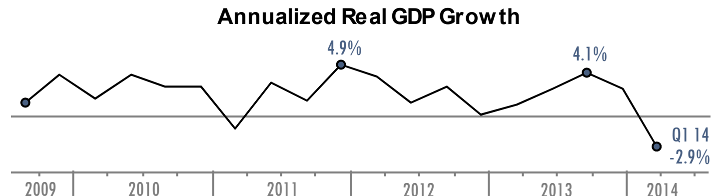
Bellwether CONSULTING

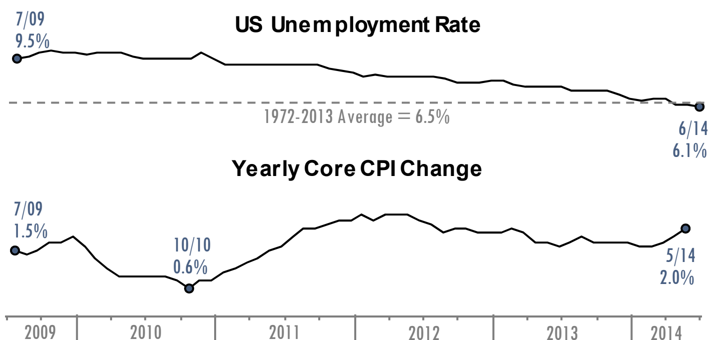
Your Quarterly Update on the Financial Markets
June 30, 2014

MARKET Recap

The Economy: "Slow Trigger at the Fed"



Economic growth contracted sharply in the first quarter although, as is often the case, looks can be deceiving. Change in private inventories subtracted 1.70% from growth after adding 1.67% in the 3rd quarter of 2013. In the year-end edition of Market Recap we discussed the degree to which inventory investment has distorted post-recession growth, with multiple cycles of hopeful expansion followed by disappointing end-point demand and a subsequent contraction. Weather may have been an aggravating factor. Another transient effect was a drop in exports, likely related to dollar strength, because of the conflict in Ukraine. Markets shrugged off the report with a yawn, focusing instead on a stream of mostly positive data for Q2.



Most current indicators of productive activity stand in sharp contrast to the Q1 contraction. The Institute for Supply Management reported strong activity for manufacturing and service businesses in the second quarter, particularly in April and May. Other leading economic indicators were generally positive through May. Two very important lagging indicators tend to draw the focus of policymakers, both of which were also strong – core inflation ticked upward to a 2% annual rate, and unemployment fell below (yes, below) its long-term average, achieving 6.1% in June. Prices of risky assets roared to records in Q2. In every respect except GDP growth, it would seem tempting for the Fed to declare "mission accomplished," but stimulus actions remain at slightly attenuated levels.

Over the past few quarters we have written about the degree of "false steepness" in the yield curve, suggesting that the bond market had gotten ahead of itself in pricing in higher rates at the long end of the curve. Although still basically a sound argument, two consecutive quarters of falling long-term rates have brought the slope of the curve back to single-black-diamond territory. More curious now is the difference between market rates and stated expectations of policymakers at the short end.

Rate Projections - Federal Reserve vs. Market

Fed Funds	Year-End 2014	Year-End 2015	Year-End 2016	Longer Run
4.25%			•	••
4.00%			•	•••
3.75%			•	•••••••
3.50%			•	•••
3.25%				•
3.00%		•	••	
2.75%			•	
2.50%			••	
2.25%		•	••	
2.00%		•	••	
1.75%		•	✕	
1.50%		•		
1.25%		•••	•	
1.00%	•	•••	•	
0.75%		• ✕		
0.50%		•	•	
0-0.25%	•••••••✕••••••••	•••		

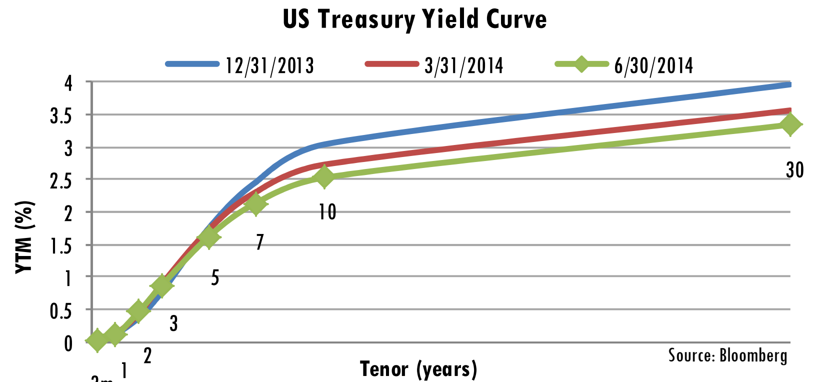
• Projection of 16 FOMC participants
✕ Implied yield from Fed Funds futures contracts

Mr. Bernanke's famous "dot plot" provides transparency as to expected rate policy for the next 2½ years and for the "longer run." Sixteen participants in the Federal Open Market Committee process cast their votes. While the latter period is too ambiguous to analyze, the futures market provides a 17th opinion on where rates will be at year end 2015 and 2016. The progression of rates implied by futures contracts is considerably slower than the median expectation of FOMC participants. Clearly the market doubts the Fed's willingness to tighten at the indicated pace. Given the careful rhetoric in the meeting statements one can see why, but we're not so sure.

