

C A M B R I D G E A S S O C I A T E S L L C

U.S. CONVERTIBLE SECURITIES INVESTING

2002

David Kluger
Ryan Harvey
David Roda
Marcelo Morales

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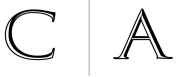
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ABSTRACT

1. We see no compelling reason for most investors to include convertible bonds in their policy portfolios and would caution even tactical buyers to steer clear of this market today.
2. While equity markets have been sinking and spreads between Treasuries and corporate bonds have remained unusually wide, companies have been issuing convertible bonds at an unprecedented rate: \$29 billion in the first quarter alone, up from \$23 billion in the first quarter of 2001. As recently as 1990, the entire convertible market amounted to about \$50 billion; today, the value exceeds \$200 billion. Surging supply has emerged in response to soaring demand, much of it from convertible arbitrage hedge funds, which scooped up two-thirds of last year's new issues. Other buyers include insurance companies and bond mutual funds seeking to gain indirect exposure to equities. Unfortunately, the voracious appetite for convertibles has led to overpricing, declining credit quality, and narrowed premiums, which will probably result in a sharp drop in the market.
3. During equity bear markets, the correlation of convertible bond returns to those of equities has traditionally *increased*, while the correlation to other fixed income assets has *decreased*. This relationship has been painfully evident to investors in convertible bonds during the current equity bear market, as the Merrill Lynch Convertible Bond Index has returned -11.3% as compared to -15.8% for the S&P 500 Index, 9.3% for the Lehman Brothers Government/Credit Bond Index, and 9.6% for the Lehman Brothers Aggregate Bond Index, for the period April 1, 2000 to June 30, 2002. For this reason, convertible bonds do not belong in a bond portfolio whose primary objective is to ensure that a fund can maintain its spending during a prolonged bear market without having to liquidate equities at fire-sale prices.
4. Despite their fixed income structure, convertible bonds and convertible preferreds are generally viewed as equity surrogates because the basic structure of all convertibles is a bond or preferred stock plus a call option on the issuing firm's common stock. The fixed income component provides investors with downside support, commonly referred to as the "bond floor," while the call component ensures participation in any appreciation in the common stock.
5. In the short term, convertible bond returns are driven by their credit spreads relative to Treasuries, the fluctuations of their underlying equity, and their volatility. Not surprisingly, over the longer term, it is the conversion feature of convertible bonds—the option to trade the stability of a bond for the long-term gains of an equity—that mainly drives their aggregate performance. As a result, returns of convertible bonds have been much more closely correlated to those of equities than to those of fixed income in both bull and bear markets.

6. We would advise against a long-term policy allocation to this asset class because straight equity is likely to generate higher returns over the long run and convertible bonds lack the defensive characteristics of conventional, investment-grade fixed income. Nor should bond managers benchmarked to conventional bond indices be permitted to include convertibles in their portfolios, since this is simply a backdoor way to juice returns by including low-quality, hybrid securities not included in the benchmark. Equity managers, on the other hand, should be free to invest in convertibles as they see fit, but with their success measured against an appropriate *equity* benchmark.



C A M B R I D G E A S S O C I A T E S L L C

SUMMARY

Introduction

The case for a policy allocation to convertible securities is based on the argument that they have provided equity-like returns with lower volatility than equities and are not highly correlated with other asset classes. For example, from 1976-2001 the annual compound returns of convertible bonds averaged 13.0% with a standard deviation of 12.3%, as compared to returns of 14.1% for the S&P 500 and 10.0% for long-term corporate bonds, with standard deviations of 15.1% and 9.7, respectively.¹ Over the same period, convertibles have provided 70% of the upside of equities in up markets, with only about 50% of the downside in down markets. As the bear market drags on and their revenues shrink, Wall Street firms armed with such data have become increasingly aggressive at promoting convertibles as a necessary component of a well-diversified portfolio.

However, convertibles are neither as simple nor as compelling as this argument suggests. In fact, the hybrid characteristics that vendors eagerly highlight are also convertibles' greatest deficiency, since they are inadequate as equity substitutes and ineffective as bonds. For long-term gains, investors would do better investing in the underlying common stock of convertible issuers, while investors seeking protection from equity market declines precipitated by prolonged economic contraction should allocate some percentage of their assets to intermediate- or long-term, high-quality, non-callable bonds rather than to convertibles, which are generally of relatively short maturity and low quality. In short, the hybrid equity-debt structure of convertibles simply creates complexity without adding any real value.

Structure

Convertible bonds are fixed-income securities, senior to equity in a firm's capital structure, which pay interest (generally semiannually) and are redeemable at par at maturity, but may also be exchanged for a fixed number of shares of common stock of the issuing corporation at a predetermined price. When issued, this conversion price (or conversion ratio) is typically set between 15% and 35% above the market price of the underlying common stock, while the coupon rate is typically 300 to 400 basis points (bps) lower than the issuer would have to pay in the non-convertible bond market. The maturities for convertible bonds have been steadily decreasing over the past two decades, from an average of about 20 years in 1980 to approximately seven years in 2000, and issues typically have three to five years of call protection, in either a "hard" or a "soft" form. Hard call protection prohibits redemption under any circumstances and is the more common of the two options. Soft (or provisional) call protection is based

¹ The convertible bond index series comprises data calculated by Morningstar, Inc., covering 1976 to 1981; First Boston Convertible Securities Index, for 1982 through 1987; and the Merrill Lynch Convertible Securities Index, from 1988 to the present.

on the price level of the underlying common stock—at a predetermined premium to the conversion price the issue may be called. New issues are also registered as subordinated debt, which means that in case of bankruptcy or liquidation, the claims of convertible holders will be settled after those of all "senior" creditors (e.g., holders of long-term debt issues and bank loans), but before those of preferred and common shareholders.

Convertible preferred shares are generally issued without maturity dates, are senior to common stock in a firm's capital structure, and typically pay a dividend 400 to 600 bps higher than that of the common stock. An increasingly popular variant on this structure is mandatory preferred stock, first introduced in the early 1990s, which *must* be converted into common stock within three years and therefore closely tracks the underlying equity and is generally regarded as "enhanced common stock" because of its higher yield.

Despite their fixed income structure, convertible bonds and convertible preferreds are generally viewed as equity surrogates because the basic structure of all convertibles is a bond or preferred stock plus a call option on the issuing firm's common stock. The fixed income component provides investors with downside support, commonly referred to as the "bond floor" or "bond value," while the call component ensures participation in any appreciation in the common stock. It is important to recognize that the bond floor is in no way a guarantee against loss, as the value of the convertible's bond component will fluctuate along with changes in the factors that affect any traditional bond, such as interest-rate levels or the credit quality of the issuer.

Valuation

The valuation of convertible securities is complicated by their hybrid structure and the embedded options they often contain (e.g., early call options for the issuer and early redemption provisions for the holder). The most common approach to valuation is to deconstruct the equity and fixed income components and value each separately. Thus, the fixed income piece is valued according to typical factors affecting bonds, such as coupon, duration, and credit rating, while the equity component is valued on the basis of such factors as stock performance and volatility, common stock dividend yield and dividend growth rate, and embedded strike price and duration of the call option. (Traditional valuation methods such as calculating a "payback" period or "breakeven" are less helpful than the arbitrage pricing approach described above, as their application to convertibles ignores either the time value of money or price changes over time.) Relative to the underlying common stock, a convertible security will normally sell at a premium to its intrinsic (or parity) value because it generally pays a higher current yield, provides greater downside protection, and has seniority with regard both to interest payments and to a claim on the company's assets

in the event of liquidation. The size of this premium varies from one issue to another, depending on the expected "life" of the security and its call protection, the volatility of the underlying common stock, and the extent to which the convertible's yield exceeds the stock dividend.

