%) or 0%	120% + (120%) or 0%
LONG/SHORT RATIO	Long positions divided by absolute value of short positions	90% / [Abs (90%)] or 100%	120%/Abs(120%) or 100%

ABC Fund’s *gross market exposure* is 1.8:1 or 180%, while XYZ Fund’s *gross exposure* is 2.4:1 or 240%. In contrast, the *net market exposure* of both ABC Fund and XYZ Fund is zero (sometimes called “market neutral”).⁸

Query: which of ABC or XYZ Fund is more risky? To make a truly informed decision, we believe that in addition to knowing the fund’s leverage (including how it is achieved) and its market exposure, one needs to understand the strategy being utilized by the fund and the securities used to execute that strategy.

⁸ Please note that market exposure attributable to notional or structural leverage may not be reported under any of these measures, because that exposure is essentially “off balance sheet.” For example, consider a commodities trading advisor whose portfolio consists of 96% cash and 4% deposits for futures positions. On the surface, this manager’s long exposure seems to be 4%, the amount of assets invested in the market relative to equity capital. In reality, this manager would likely have a “true” market exposure of 100%, because the futures contracts would have notional, embedded leverage of 25x – that is, for every \$1 on deposit in the futures contracts, the manager is exposed to \$25 of market risk on the contracts at issue. In this case, a careful exploration of the manager’s portfolio would identify the “true” leverage employed by that manager and thus “true” market exposure.



LEVERAGE AND RISK

At the risk of being simplistic, we have divided the world of hedge funds into three categories and provided a short description, as well as examples, of strategies included in each category. We have also ranked those categories by risk in terms of their typical market exposure and their typical leverage. Note that the darker the ranking, the riskier the aspect is.

Strategy Rankings: Market Exposure vis-a-vi Leverage				
FUND STRATEGY CATEGORIZATION	DESCRIPTION	EXAMPLES OF STRATEGY TYPES	TYPICAL MARKET EXPOSURE ⁹⁾	TYPICAL LEVERAGE EMPLOYED (EXPRESSED ON GROSS AND LONG BASES)
DIRECTIONAL	Investments possessing inherent market risk, but with potential for producing materially better risk-adjusted returns than long-only strategies; sometimes called “directional” because their returns are related to the direction of movements of the broad markets	Equity Long Short (aka Hedged Equity); Global Macro and Commodities Trading Advisors; Directional Credit	Higher Market Risk: Net exposure between 70% and 100%	Lower Leverage Risk: Gross: less than 2:1 Long: less than 1.0-1.2:1
SEMI-DIRECTIONAL	Investments possessing significant market risk, but less so than directional strategies and with less volatility than those strategies; yet with more volatility and more potential for better returns than non-directional strategies	Distressed Securities; Event Driven (e.g. mergers, recaps, bankruptcies, etc.); Hedged Credit	Moderate Market Risk: Net exposure between 30% and 100%	Moderate Leverage Risk: Gross: 1.5:1 to 3.0:1 Long: less than 2.0:1
NON-DIRECTIONAL	Investments possessing materially less inherent market risk, but with reduced return potential, when compared to other hedge fund strategies; sometimes called “non-directional” because their returns are designed, for the most part, not to be dependent upon the direction of movements of the broad equities or fixed income market	Relative Value and other Arbitrage strategies; Equity Market Neutral	Lower Market Risk: Net exposure between -25% and 25%	Higher Leverage Risk: Gross: 3.0:1 to 8.0:1 Long: 2.0:1 to 4.0:1

⁹ Note that certain directional managers will inform you that gross exposure is the most appropriate measure of their market exposure because they employ shorts to generate alpha, not to hedge risk.



Thus, again at the risk of being simplistic, when we analyze a hedge fund's riskiness, we are generally concerned with funds that have either too much market exposure or too much leverage than is typical for their strategy.¹⁰ Of course, this is only one aspect of the riskiness of hedge funds that we consider. We give equal attention to qualitative matters, such as, among many other things: how well does the fund run its business; is there a plan for succession in the event a key person is injured or unexpectedly retires; how strong are the fund's prime brokerage and lending relationships; what elements separate a fund's investment philosophy from its competition; and what is the compensation structure for employees of the fund manager. In other words, leverage is simply one element that we consider when determining the investment merit of a hedge fund.

LEVERAGE WITHIN WELL-HEDGED PORTFOLIOS

Immediately above, we have learned that hedge funds pursuing non-directional strategies employ greater amounts of leverage than funds pursuing more directional strategies. At this point, the question naturally arises: what is necessary to make significant levels of leverage advisable? Answer: when a strategy's loss potential is significantly hedged away.