Doves at the Fed may have the bully pulpits in Washington and New York, but even a little more price inflation at these levels of productive activity will likely bring about pressure from the consensus within the FOMC to normalize at a pace consistent with their statements. That may be bad news for equities, if similar doubts about the Fed's resolve are priced into stocks and real estate.

The US Bond Market

During the second quarter of 2014, yields continued on-trend from Q1 but at a slower pace. Short-term rates were mostly unchanged while longer yields continued to fall. The 10-year and 30-year US Treasury benchmarks decreased in yield by 20 bps each, vs. 30 bps and 40 bps in Q1 respectively. Compared to 1 year ago, the front end of the curve and the 10-year rate are nearly unchanged while the 30-year rate has fallen 16 bps. Probable FOMC rate hikes approaching in 2015 have prompted rates in the 1 to 3 year region of the curve to steepen by 25 bps. Persistent demand for yield has brought the 30-year rate down to 3.36% vs. 3.96% 6 months prior.



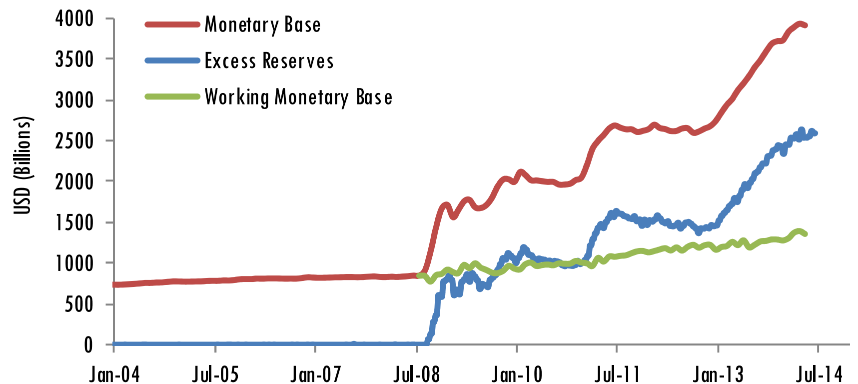
FOMC meetings in April and June produced only minor revisisions in the FOMC statement, noting a muted but positive economic outlook. As expected, purchases of agency mortgage-backed securities and Treasuries were both reduced by $5 billion at each meeting. Tapering is currently on track to wrap up by year-end. At this point it is unclear whether the Federal Reserve will sell portions of its Security Open Market Account (SOMA) holdings or wait for them to mature. The weighted average maturity of SOMA US Treasury and MBS holdings are currently 9.7 years and 26 years respectively.

Returns on fixed income securities were positive across the board. Low default rates and improved fundamentals drove low-quality issues to outperform. Inflation concerns may also have been a positive factor as high-yield securities are typically less sensitive to inflation than investment grade securities. High yield issuance, which started off low in Q1 this year, has picked up significantly. Issuance for 2014 YTD ($178 billion) currently exceeds that of 2013 over the same period ($166 billion).

Bond Indices - Total Returns	2Q14
BarCap Aggregate	2.04%
BarCap Interm. Gov't	0.91%
BarCap Long Gov't	4.73%
BarCap Interm. Credit	1.79%
BarCap Long Credit	5.04%
BarCap High Yield	2.41%

In her testimony on May 7, Fed Chair Janet Yellen recognized that the protracted low-rate environment may spur increased use of leverage and lower risk premia for duration and credit risk. Yellen cited high-yield corporate debt as one example and noted that underwriting standards for this asset class have deteriorated. However, increased exposure to duration and credit risk among financial intermediaries has increased only modestly.

Investors have been struggling with inflationary fears, international conflict, the economic strength of emerging markets, developed countries' own tenuous recovery, and a renormalization of monetary policy. These concerns led to a widespread reduction of fixed income weightings in the second half of 2013. The market corrected against this premature anticipation of higher rates in Q1. In Q2, the correction has continued, fueled by demand for yield and accommodative monetary policy domestically and abroad. In June, the ECB cut rates further, instituting a record negative 10 bps deposit rate while forward guidance from the Fed stressed low rates for the long-term.