Market Composition

The convertible securities market has grown dramatically over the past decade, expanding from approximately \$50 billion in 1990 to over \$200 billion in 2001. Currently, 44% of convertible securities are convertible coupon bonds, while the remaining 56% is divided between zero-coupon bonds (30%), preferred stocks (14%), and mandatory convertibles (11%), according to CIBC. Interestingly, Standard & Poor's rates 50.4% of the 2002 new convertible issuance BBB or higher, with the rest rated below investment grade or not rated at all (35.4% and 14.2%, respectively).

The convertible bond market provides a good source of capital for companies that either cannot access the corporate paper market or seek a less expensive option to traditional debt (e.g., the huge recent increase in zero-coupon issuance reflects this need for cheap ways to access capital). As such, the convertibles market historically has been dominated by high-growth, relatively early-stage companies, and more recently, established players that have fallen on hard times (e.g., Nortel, Lucent, and Motorola all issued sizeable offerings in 2001). Over the past few years, the technology sector has represented more than half of the convertible new issues market, with such diverse groups as financials, utilities, consumer staples, and natural resources also represented.

Economic Basis for Returns

The hybrid nature of convertible securities is reflected in the economic basis of their returns. Historically, investors have earned a return somewhat lower than that of equities, with less risk, and somewhat higher than that of conventional bonds, with greater risk. Data since 1976 show convertible bonds to have returned, on average, 13.0% a year, compared to 9.3% for the Lehman Brothers Aggregate Bond Index and 14.1% for the S&P 500. Over the same period, the Lehman Brothers Aggregate Bond Index has a risk/return ratio of 0.66 and the S&P 500 a ratio of 1.08, with convertible bonds falling in between, at 0.95.

In the short term, convertible bond returns are driven by their credit spreads relative to Treasuries, the fluctuations of their underlying equity, and their volatility. Not surprisingly, over the longer term, it is the conversion feature of convertible bonds—the option to trade the stability of a bond for the long-term gains of an equity—that mainly drives their aggregate performance. Whether an individual convertible

security performs like its underlying stock or like a bond of the same company, however, can only be assessed in retrospect, after issuance. If the underlying stock appreciates to a level at which convertible bond investors can profitably convert their holdings into equity, the convertible bond will perform in line with the stock. However, if the underlying stock fails to reach this conversion threshold, and shows no prospect of doing so in the foreseeable future, no investor will choose to exercise the out-of-the-money conversion option, and the convertible bond will behave like the bond it is. That convertible bonds have returned, over time, *almost* as much as equities, with risks *almost* as high as equities, may be testament to nothing more than the fact that over time, most equities have risen. Of course, when individual equities underlying specific convertible bonds have not increased in value, the convertible bonds perform as bonds, thus dampening the risk/return profile for the convertible asset class in aggregate.

The correlations of returns to those of other asset classes, however, belie the hybridization that is evident in returns alone: returns of convertible bonds have been much more closely correlated to those of equities than to those of fixed income. Since 1976, convertible bonds have displayed a 0.82 correlation to the S&P 500 and a 0.89 correlation to the Wilshire 5000, while correlating only 0.29 to the Lehman Brothers Aggregate Bond Index and 0.28 to the Lehman Brothers Government/Credit Bond Index (based on monthly returns). Unfortunately for investors holding convertibles for diversification or "insurance" purposes, in equity bear markets convertible bond correlations to equities have traditionally *increased*, and correlations to other fixed income assets have traditionally *decreased*. In fact, in equity bear markets, convertible bonds' correlation to the Lehman Brothers Aggregate Bond Index has been close to zero.

Role in Policy Portfolios

For most institutions, the costs of a defined allocation to convertible securities probably exceed the marginal diversification benefits they provide. Convertible bonds' close correlations to equities, most pronounced in equity bear markets, make them incompatible with the primary, defensive role of bonds in endowment portfolios, and they are unlikely to return as much as equities during most periods of economic expansion.

For these reasons, endowments have generally not invested in convertible securities. Elsewhere in the investment world, however, the demand for (and therefore the supply of) convertible bonds has steadily increased. In addition to convertible-bond arbitrage hedge funds, buyers have included insurance companies and bond mutual funds eager to gain exposure to equity-like returns without directly purchasing equities. Indeed, the addition of convertible bonds to a bond-only portfolio provides significant return and diversification benefits: mathematically modeled optimal convertible allocations to fixed income-only portfolios have ranged from 12% to 20%. It is for this reason that convertibles have been so popular

with insurance companies whose equity exposure is constrained by regulatory limits. However, institutions facing no such restrictions on their investments would be better off simply investing in actual equities and bonds, enjoying better diversification benefits and return enhancement than they could gain with convertibles.

Indices and Benchmarking Issues

The earliest convertible bond indices are those of Value Line and First Boston (now Credit Suisse First Boston), dating from 1982. Value Line's index includes the most issues of any index, subjectively selected and equally weighted, while the CS First Boston Convertible Bond Index is market-weighted and composed almost entirely of securities rated B or higher, which tend to be larger. In addition, Salomon Smith Barney produces an index of the 400 largest issues while the Goldman Sachs Convertible Bond Index includes 100 securities, comprising of the 66 largest debentures, including eurobonds, and the 34 largest preferred debentures. Finally among the major indices, Merrill Lynch produces a market-weighted index consisting only of securities with maturities over one year that are \$25 million or larger. With the exception of the CS First Boston and Merrill Lynch indices, all other indices include issues that are in default.

The universe of convertible bonds changes rapidly and investors should ensure that their chosen benchmark is as nimble as the market it tracks. For example, from 1997-99, convertible security new issues in the technology sector increased from 30% to 65% of the market. During the same period, the proportion of A-rated new issues shrunk from 14% to 4%, and those rated CCC rose from 1% to 7%.

Hedge Funds: The Arbitrage Buyers

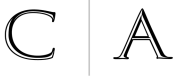
Some 125 hedge funds currently participate in the convertible securities market. These funds dominate the convertible marketplace, as both an increase in market volatility and a decline in short-term interest rates have enhanced the appeal of convertibles. In fact, an estimated two-thirds of all new issues were scooped up by hedge funds during 2001. This voracious appetite has provided liquidity for the market and thus has served to support prices. Basic arbitrage strategies are predicated on purchasing the convertible and simultaneously selling short the underlying common stock, thus capturing the fixed income portion of the security while hedging the equity risk. Convertible arbitrage hedge funds commonly employ more complex versions of this basic strategy, often accompanied by generous amounts of leverage—typically four to six times—to boost returns.

Unfortunately, the vast wall of money now chasing convertible returns may well lead to overpricing, narrowed premiums, disappointing returns, and a severe decline in the market. As noted in our recent paper, *Hedge Funds: Bangs and Whimpers?*, convertible bond prices tend to collapse every three to four years, either due to a drop in stock market volatility or to a widening of credit spreads. When this happens, leveraged convertible arbitrageurs face margin calls and are forced to liquidate positions at fire-sale prices. In the past, they have found buyers among high-yield bond managers, who often are willing to buy "busted" convertibles if the price is right. Today, however, there is a noticeable scarcity of such buyers, and the few that remain would be overwhelmed by a full-scale de-leveraging of convertible bond arbitrage positions. For this reason, we would caution even tactical buyers to steer clear of convertibles today.