Convertible bond arbitrage provides an example of how highly-hedged portfolios can support greater leverage than can portfolios which are not as highly-hedged. In convertible bond arbitrage, the manager generally buys a convertible bond and shorts the underlying related stock. If the underlying equity rises in value, the bond may be converted and liquidated at the inflated equity price. However, if the underlying equity decreases in value, the short positions are designed to gain sufficient value to offset some of the loss in the bonds' value. If the underlying equity does not significantly increase or decrease in value, the fund typically still profits from cash flow items such as the coupon on the convertible bond plus interest paid on the short sale proceeds (less any cash flow needed to cover dividends paid on the stock sold short).

¹⁰ Conversely, we are also concerned when a fund, relative to other funds similar in strategy, is employing too little leverage or possesses too little market exposure. These elements raise the question for us of how that fund is going to generate returns.



Let us compare implementing this strategy through “narrow premium convertibles” versus so-called “busted converts.” Narrow premium convertibles are bonds whose conversion feature is very much in-the-money. Thus, changes in the bond’s price are highly correlated with changes in the underlying stock’s price, so shorting the stock is a highly effective hedge against declines in the price of the convertible bonds. In this context, the risk attributable to the trade can be reduced and leverage can be applied to a greater extent. Not surprisingly, this type of trade often supports leverage in the range of 3.5:1 to 5:1.

In contrast, “busted converts” are generally high-yield, convertible bonds whose conversion feature is currently significantly out-of-the-money. These bonds tend to trade in the same manner as straight debt, which is based on the bond’s credit risk, cash flow and maturity. The conversion feature provides an added “kicker,” but because the bond is out-of-the-money, changes in the company’s stock price do not tend to cause changes in convertible bond’s price. Notwithstanding that these bonds are often highly attractive purchases, their price changes cannot be effectively hedged by shorting the firm’s common stock. Thus, a portfolio of “busted convertibles” is normally levered much less (perhaps 2:1) than a “narrow premium” convertible portfolio.¹¹

Ultimately, leverage is most appropriately applied when the underlying strategy and the trades used to execute that strategy are relatively immune from market risks due to active hedging.

THE BENEFITS OF LEVERAGE

So far, our discussion of leverage has been in a relatively negative context – that is, we have been analyzing how leverage affects the riskiness of a hedge fund. However, as noted above, one of the primary benefits of leverage is that it amplifies positive returns, or stated differently, leverage allows greater potential returns with less equity capital. Moreover, in addition to simply amplifying returns, certain hedge fund strategies are made possible, as a practical matter, only by leverage. For example, certain arbitrage strategies¹² are designed to exploit very small differences in the prices of the underlying securities. Even though a manager may have significant confidence in the likelihood of profitably

Credit Default Swaps (“CDS”) are a subset of so-called swap contracts where two parties exchange the credit risk of one (or more) third-parties, e.g. a corporation. Under the CDS contract, a protection buyer periodically pays a fee to the protection seller in exchange for the promise of the seller to make a payment if a credit event (such as a default or failure to pay) occurs at the third party. In essence, CDS contracts typically resemble insurance policies, and can be used by debt owners (e.g. bond holders) to insure against a default on a debt obligation. When a credit event is triggered, the protection seller commonly takes delivery of the defaulted bond for the par value (i.e. amount insured) or pays the protection buyer the difference between the par value and recovery value of the bond (i.e. net loss).

Note that CDS contracts are private and, thus, there is no requirement that a party to a CDS actually own the asset in reference. Therefore, CDS can be used for a variety of other purposes, e.g. speculation on credit spreads or on an industry’s or company’s credit worthiness.

¹¹ Note that a corporate bond’s credit risk can be removed by a manager purchasing a credit default swap (a “CDS”) on the company at issue, thus effectively hedging away that risk. In that event, even in the context of a “busted convert”, leverage could be utilized greater than would be the case if the credit risk were not eliminated by hedging.

¹² Particularly fixed-income arbitrage strategies.



arbitraging one security against another, the magnitude of that profit may be quite small. To generate a meaningful return, the fund manager must use leverage to deploy sufficient capital to make the trades worthwhile.