The change in CPI Y/Y climbed from 1.5% in March to 2.1% in May with a 0.4% actual M/M vs. 0.2% consensus. This exceeds the Fed target of 2.0%, but should be considered within range. Also, a trend should not be projected based on these two data points alone. Inflation has been roughly contained to 1-3% over the past 5 years. In her June 18 press conference, Yellen dismissed these signals of rising inflation as noise and viewed the evidence as suggesting "we are moving back gradually over time toward our 2 percent objective."

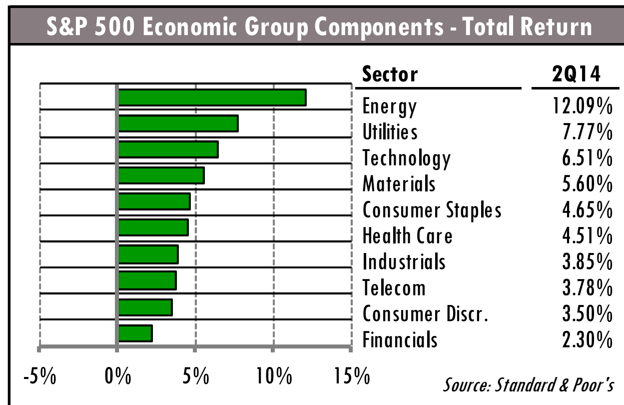
The Fed continued to ramp up its newest major tool, the Reverse Repurchase Agreement Facility (RRP). The Term Deposit Facility (TDF) saw renewed interest with $92 billion awarded in the most recent operation vs. a high of $15 billion in Q1. While the US Monetary Base continues to climb, the Fed can exert control over the cash entering the capital markets through the terms in interest on reserves, the RRP facility and the TDF.

The US Stock Market

Stock Indices - Total Returns			
Largecap Stocks	**2Q14**	**Midcap Stocks**	**2Q14**
S&P 500	5.23%	S&P Midcap 400	4.33%
Russell 1000	5.12%	Russell Midcap	4.97%
Growth	5.13%	Growth	4.37%
Value	5.10%	Value	5.62%
Broad Markets		**Smallcap Stocks**	
Russell 3000	4.87%	S&P Smallcap 600	2.07%
Growth	4.86%	Russell 2000	2.05%
Value	4.89%	Growth	1.72%
		Value	2.38%

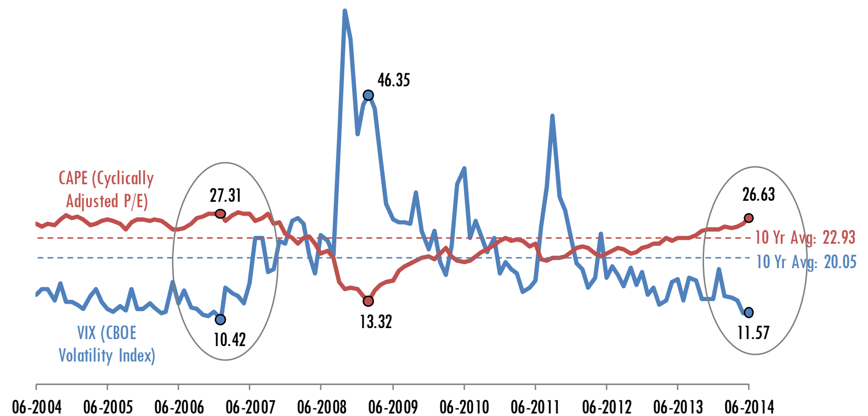
Investors continued to shrug off a slew of issues (Fed tapering, continued effects of a harsh winter, and a slowdown in China) in the second quarter, as US equity markets rallied to record highs across the board. Even with a slower start to the year, the Russell 3000 index has returned 6.94% year-to-date, this after returning a remarkable 33.55% in 2013. With such significant gains over recent periods, it should make even the most bullish investor question how close a correction might be.

Large-cap stocks posted the highest gains over the quarter, with almost no difference between growth and value styles. Energy, utilities, and technology were the top-performing sectors, while financials, consumer discretionary, and telecom lagged, but still posted positive returns. In energy, conflicts in both Russia and Iraq raised supply concerns, driving up the price of crude oil and leading to double-digit gains among oil and gas stocks. Utility companies continued last quarter's move higher on lingering effects of the colder-than-average winter. Within technology, much of the strong performance was attributable to Apple, the largest index constituent (3.20% of S&P 500; 2.75% of Russell 1000), which was up 21.81% on better-than-expected iPhone and Mac sales and an increase in both its dividend and share repurchases. In financials, weak performance among banks helped to offset a significant portion of the gains from REITs and insurance companies. REITs continued to climb higher as a combination of strong operating results and price appreciation across most sectors amid falling interest rates have pushed valuations to roughly a 10% premium to NAV. Disappointing personal spending continued to affect the consumer discretionary sector, which many still attribute to the winter weather. Same-store sales growth, a measure of growth in a chain's established stores, has continued to fall short of expectations averaging 1% for large chain retailers versus conservative forecasts of 1-2%.