As is the case in all arbitrage strategies, convertible arbitrage managers vary greatly in their use of leverage, their appetite for credit risk, and their hedging discipline. The greater the leverage, the lower the credit quality, and the less disciplined the hedging, the more likely a manager will be wiped out in a down market. In today's environment, managers that focus on lower-premium convertibles and maintain high hedge ratios, but also employ aggressive leverage, appear particularly vulnerable to a "run on the bank." Those who focus on high-premium issues and maintain lower hedge ratios, but use less leverage, should be better equipped to weather the next inevitable storm. Investors in this space should be concerned, however, regardless of who is managing their money: the worst managers will drown, the best may only tread water.

Conclusion

Although there may be times when a collapse in prices provides an interesting *tactical* opportunity to invest in convertibles—regarded as a suitably cheap alternative to straight equity—we would advise against a long-term policy allocation to this asset class because straight equity is likely to generate higher returns over the long run and convertible bonds lack the defensive characteristics of conventional, investment-grade fixed income. Nor should bond managers benchmarked to conventional bond indices (e.g., the Lehman Brothers Aggregate or Lehman Brothers Government/Credit Bond Indices) be permitted to include convertibles in their portfolios, since this is simply a backdoor way to enhance returns by including low-quality, hybrid securities not included in the benchmark. Only when a manager has a wide-open mandate to invest opportunistically in any and all forms of fixed income securities (e.g., emerging markets debt, high-yield bonds, zero-coupon issues), with the objective of generating returns substantially greater than those of conventional bond indices, should convertibles be permitted. Equity managers, on the other hand, should be free to invest in convertibles as they see fit, but with their success measured against an appropriate *equity* benchmark.

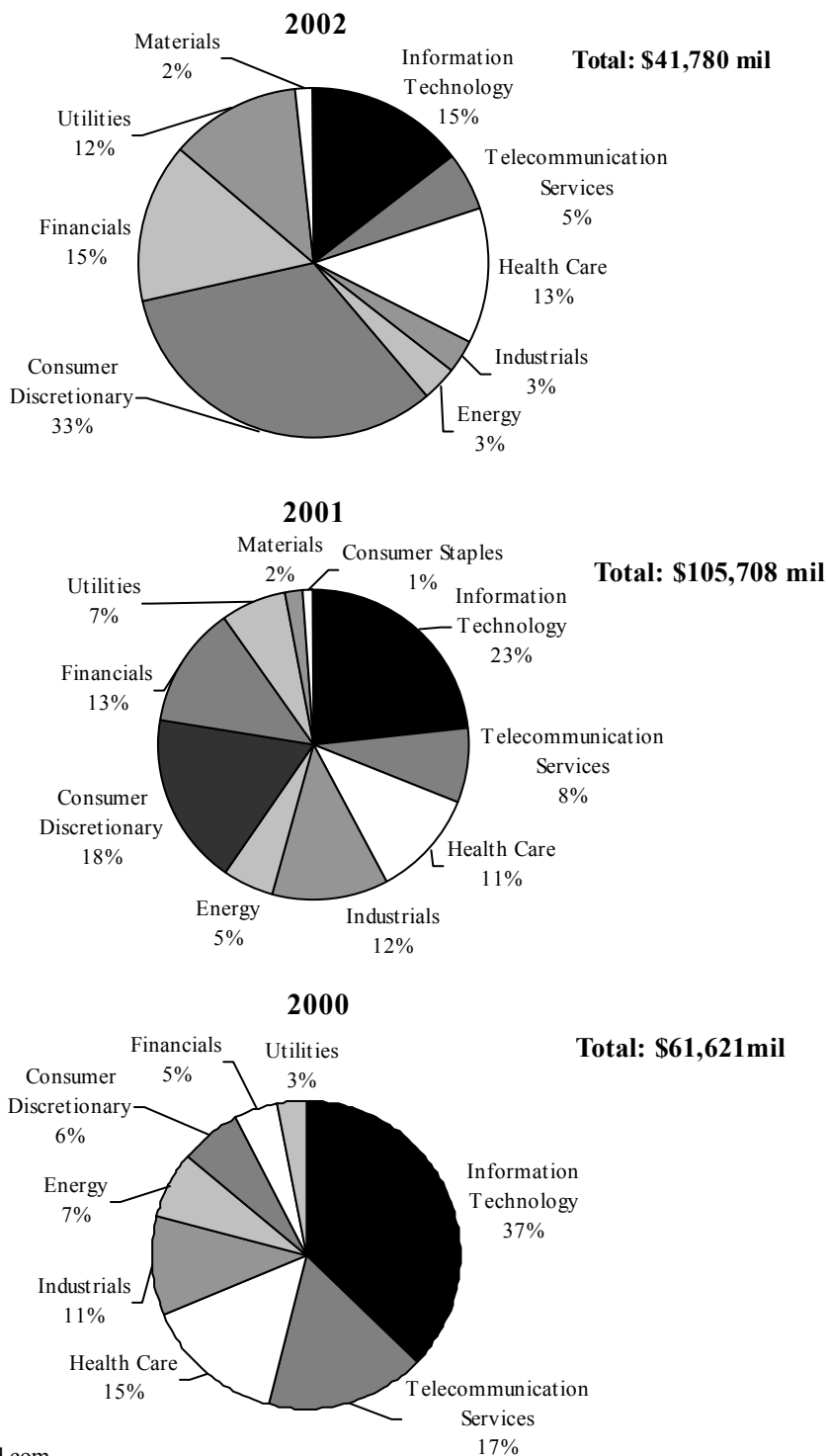


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EXHIBITS

Exhibit 1

CONVERTIBLE SECURITY NEW ISSUANCE BY SECTOR

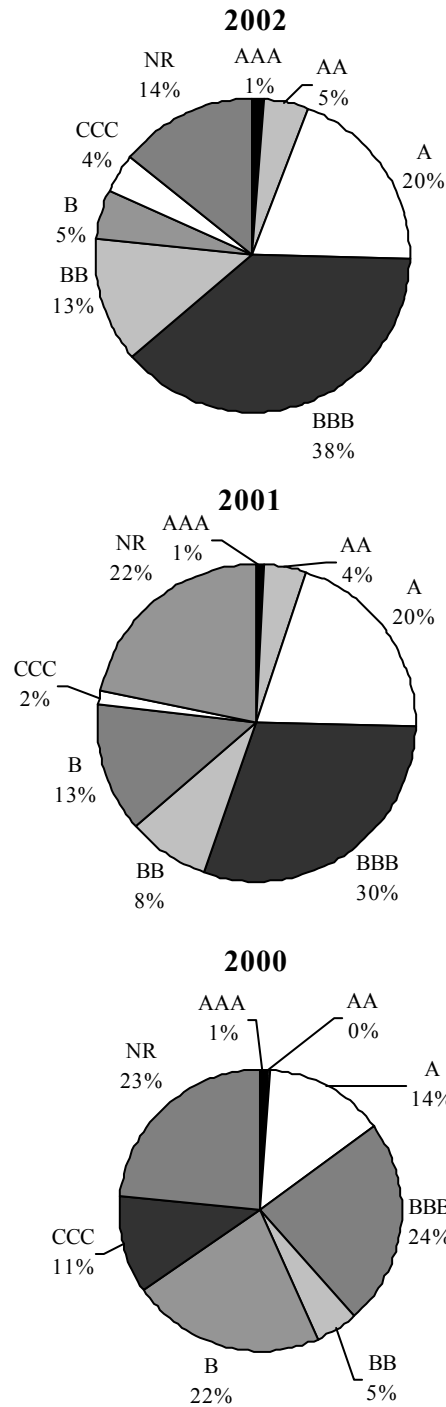


Source: Convertbond.com.

Notes: Totals may not add to 100% due to rounding. Data for 2002 are as of June 30, 2002.

Exhibit 2

CONVERTIBLE SECURITY NEW ISSUANCE BY CREDIT RATING



Source: Convertbond.com.

Note: Totals may not add to 100% due to rounding.