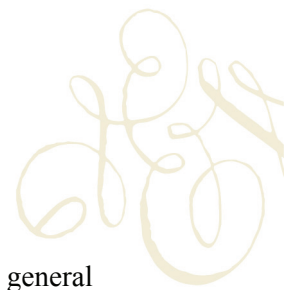
Consider a form of merger arbitrage (aka “risk arbitrage”) where a merger between Acquirer (A) and Target (T) is announced to take place in six months. After the announcement of the merger, Acquirer begins trading at \$100 per share and Target at \$96 per share, and the transaction consideration is that the stockholders of T will receive one share of A for every share of T owned. The arbitrageur will sell short one share of A at \$100 (which will need to be repaid later in kind) and will buy long one share of T at \$96, with the expectation that the price of each will converge upon successful completion of the merger.¹³ If the merger in fact occurs as expected, then the arbitrageur (1) will have received \$100 from the short sale of A; (2) will have purchased one share of T at \$96; (3) will receive one share of A in exchange for that share of T; (4) will then use that share of A to retire the short position on A; and (5) will have \$4 remaining as profit at the conclusion of the trade. Note that this trade would have a leverage ratio of 1.96:1 (\$196 of gross market exposure assuming \$100 of equity capital) and would be possible only because of the leverage inherent in the short sale.

Moreover, even ignoring for simplicity sake the cost of carrying the short trade and repaying any dividends on the stock sold short, that trade, successful as it was, generated over the six-month time period only a 4% profit on the \$100 of equity capital deployed - not very significant; only 8% on an annualized basis (if repeated). To make that trade worthwhile as a practical matter, additional leverage would have been employed by the manager, for example by borrowing from a bank \$45 (on an equity capital base of \$55) to buy long the stock of Target T, which would then be used as collateral for the short sale of Acquirer A. By employing that additional leverage, the trade would still have produced \$4 in profit, but now on a capital base of \$55, thus raising the percentage profit to 7.2% (or 14.4% annually) – a more reasonable result.

Note that leverage (i.e. the short sale) served another function in this example – to hedge risk. If the arbitrageur was confident the merger would proceed, he or she could have simply bought long one share of T, waited for it to be converted to a share of A, and then sold it upon close of the merger. However, doing this would have exposed the arbitrageur to the risk of market declines. Instead, by shorting a share of Acquirer A, the arbitrageur was able to eliminate the risk of market movements inherent in owning a share of Target T: the arbitrageur profits if the share prices of the two stocks, A and T, converge regardless of how the general market performs, or suffers losses if the price of the two stocks, A and T, diverge. Market risk has been removed for the most part.

Another example of leverage being used to hedge away certain types of risk is a fund that pursues the market-neutral strategy of pairs-trading. The classic example is a manager who believes that, as a fundamental matter, Ford is stronger than and will outperform GM (in other words, Ford is undervalued and GM is overvalued, relative to one another). However, the manager is concerned about the auto

¹³ One should note that if the arbitrageur is not confident that the merger will move in the expected direction, then the arbitrageur will not enter the trade.



industry as a whole. Rather than buying Ford long (over GM) and being exposed to the general movements of the automobile sector, this manager will apply leverage to “hedge out” the risk of the auto-industry, by buying Ford long while simultaneously shorting GM. By structuring the trade this way, the manager has removed the directional movements of the automobile sector as a consideration, and has essentially isolated his or her bet to the relative, idiosyncratic differences between Ford and GM. In other words, the manager has employed leverage in the form of shorting to remove risks associated with general movements in the automobile sector, while still placing an informed bet that Ford will outperform GM.

CONCLUSION

In this paper, we have discussed the following:

- Funds create leverage through bank loans, margin borrowing, shorting, repurchase (“repo”) agreements and the purchase of instruments with embedded (sometimes referred to as “structural” or “notional”) leverage;
- Leverage amplifies both a fund’s returns and its volatility;
- Leverage is simply one element to be considered when analyzing a fund’s riskiness, along with market exposure, strategy, securities employed and other qualitative elements;
- Leverage is employed more by funds pursuing non-directional strategies;
- Significant levels of leverage are used most appropriately in well-hedged portfolios; and
- Leverage can be employed as a hedge against risk, and certain common hedge fund strategies are made possible as a practical matter only by using leverage.

At Convergent Wealth Advisors, many of our clients employ leverage, either indirectly through alternative investment managers or directly through margin or short-selling. We encourage our clients to think of leverage simply as a tool - neither good nor bad per se – but nevertheless deserving respect. Used wisely, like any other tool, leverage can assist a client or a portfolio manager in achieving his or her goals.

{ Notes and Disclosures }

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