Mid-cap companies fell just short of their larger counterparts, with traditional value sectors outperforming. Telecom led by a significant amount, returning 18.30%, as measured by the S&P 400 economic group components. Yet because it only represents <1% of either midcap index, it contributed very little to overall performance. The consumer staples sector returned 10.98%, driven exclusively by Energizer Holdings and Keurig Green Mountain with the remainder of constituents negative or flat. As expected, energy and consumer discretionary mid-cap stocks performed similarly to those in the large-cap market segment, returning 9.22% and 1.51% respectively. Small-cap stock performance was disappointing relative to peers, albeit still positive. Similar to the mid-cap space, value outperformed growth. Most of the segment's underperformance was attributable to a weak quarter from micro-cap stocks which returned -1.41%, mainly due to a sell-off in April. Small cap sectors, as measured by the S&P 600 economic group components, behaved much like their large-cap peers, as telecom (-4.91%) and consumer discretionary (-0.52%) were the Q2 laggards, while energy (+6.34%) and utilities (+6.45%) were the top performers.

The S&P 500 has not only reached an all-time high, but the cyclically-adjusted P/E (CAPE) ratio and volatility are also at long-term extremes. CAPE is currently at 26.63 and going back to 1881, there have only been 3 other periods (1929, 2000, and 2007) where it exceeded this level. Volatility, as measured by VIX, has fallen considerably since the global financial crisis to its current level of 11.57. Such a depressed VIX level indicates investors are much less sensitive to market news and that little is being done to price in bad news. In a normal interest rate environment, this combination of extremely high valuations and dampened investor sensitivity raises significant concerns. However, Federal Reserve manipulation of interest rates has and should continue to drive investors into stocks, raising the likelihood that the current environment will persist for some time.



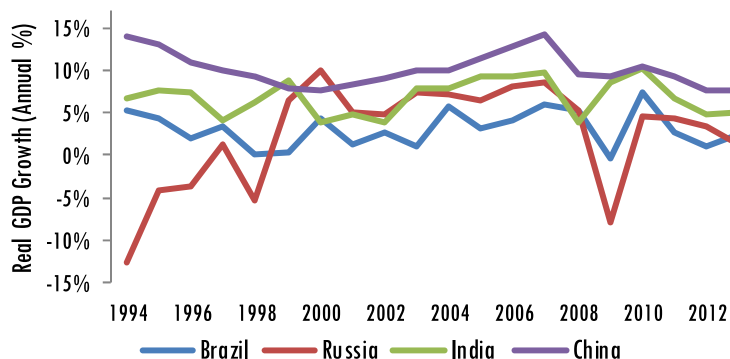
Overseas Markets

Foreign Stock & Bond Indices - Total Returns			
MSCI Broad Indices	**2Q14**	**Barcap Global Indices***	**2Q14**
World Index	4.86%	Global Aggregate	2.45%
EAFE (Developed)	4.09%	Pan-Euro	2.30%
Emerging Markets	6.60%	Asian-Pacific	2.99%
		Eurodollar	1.79%
MSCI Regions	**2Q14**	Euro-Yen	2.64%
Europe	3.30%	Other Currencies	4.74%
Japan	6.66%	*Unhedged	
Pacific ex-Japan	4.31%		
Latin America	6.84%		

Overseas market performance was mixed with modest performance in most developed regions and surprisingly good performance within emerging markets and the BRICs. The after-effects of a harsh winter in the US along with the conflict in Crimea have lowered the outlook for global economic growth this year according to the World Bank. The Bank's expectations are that highly developed economies will see a rebound later in the year, but its overall global growth forecast for 2014 was trimmed to 2.8% from 3.2% in January.

Growth in the US and Europe is projected to accelerate this year as the effects from government spending cuts fade, labor markets improve, and pent-up demand starts to flow through developed economies. Growth in emerging markets is expected to face headwinds as reluctance to enact policy changes in a number of countries, an increase in military conflicts, and the looming threat of higher future interest rates has dampened growth expectations.

China's economy continued to slow during the second quarter despite some modest stimulus measures implemented in early April. In response to a weak start to 2014 Beijing announced several measures, including tax breaks for small businesses, accelerated infrastructure investment and a relaxation of some banks' reserve requirements. Industrial production improved with value-added industrial production (which measures an economy's manufacturing, mining, utilities and construction) rising 8.8% in May from a year earlier and retail sales experiencing a 12.5% year-over-year increase in May. The MSCI China Index was up 5.5% during the quarter. These positive indicators suggested to some analysts that Beijing's stimulus measures are aiding the economy, but the country's sliding property sales and falling foreign direct investment (FDI) may suggest a need for stronger measures. During the first five months of 2014, residential floor space for sale in China increased by 25% while residential floor space sold declined by 9%. Total land sales have also dropped off dramatically, falling to 1,767 transactions in May in 300 Chinese cities, down 45% from last year and 19% lower than last month, according to a survey published in early June on Chinese real estate website Soufun.com. In May, the amount of FDI that China attracted fell by the most in 16 months, also pointing to a slowing economy. The Ministry of Commerce announced in mid-June that China attracted $8.6 billion in FDI in May, which was down 6.7% from a year ago and is the worst showing since January of 2013. China continues its push to move the economy away from dependency on exports and investments by transitioning to consumer demand as the primary growth driver. As a result of this new strategy, China's annual economic growth is predicted to fall to a 24-year low of 7.3% this year, according to economists polled by Reuters in April.