Exhibit 3

INDEX RETURN COMPARISON

As of June 30, 2002

Annual Returns (%)

<u>Year</u>	<u>FB/ML Convertible</u>	<u>Merrill Lynch High-Yield</u>	<u>Russell 1000®</u>	<u>Russell 2000®</u>	<u>Lehman Brothers Aggregate</u>
1982	23.9	---	20.3	24.9	32.6
1983	17.3	---	22.1	29.1	8.4
1984	5.3	---	4.8	-7.3	15.1
1985	26.2	24.6	32.3	31.0	22.1
1986	17.0	16.3	17.9	5.7	15.3
1987	-0.2	4.7	2.9	-8.8	2.8
1988	14.6	13.5	17.3	25.0	7.9
1989	13.1	4.2	30.4	16.3	14.5
1990	-4.2	-4.3	-4.2	-19.5	9.0
1991	27.7	34.6	33.0	46.0	16.0
1992	17.2	18.2	8.9	18.4	7.4
1993	16.4	17.9	10.2	18.9	9.7
1994	-4.8	0.6	0.4	-1.8	-2.9
1995	24.0	19.9	37.8	28.5	18.5
1996	12.1	11.1	22.4	16.5	3.6
1997	15.5	12.6	32.9	22.4	9.7
1998	12.2	3.7	27.0	-2.5	8.7
1999	36.0	1.6	20.9	21.3	-0.8
2000	-7.5	-3.8	-7.8	-3.0	11.6
2001	-2.9	6.2	-12.4	2.5	8.4
2002 (6 mos)	-5.7	-4.3	-12.8	-4.7	3.8

Average Annual Compound Returns (%) Through 6/30/2002

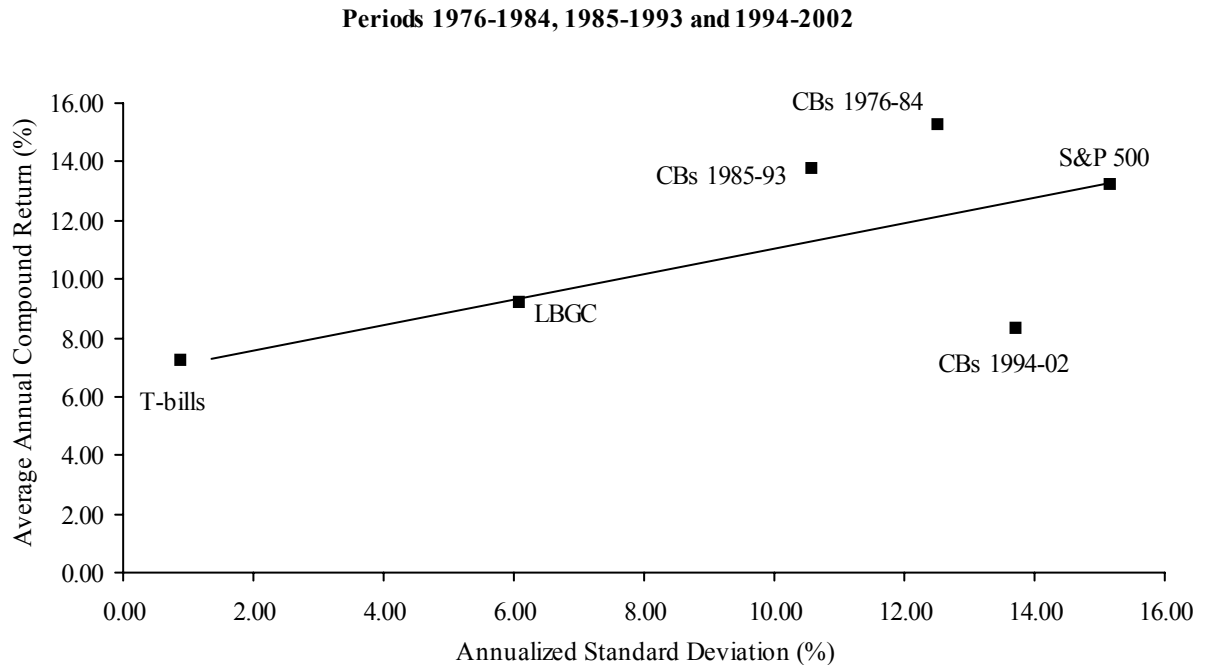
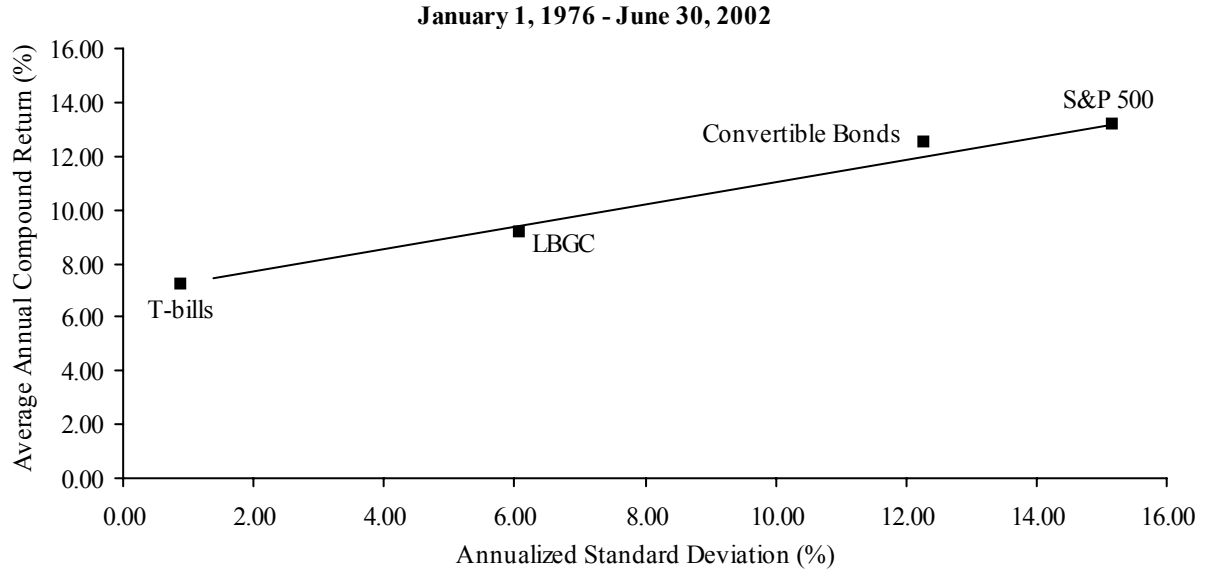
	<u>20 yr</u>	<u>15 yr</u>	<u>10 yr</u>	<u>7 yr</u>	<u>5 yr</u>	<u>3 yr</u>
FB/ML Convertible	12.3	9.1	9.8	8.7	6.7	2.1
Merrill Lynch High-Yield Cash Pay Only	---	8.3	6.9	4.6	1.9	-0.8
Russell 1000®	14.7	10.9	11.4	10.6	3.9	-8.6
Russell 2000®	12.3	8.9	11.0	8.7	4.4	1.7
Lehman Brothers Aggregate	10.4	8.4	7.3	7.3	7.6	8.1

Sources: The Bloomberg, Credit Suisse First Boston Corporation, Lehman Brothers, Inc., and Thomson Datastream.

Notes: From 1/1/1982 to 12/31/1987, convertible bond performance is based on the First Boston Convertible Securities Index. From 1/1/1988 to present, performance represents the Merrill Lynch Convertible Bond Index.

Exhibit 4

RISK AND RETURN COMPARISON FOR CONVERTIBLE BONDS



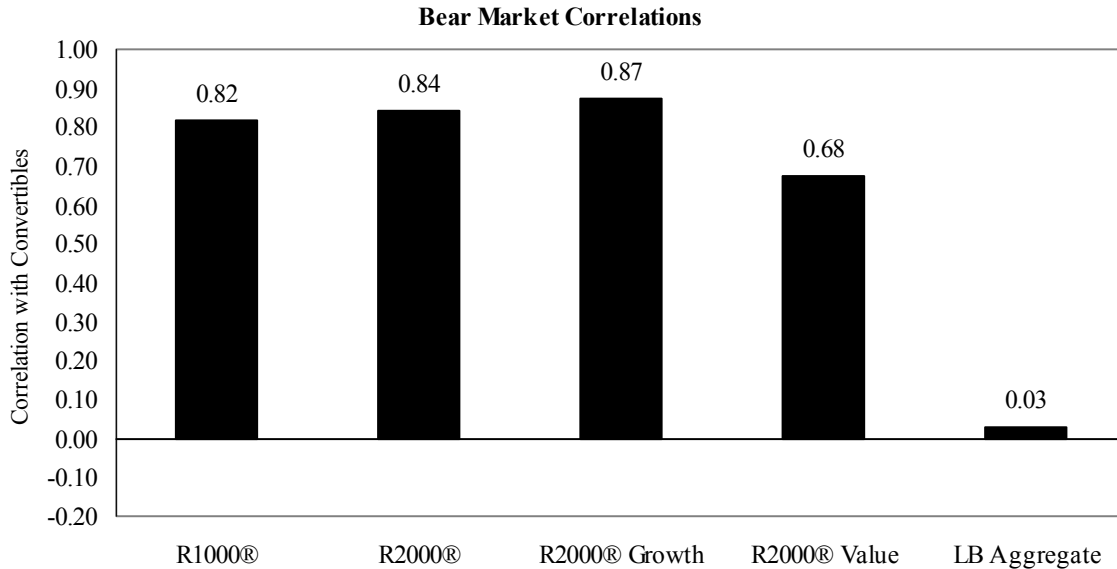
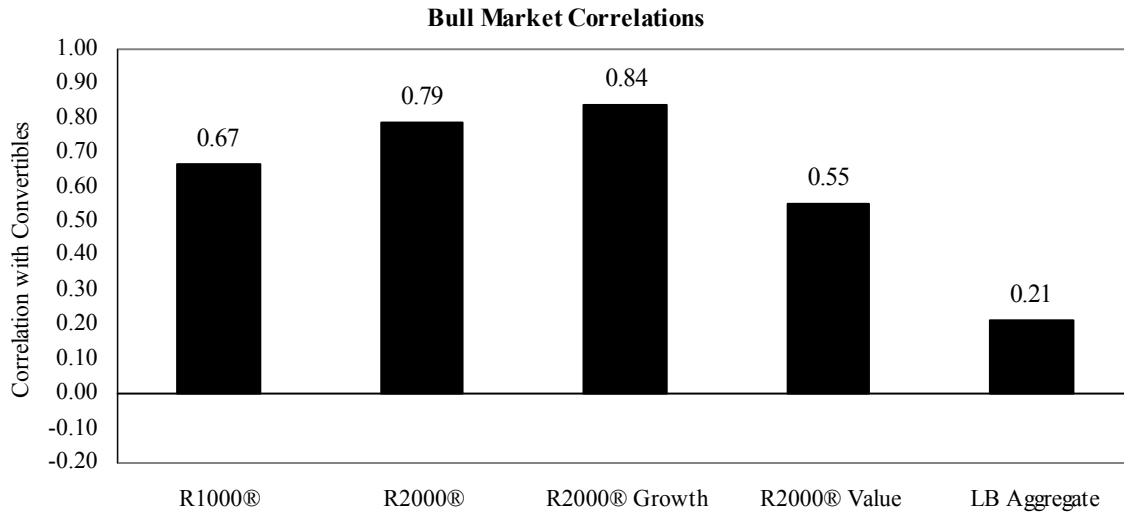
Sources: The Bloomberg, Credit Suisse First Boston Corporation, Thomson Datastream, Lehman Brothers, Inc., Morningstar, Inc., and Standard & Poor's.

Notes: The convertible bond index series for 1976 to 1981 is calculated from data provided by Morningstar, Inc., 1982 through 1987 represent the First Boston Convertible Securities Index. From 1988 to present, data represent the Merrill Lynch Convertible Securities Index.

Exhibit 5

CORRELATIONS OF MAJOR INDICES WITH CONVERTIBLE BONDS

January 1, 1979 - June 30, 2002



Sources: The Bloomberg, Credit Suisse First Boston Corporation, Lehman Brothers, Inc., Thomson Datastream, and Wilshire Associates, Inc.

Notes: January 1, 1979 represents the common inception date for the indices analyzed. Correlations are based on rolling three-month returns. Bull markets are defined as periods in which the Wilshire 5000 Index outperformed 91-Day T-Bills. Bear markets are periods in which the Wilshire 5000 Index underperformed 91-Day T-Bills. The convertible bond index series for 1979 to 1981 is calculated from data provided by Morningstar, Inc. From 1/1/1982 to 12/31/1987, convertible bond performance is based on the First Boston Convertible Securities Index. From 1/1/1988 to present, performance represents the Merrill Lynch Convertible Bond Index.

Exhibit 6**CORRELATIONS OF CONVERTIBLE SECURITIES TO OTHER ASSET CLASSES****January 1, 1984 - June 30, 2002**