Source: World Bank

Meanwhile, China continues to assert its sovereignty throughout the South and East China Seas with little to no consequences. Territorial disputes between China, Japan, the Philippines, Vietnam, and to a lesser degree Malaysia, Brunei and Taiwan are ongoing. These nations are interested in the potential exploitation of crude oil and natural gas under the waters of parts of the region, as well as acquiring fishing areas and shipping lanes. But recently it seems that China's claims may be more about military positioning and a show of strength. On May 2nd, China deployed a $1 billion oil rig into Vietnam's exclusive economic zone and continental shelf, sparking ongoing confrontations between Chinese and Vietnamese vessels near the rig as well as anti-China protests in central and southern Vietnam. Since then, China has sent four more oil rigs into the disputed waters and has begun moving sand onto reefs, physically creating new islands along the Spratly Archipelago. The island building has alarmed the Philippines, Vietnam and other Southeast Asian nations as well as senior US officials. Not only will these islands allow China to install better surveillance technology and set up resupply stations for government vessels, but they may also enable China to claim that it has an exclusive economic zone within 200 nautical miles of each island, as is defined in the UN Convention under the Law of the Sea. These developments have raised tensions in the area but have not yet resulted in any kind of outside response, making this region a particularly volatile one, which in our view should be closely monitored by investors.

In Europe, the specter of deflation remains a chief concern. Eurozone inflation held at a 4-year low in the first quarter and remained at 0.7% early in Q2. However, macro factors have started to show positive signs. PMI readings in a number of countries are rising, unemployment has been lower than expected and economic growth in mainline and peripheral economies appears to have picked up. Sovereign debt yields continue to trend down particularly in the peripheral coun-

tries. Speculation about what, if any, tools the ECB has left to provide a tail-wind to the Eurozone economy abound. Consensus was for the ECB to leave rates unchanged, and it held to that mainstream view early in the quarter. However, the shadow of deflation continued to loom large as the ECB's June meeting approached with President Mario Draghi acknowledging that the Eurozone is at risk of sliding into a downward price spiral that would impact corporate profits and the ability of companies to hire. At its June 5 meeting, the ECB announced several measures aimed at combatting deflation: a base policy interest rate cut from 0.25% to 0.15%, a record negative deposit rate of -0.1% (meaning it costs banks not to lend), and an opening to both provide cheap loans to banks and conduct quantitative easing by buying ABS, if necessary. It is hoped that these measures will spur lending and stem a deflationary spiral. Draghi went on record saying, "We will act swiftly with further action if needed."

10-Yr Sovereign Debt	12/31/2013	3/31/2014	6/30/2014
US	3.03%	2.72%	2.53%
Japan	0.74%	0.64%	0.56%
UK	3.02%	2.74%	2.67%
Germany	1.93%	1.57%	1.24%
France	2.55%	2.08%	1.70%
Italy	4.08%	3.29%	2.85%
Portugal	6.01%	4.06%	3.64%
Spain	4.13%	3.23%	2.66%
Ireland	3.45%	3.01%	2.35%
Greece	8.27%	6.51%	5.91%

Source: Bloomberg

The Japanese economy grew at a quicker pace than estimated in Q1, as business spending increased more than previously reported. GDP grew at an annualized 6.7% in Q1 according to the Cabinet Office in Tokyo, faster than a preliminary 5.9% forecast and surprisingly ahead of the median forecast of Bloomberg economists that anticipated a downward revision to 5.6%. Increasing business investment should help the economy rebound from a forecasted contraction after the April sales-tax increase. Business investment increased 7.6% from the previous quarter, revised up from a preliminary 4.9%. Consumer spending also surprised to the upside, climbing 2.2% versus an initial 2.1% estimate.

Sanctions imposed on Russia by Western governments have resulted in decelerating growth. The on-going crisis in Ukraine has been dampening investment spending in the Russian economy since early 2014. Furthermore, there have been calls for additional financial and economic sanctions against key sectors of the Russian economy, leading the central bank to tighten monetary policy to stem rising interest rates as a means of stabilizing markets in the country. Inflation appears to be eroding real wages, which reduces consumer spending and may culminate in economic contraction.