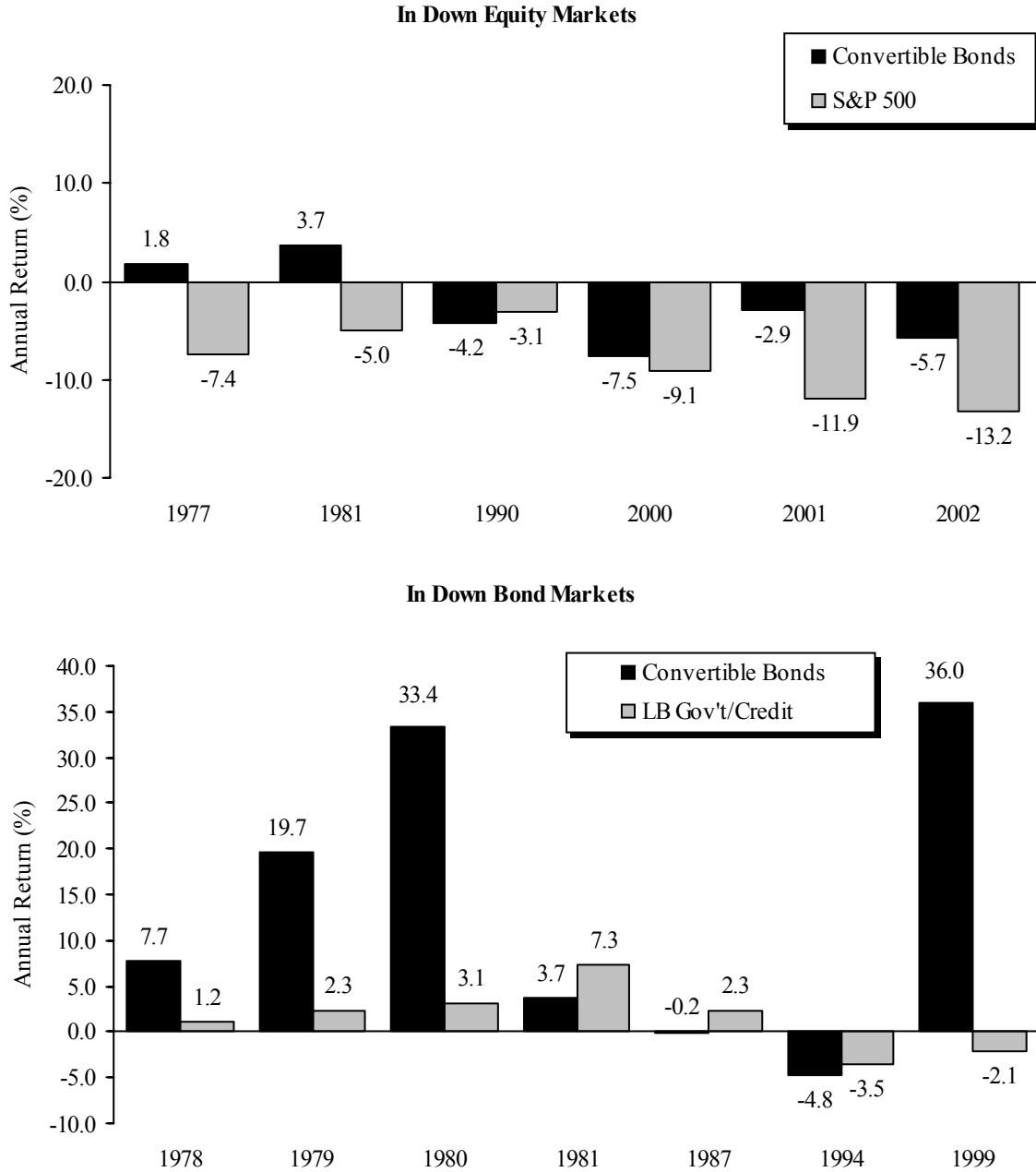
	<u>Correlation to Convertible Bonds</u>
<u>Equity</u>	
Large-Capitalization Stocks <i>S&P 500 Index</i>	0.79
Small-Capitalization Stocks <i>Russell 2000® Index</i>	0.89
Real Estate <i>NAREIT Index</i>	0.39
<u>Fixed Income</u>	
Long-Term Treasury Bonds <i>Lehman Bros. Long-Term Government Bond Index</i>	0.12
Intermediate-Term Treasury Bonds <i>Lehman Bros. Intermediate-Term Government Bond Index</i>	0.08
Treasury Bills <i>91-Day Treasury Bills</i>	0.02
Intermediate-Term Corporate Bonds <i>Lehman Bros. Intermediate Credit Bond Index</i>	0.22
Mortgage-Backed Securities <i>Lehman Bros. Mortgage-Backed Securities Index</i>	0.15
High-Yield Bonds <i>Lehman Bros. High-Yield Bond Index</i>	0.56

Sources: The Bloomberg, Credit Suisse First Boston Corporation, Lehman Brothers, Inc., National Association of Real Estate Investment Trusts, Standard & Poor's, and Thomson Datastream.

Notes: January 1, 1984 represents the common inception date for the indices analyzed. From 1/1/1984 to 12/31/1987, convertible bond performance is based on the First Boston Convertible Securities Index. From 1/1/1988 to present, performance represents the Merrill Lynch Convertible Bond Index.

Exhibit 7

CONVERTIBLE BOND RETURNS IN DOWN EQUITY AND BOND MARKETS SINCE 1976



Sources: The Bloomberg, Credit Suisse First Boston Corporation, Thomson Datastream, Lehman Brothers, Inc., Morningstar, Inc., and Standard & Poor's.

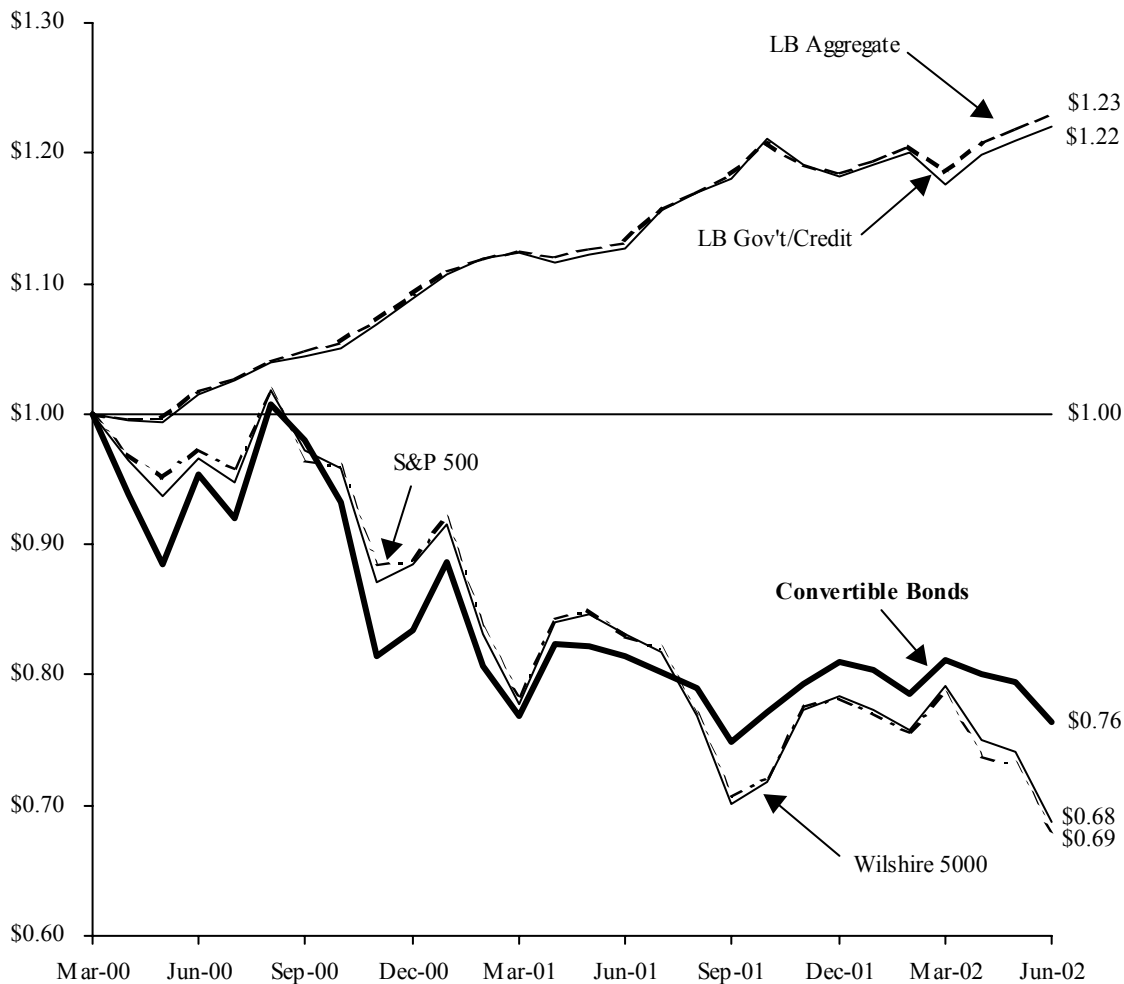
Note: 2002 data are as of June 30.

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Exhibit 8

CONVERTIBLE BOND PERFORMANCE IN RECENT BEAR MARKET

**Value of \$1.00 Invested April 1, 2000
Periods Ended June 30, 2002**



Average Annual Compound Returns (%)
April 1, 2000 - June 30, 2002

<u>Convertible Bonds</u>	<u>S&P 500</u>	<u>Russell 3000®</u>	<u>LB Aggregate</u>	<u>LB Govt/Credit</u>
-11.3	-15.8	-15.3	9.6	9.3

Note: Convertible bond performance represents the Merrill Lynch Convertible Bond Index.