Performance in Latin America was mostly up during the quarter, but concerns within the region continue to amass. Argentine debt is once again dominating headlines. In mid-June the US Supreme Court ruled against Argentina, letting stand a lower court ruling that the country must pay off hedge funds (or vulture funds as they are called in Argentina) that own bonds left over from the country's record $100 billion default in 2001. Argentine President Christina Fernandez said the county cannot afford to pay the $1.3 billion it owes to these investors while also making regular debt-service payments to other lenders. Argentina's payment on its restructured debt was due at the end of June and as of this writing no deal has been struck nor payment been made. The end of the month triggered a technical default, setting in motion a 30-day grace period. Argentina must decide by the end of July whether to strike a deal with the holdouts or default on its next debt payment, which would be the country's second default in 13 years. Meanwhile in Brazil the festive atmosphere surrounding the World Cup seems to be masking the country's underlying economic afflictions. Economists have lowered their growth forecasts for the country and inflation is poised to remain high through 2015. Brazil looks to be entering into a period of stagflation and the World Cup only seems to be exacerbating the situation. Spending on new infrastructure as a result of the tournament (often infrastructure that may not be the most urgently needed) is astronomical and productivity has dipped as well with holidays being decreed on certain match days. The São Paulo Federation of Commerce estimates that the output lost as a result of the Cup could reach 30 billion reais ($14 billion) which is about as much as all World Cup investments combined. The projected tourism related earnings of 6.7 billion reais will not completely offset this loss. All of this spending has fueled inflation that may not end with the Cup. Consumer prices rose 6.4% in the 12 months ending in mid-June, nearing the central bank's target upper limit of 6.5%.

Focus On: *Convertible Bonds*

Convertible bonds ("converts") are hybrid securities that enable investors to capitalize on a diverse set of risk factors to express their investment views. Unlike most other instruments, converts have a dual bond-equity like behavior together with a distinct risk/reward profile to express both systematic and opportunistic views. Additionally, they can offer potential for enhanced portfolio diversification or risk-adjusted returns. As institutional investors express renewed interest in the asset class, we attempt to explain the asset class dynamics as well as the ways in which it might be useful.

History and Current Convertible Market

Convertible bonds have a rich, nearly 150 year-old history, with railroad companies being the first issuers in the then rapidly-growing economy. Since its early inception, the market for convertible bonds has evolved into its own asset class with

total outstanding volume of nearly $500 billion. Overall issuance is dominated by the US market where nearly half of the total notional is situated. Roughly 30% trades through European and Middle Eastern markets, with the rest coming from Asia. It is notable that in the last five years, the Asian (ex-Japan) share of the market has been steadily increasing, while the Japanese and European markets have been losing their market share. Initially, the convertible bond market presented unique access to capital for small- to medium-size companies where traditional bond issuance was not feasible. However, in the last twenty years, large-cap AAA-rated corporations became more visible participants in this market, with roughly 30% of the overall flow attributable to US large caps. Still, the average credit quality of issuance in the US remains at BB for the over $48 billion issued in 2013.

Along the way of their sometimes volatile history, converts have experienced several watershed events. The latest and most relevant occurred during the 2008 financial crisis. What transpired largely changed the marketplace for both sell-side and buy-side participants. On the sell side, the inability to short certain equity names created undesired underlying risks for broker dealers. On the buy side, a dysfunctional credit swap market and rapid sell-off in equities resulted in elevated downward pressure on convertible bond valuations. For hedge funds focused on convertible bond strategies, the Lehman Brothers bankruptcy created downward pricing pressure leading to prime broker margin calls. These margin calls, in conjunction with redemption notices, led to forced selling and massive consolidation, resulting in roughly half of the convertible arbitrage hedge funds shutting down.

In the years since the crisis, the convertible bond universe has seen steady returns, outperforming the straight fixed income asset classes on a risk-adjusted basis. The strong performance is largely attributable to higher equity valuations and improved credit spreads. Nevertheless, the AUM in convertible bond funds and, more importantly, new issuance levels have been declining. While the performance of converts as an asset class has not been much affected by the reduced levels of issuance, it could become a concern going forward as the market does fundamentally require overall size/volume to grow so there is sufficient liquidity. However, investor interest remains, as with insurance companies that often cannot hold stocks in their general accounts and can substitute converts for some equity exposure.

Overview of Convertible Bond Strategies

Two major categories of investors seek exposure to convertible bonds: buy-and-hold long-only allocators and more dynamic, arbitrage-like hedged position holders (hedge funds). Since the last crisis, the balance of notional has significantly shifted to the more passive buy-and-hold approach with a long-term investment horizon. Whereas prior to 2008 roughly 75% of AUM was managed by hedge funds, today this number hovers around 50%. This shift has several causes: one is the overall elimination of proprietary trading desks at banks (as well as the aforementioned decrease in the number of convertible bond funds); others are increased regulatory requirements and more modest levels of leverage. The more dynamic and opportunistic type of strategies can, broadly speaking, be divided into three major categories: relative value, arbitrage, and macro-fundamentals driven.

- Relative value exploits relative mispricing of various risk factors inherent to converts such as relative valuation of companies with similar credit quality. This usually involves gaining a deep understanding of fundamentals and the balance sheet of a company.
- Arbitrage is a volatility play, exploiting the embedded optionality. This style is more quantitative and requires a relatively extensive operational infrastructure, as the complete portfolio usually includes short positions in equity as well as long positions in credit default swaps.
- Macro types of strategies are opportunistic plays based on broad-based dislocations in the market or views on specific economic sectors.

Pricing and Risk Considerations

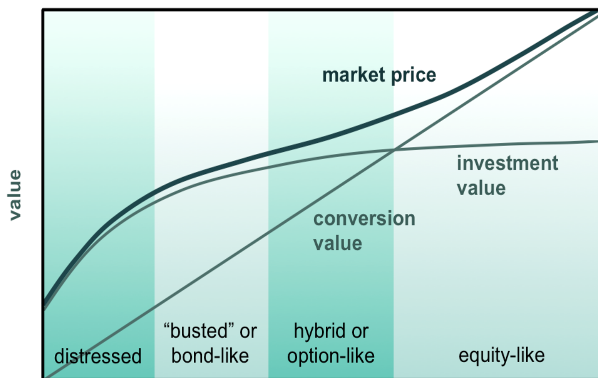
At its core, a convertible bond is a corporate bond which includes a provision entitling the bond holder to convert into a fixed number of equity shares at a predetermined price, called the strike. As such, a convertible bond will generally have a higher price than an equivalent corporate bond. The convert price will approach the bond price when its underlying call option is so out-of-the money that it is nearly worthless. There are three ranges in the underlying price spectrum where a convertible bond has distinct risk/reward characteristics:

- If the current price of a share is equal to the strike, the bond is said to be at-the-money. This is where the ratio of the upside potential to the downside risk is the highest as it provides high participation rate in the share price if the stock rallies and low participation rate if it falls.
- If the share price is below the strike, the convert is said to be out-of-the-money, and behaves essentially as a corporate bond with the main risk factors being interest rates and credit quality of the company. In particular, for companies with strong credit ratings, the bond floor provides protection from downside risk. In the situations

where the credit quality is distressed, the bond floor is prone to collapse and absent a credit hedge (i.e., via the purchase of credit default swap) the convert could default similarly to an ordinary distressed corporate bond.

- Finally, when the underlying price is higher than the conversion price, a convertible bond is "in-the-money" and behaves much like the equity itself, with the premium being the difference between the current price and the conversion price, usually called the intrinsic value of the instrument. Issuances from several years ago are mostly in this range at present.

The most interesting and potentially rewarding price point of a convertible bond is at-the-money, where the price of the underlying equity is close to the conversion price of the bond. Deeply in-the-money converts behave very much as equity would with the main risk factor being the share price. Deeply out-of-the-money converts are practically corporate bonds and as such have interest rate and credit exposure; while at-the-money converts have an additional risk factor responsible for their convexity. This risk factor is volatility. The value of the option (and thus the convert) rises as volatility increases, and the convert becomes a levered type of instrument due to that convexity. This additional complexity of converts requires much more active and involved risk management, but it also presents opportunities to express different views along various risk scenarios.



Source: Risk Encyclopedia at http://www.riskencyclopedia.net.

Current Environment and Investing in Convertible Bonds

Since the beginning of the latest secular equity bull market, the convertible bond universe may appear relatively rich as most of the longer-dated converts issued in previous years would by now be fully priced due to being significantly in-the-money and thereby immediately exercisable. Investors should choose portfolio managers adept at focusing on more convex, closer to at-the-money convertible issuance in order to maximize the benefits of exposure to this asset class. Particularly in this era of low interest rates when traditional fixed income instruments are not generating attractive returns, converts present a potentially intriguing opportunity. Convertible bonds have lower interest rate sensitivity (though it approaches that of straight bonds when the underlying share price drops significantly), and given that the short- to medium-term outlook for equity markets remains positive, converts maintain their value as equity-linked derivatives. Additionally, should the current market environment of ever-increasing equity valuations, low volumes, and abnormally low volatility change, converts should still provide an interesting alternative to straight equity instruments. This is mainly due to the fact that convertible bonds have a floor, and barring major credit events, it will serve as protection. Also, since underlying equity returns are negatively correlated to volatility, decreasing prices are almost always accompanied by increased levels of implied volatility where converts benefit again on a relative basis. As such they can often be used by hedge funds to structure a volatility-only play. This is accomplished by incorporating convertible bonds into a portfolio consisting of a long position in credit default swaps, which essentially provides a credit hedge if the underlying bond defaults and eliminates credit exposure, and a short position in underlying shares, which eliminates equity price sensitivity.