Exhibit 9

REPRESENTATIVE CONVERTIBLE BOND MANAGERS

Annual Total Returns (%)

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	6 mos
Advent Capital Management, LLC	---	---	---	---	19.4	23.6	12.6	28.0	10.5	-6.6	-5.4	
Alger (Fred) Management (n)	16.1	14.8	-1.7	24.1	13.7	11.7	0.3	7.0	14.1	-0.2	-4.8	
Ariston Capital Management	14.3	7.9	4.3	24.8	7.0	14.5	1.5	95.0	-17.6	-22.5	-30.3	
Banc of America Capital Management, LLC	15.9	21.9	-6.4	24.5	19.6	22.2	3.3	27.4	16.4	-6.7	-2.5	
Calamos Asset Management	13.4	20.4	-6.6	26.1	15.3	15.9	10.9	37.5	2.3	-5.4	-2.5	
Capital Guardian Trust Company	20.8	17.2	-3.8	26.0	14.7	19.1	9.7	14.8	-0.9	5.6	-4.3	
Carr & Associates	14.4	11.2	-4.4	17.8	10.5	13.3	6.1	4.3	15.3	1.3	0.9	
Citigroup Asset Management	15.7	21.9	5.7	26.6	18.5	19.2	9.0	17.3	8.3	6.6	-6.3	
Davis/Dinsmore Management Company	16.1	16.5	-3.0	26.3	17.5	20.1	10.6	16.0	2.0	-2.2	-2.3	
Froley, Revy Investment Company	22.8	18.8	0.2	24.0	17.8	15.4	6.0	58.0	0.9	-7.6	-5.8	
GAMCO Investors	18.2	19.4	1.5	18.0	11.2	29.8	15.2	19.8	-7.3	-3.9	-9.2	
Income Research & Management	---	---	-4.4	20.4	11.4	17.0	9.2	7.1	7.0	6.1	-2.0	
Lord, Abnett & Company	15.0	17.0	-1.9	23.9	20.1	21.3	11.4	19.8	9.0	-2.8	-2.1	
MacKay Shields LLC	11.5	20.3	-2.1	25.3	14.2	13.5	3.2	34.0	4.3	-2.5	-4.9	
Nicholas-Applegate	15.7	28.7	-6.4	23.3	20.4	23.7	23.1	53.3	-1.8	-16.0	-7.3	
Oaktree Capital Management	---	---	---	---	17.0	16.4	1.9	28.7	4.7	-0.4	-8.1	
Pacific Investment Management Company (n)	---	---	---	---	---	---	---	---	-0.8	-13.8	-5.3	
Rockhaven Asset Management	---	---	---	---	---	---	16.3	54.0	4.7	-7.8	-12.3	
TCW Group - Equity Favored Convertibles	---	---	---	---	---	---	---	64.5	-14.6	-21.5	-28.7	
TCW Group - Traditional Convertibles	11.5	19.3	-4.2	24.0	14.8	20.6	14.3	39.1	0.1	-9.9	-15.5	
Victory Capital Management, Inc.	15.6	15.1	-2.6	21.3	15.2	22.0	8.6	9.0	6.8	2.1	-4.5	
Westcap Investors	11.4	16.8	-6.4	21.9	15.4	26.2	13.9	12.4	-4.3	-9.9	-14.3	
Zazove Associates, LLC	17.7	17.4	-4.9	32.3	15.3	19.1	11.5	5.1	17.9	9.8	0.6	
Maximum	22.8	28.7	5.7	32.3	20.4	29.8	23.1	95.0	17.9	9.8	0.9	
Median	15.7	17.4	-3.4	24.1	15.3	19.2	9.7	23.6	4.3	-3.9	-5.3	
Minimum	11.4	7.9	-6.6	17.8	7.0	11.7	0.3	4.3	-17.6	-22.5	-30.3	
Number of Managers	17	17	18	18	20	20	21	22	23	23	23	
Merrill Lynch Convertible Bond Index	17.2	16.4	-4.8	24.0	12.1	15.5	12.2	36.0	-7.5	-2.9	-5.7	
S&P 500 Index	7.6	10.1	1.3	37.6	23.0	33.4	28.6	21.0	-9.1	-11.9	-13.2	

(n) - Net Return

Exhibit 9 (continued)**REPRESENTATIVE CONVERTIBLE BOND MANAGERS****Average Annual Compound Returns (%)
Periods Ended December 31, 2001**

	<u>10 Yrs</u>	<u>9 Yrs</u>	<u>8 Yrs</u>	<u>7 Yrs</u>	<u>6 Yrs</u>	<u>5 Yrs</u>	<u>4 Yrs</u>	<u>3 Yrs</u>	<u>2 Yrs</u>	<u>1 Yr</u>
Advent Capital Management, LLC	---	---	---	---	14.0	13.0	10.4	9.7	1.6	-6.6
Alger (Fred) Management (n)	9.7	9.0	8.3	9.8	7.6	6.4	5.1	6.8	6.7	-0.2
Ariston Capital Management	9.5	9.0	9.2	9.9	7.6	7.7	6.0	7.6	-20.1	-22.5
Banc of America Capital Management, LLC	13.1	12.8	11.8	14.6	13.1	11.8	9.3	11.4	4.2	-6.7
Calamos Asset Management	12.2	12.1	11.1	13.9	12.0	11.3	10.2	10.0	-1.7	-5.4
Capital Guardian Trust Company	11.9	11.0	10.2	12.4	10.3	9.4	7.1	6.3	2.3	5.6
Carr & Associates	8.8	8.2	7.8	9.6	8.3	7.9	6.6	6.8	8.1	1.3
Citigroup Asset Management	14.7	14.6	13.7	14.9	13.0	12.0	10.2	10.6	7.4	6.6
Davis/Dinsmore Management Company	11.6	11.1	10.4	12.5	10.4	9.0	6.4	5.0	-0.1	-2.2
Froley, Revy Investment Company	14.4	13.5	12.9	14.8	13.4	12.5	11.8	13.8	-3.4	-7.6
GAMCO Investors	11.6	10.9	9.9	11.1	10.0	9.8	5.3	2.2	-5.6	-3.9
Income Research & Management	---	---	9.0	11.0	9.6	9.2	7.3	6.7	6.5	6.1
Lord, Abnett & Company	12.9	12.7	12.2	14.3	12.8	11.4	9.0	8.3	2.9	-2.8
MacKay Shields LLC	11.6	11.6	10.6	12.5	10.5	9.8	8.9	10.8	0.8	-2.5
Nicholas-Applegate	14.8	14.7	13.1	16.2	15.0	14.0	11.7	8.1	-9.2	-16.0
Oaktree Capital Management	---	---	---	---	10.9	9.7	8.1	10.3	2.1	-0.4
Pacific Investment Management Company (n)	---	---	---	---	---	---	---	---	-7.5	-13.8
Rockhaven Asset Management	---	---	---	---	---	---	14.7	14.1	-1.7	-7.8
TCW Group - Equity Favored Convertibles	---	---	---	---	---	---	---	3.3	-18.1	-21.5
TCW Group - Traditional Convertibles	12.1	12.2	11.3	13.7	12.1	11.5	9.4	7.8	-5.1	-9.9
Victory Capital Management, Inc.	11.1	10.6	10.0	11.9	10.4	9.5	6.6	5.9	4.4	2.1
Westcap Investors	9.1	8.8	7.9	10.1	8.2	6.9	2.5	-1.0	-7.1	-9.9
Zazove Associates, LLC	13.7	13.3	12.8	15.6	13.0	12.5	11.0	10.8	13.7	9.8
Maximum	14.8	14.7	13.7	16.2	15.0	14.0	14.7	14.1	13.7	9.8
Median	11.9	11.6	10.5	12.5	10.7	9.8	8.9	8.0	0.8	-3.9
Minimum	8.8	8.2	7.8	9.6	7.6	6.4	2.5	-1.0	-20.1	-22.5
Number of Managers	17	17	18	18	20	20	21	22	23	23
Merrill Lynch Convertible Bond Index	11.1	10.4	9.7	11.9	10.0	9.6	8.2	6.9	-5.2	-2.9
S&P 500 Index	12.9	13.5	14.0	15.9	12.7	10.7	5.7	-1.0	-10.5	-11.9

Exhibit 10

CONVERTIBLE BOND MANAGER UNIVERSE PERFORMANCE

<u>Universe Statistics</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
5th Percentile	5.6	21.2	25.6	2.5	47.3	21.2	23.3	4.5	27.4	20.1	26.4	16.3	64.2	16.3	6.5	0.3
25th Percentile	1.5	17.9	19.3	-2.4	32.9	16.1	20.3	-1.7	25.8	18.0	22.1	12.6	38.7	8.6	0.5	-2.5
Median	-0.7	13.2	15.4	-3.8	27.3	15.7	17.4	-3.4	24.1	15.3	19.2	9.7	23.6	4.3	-3.9	-5.3
75th Percentile	-2.5	11.4	11.5	-4.9	21.0	14.3	16.5	-4.8	22.2	14.1	15.7	6.0	13.0	-0.8	-8.8	-8.7
95th Percentile	-6.2	8.1	8.8	-8.7	19.3	11.4	10.6	-6.5	18.0	10.4	13.2	1.5	5.2	-13.8	-20.9	-27.4
Number of Managers	12	12	12	15	15	17	17	18	18	20	20	21	22	23	23	23
<u>Manager Medians</u>																
High-Yield Bonds	5.0	15.9	4.3	-5.1	36.3	18.8	19.8	0.3	19.2	14.2	14.5	4.2	5.0	-2.1	6.0	-1.0
Intermediate/Long-Term Bonds	2.8	8.5	14.2	8.9	17.0	8.1	11.5	-2.9	19.1	3.8	10.0	8.9	-0.8	11.7	8.4	3.3
U.S. Equity ex Small-Cap	5.5	17.2	29.3	-2.1	34.1	9.5	13.6	0.6	35.6	22.9	31.2	22.7	20.5	0.7	-9.7	-11.6
Merrill Lynch Convertible Bond Index	---	14.6	13.1	-4.2	27.7	17.2	16.4	-4.8	24.0	12.1	15.5	12.2	36.0	-7.5	-2.9	-5.7
S&P 500 Index	5.1	16.6	31.7	-3.1	30.5	7.6	10.1	1.3	37.6	23.0	33.4	28.6	21.0	-9.1	-11.9	-13.2

Sources: Cambridge Associates LLC, Standard & Poor's, and Merrill Lynch.

APPENDIX

Appendix

OTHER CONSIDERATIONS

Taxation

Conversion of convertible bonds is not typically a taxable event.

Global Opportunities

The global convertible market is estimated at close to \$500 billion, with the \$200 billion in the United States representing the most developed and liquid segment. Convertibles in Europe, Japan, and emerging markets are predominantly senior-ranking, in contrast to the mostly subordinate issues found in the United States. A large percentage of convertibles in Europe and the emerging markets are unrated, while in Japan, local agencies (e.g., R&I, JCR, Mikuni) provide ratings for the majority of convertible securities. The credit quality of European convertibles is significantly higher than in the United States, with only 10% to 15% of the European market rated below investment grade. This compares to a high-yield convertible segment of approximately 45% in Japan. Furthermore, the level of liquidity in the European convertibles market is much greater than that in Japan, as almost 25% of the entire Japanese convertibles market is currently illiquid.

Special Security Provisions

Poison puts were added to convertible securities in the early 1990s to enable the investor to sell a security at par if a cash merger degraded the existing conversion option. While there is no standardization of poison puts, most provide either a cash put at par plus accrued interest or adjust the conversion ratio so that parity equals par. These poison puts are typically triggered by a "change of control," defined as a friendly or hostile transaction that results in a third party gaining control of 50% or more of the outstanding shares of a company.

The relatively common anti-dilution provision protects investors from company actions that dilute their equity interests (e.g., spin-offs, stock splits). Also of interest is the "make-whole" feature, which requires issuers to compensate holders for redeeming a convertible prior to the expiration of its call date. This payment compensates the holder either for the premium paid at issuance (premium "make-whole") or the cash flows that would have been received through the call date (dividend/coupon "make-whole").

Finally, the so-called "screw" provision still applies to many convertible securities. While much less common in new issues, this clause states that "upon conversion, no adjustment will be made for interest or dividends." Thus, holders of convertible bonds with these provisions must carefully time their conversions or risk losing the right to all income that has accrued since the last coupon payment.

GLOSSARY

GLOSSARY

Busted convertible

See "Out-of-the-money convertible."

Call feature

The issuer's right to redeem the convertible any time prior to maturity at a stated price.

Call protection

The period of time during which the issuer cannot redeem the convertible. Can be either "hard" or "soft" (see those definitions below).

Conversion premium

The difference between the market price of the convertible security and the corresponding value of its underlying common stock shares (its parity value), usually expressed as a percentage. See "Equity premium."

Conversion price

The price per share at which a convertible bond can be converted into common stock.

Conversion ratio

The number of shares of common stock into which a convertible bond can be converted.

Convertible bond

Debt securities issued by a company that are convertible into common stock.

Convertible preferred

Preferred stock issued by a company that is convertible into common stock.

Delta

See "Equity sensitivity."

Equity (conversion) option

The embedded option in the convertible security that enables the holder to exchange the security for the underlying shares. The difference between the straight bond value of the convertible and the market price is the value the market attaches to this conversion right.

GLOSSARY (continued)**Equity premium**

The difference between a convertible bond's price and its parity value, usually expressed as a percentage of parity (also known as conversion premium).

Equity sensitivity

The expected participation of the convertible in any change in the price of the underlying stock. A 40% equity sensitivity would imply that for a 1% change in the shares, the convertible is likely to change by 0.4%. Also known as "delta."

Fixed income value

The value of a convertible bond as a fixed-income instrument only, ignoring the value associated with the equity conversion option component of the security (also known as investment value, bond floor, and bond value).

Hard call protection

A period during which a convertible is not callable for early redemption by the issuer under any circumstances.

Make-whole feature

Under soft call protection, requires convertible bond issuers to compensate holders for early redemption.

In-the-money convertible

A convertible whose underlying share price is above its conversion price. In-the-money convertibles are called equity proxies because it is likely they will eventually be converted to the underlying stock. These issues typically trade with high equity sensitivity and a low premium.

Out-of-the-money convertible

A convertible whose underlying stock price is below the conversion price. These issues typically trade with low equity sensitivity and a high conversion premium.

Parity

The market value of the shares of common stock into which a convertible bond can be converted (i.e., the value of the equity component of the convertible alone, excluding the convertible's "bond value"). This is calculated as the conversion ratio multiplied by the stock price.

GLOSSARY (continued)**Premium**

See "Conversion premium."

Risk premium

The difference between a convertible bond's price and the value of its fixed income component, usually expressed as a percentage of fixed income value.

Risk to bond floor

The difference between the market price of a convertible and its bond floor (i.e., the value of its fixed income component), expressed as a percentage.

Soft call protection

A feature that allows a convertible to be called for early redemption by the issuer only if the issuer's share price is above a predetermined premium to the conversion price. Soft call protection allows the issuer the option to redeem the bond early, provided that the issuer guarantees the investor a positive return (this is known as the "make-whole feature").