In general, buy-and-hold converts tend to have a high correlation to equities, whereas hedge fund converts do not. This is because hedge fund converts are "delta neutral" (portfolio value is relatively insensitive to changes in the value of the underlying security) – the portfolio buys a convert and sells underlying shares, since the convert is otherwise synthetically long shares. Thus, hedge fund converts do not have equity exposure and so are less correlated to the equity markets, in theory making them a potentially attractive addition to the overall institutional asset allocation. However, a 20% allocation as in the sample portfolio offers only a muted benefit. In a portfolio where roughly 50% of assets are allocated to equities, 30% to fixed income, and 20% to converts, especially straight converts, both returns and risks will be dominated by the equity component. As such the correlations to equities of both hypothetical portfolios presented here will be quite

20 Years	Core Bond (BarCap Agg)	High Yield (BarCap HY)	Long Gov/ Credit (BarCap)	Convert Long-Only (BofAML)	Convert Arb HF (Credit Suisse)	US Equity (Russell 3000)	Portfolio 1: 60% Equity/ 40% Core Bond	Portfolio 2 50% Equity/ 30% Core Bond/ 20% Convert	Portfolio 3 50% Equity/ 30% Core Bond/ 20% HF Convert
Annualized Return	5.99%	8.01%	7.84%	8.89%	7.58%	9.64%	8.63%	8.03%	8.51%
Standard Deviation	3.60%	8.97%	8.73%	12.08%	6.68%	15.48%	9.40%	8.96%	8.44%
Return/Unit of Risk	1.66	0.89	0.90	0.74	1.13	0.62	0.92	0.90	1.01

Data as of March 31, 2014. Sources: Barclays, Bank of America Merrill Lynch, Credit Suisse, Russell indices.

high, making the diversification benefit marginal. The P3 portfolio, where the alternative is a hedge fund convert, makes a slight contribution to risk-adjusted returns, mainly as a result of lower volatility. Note that although the correlations of the hedge fund convert itself are low to most asset classes (see green shading in the correlation matrix), even with a 20% allocation to the hedge fund coverts, the overall standard deviation of the portfolio improves by a relatively modest 1% with a similar return profile (see green-shaded Portfolio 3 vs. Portfolio 1 in the return/volatility table on the prior page).

Correlation Matrix - 20 Years

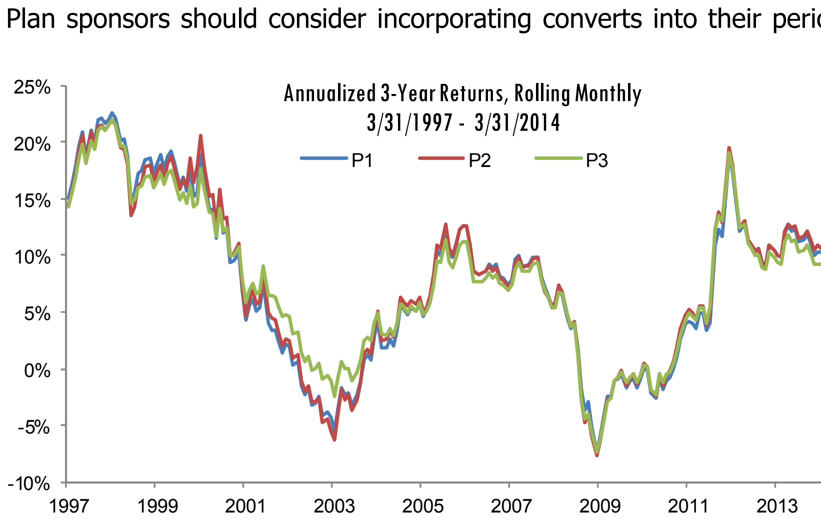
	Core Bond	High Yield	Long Gov/ Credit	Convert Arb HF	Convert Long-Only	US Equities	P1	P2	P3
Core Bond	1.00								
High Yield	0.20	1.00							
Long Gov/Credit	0.93	0.18	1.00						
Convert Arb HF	0.13	0.64	0.10	1.00					
Converts Long-Only	0.04	0.30	0.04	0.16	1.00				
US Equities	0.00	0.64	(0.02)	0.39	0.55	1.00			
P1	0.15	0.66	0.13	0.40	0.55	0.99	1.00		
P2	0.13	0.64	0.10	0.38	0.68	0.98	0.98	1.00	
P3	0.15	0.71	0.12	0.53	0.53	0.98	0.99	0.97	1.00

From April 1, 1994 through March 31, 2014.

Concluding Thoughts

As is often the case, whether the expected enhancements to the risk-adjusted returns resulting from allocation to converts are sufficient to justify their consideration is both market and investment style related. At the very least institutional investors should be aware of the limited benefits of diversification of long-only converts in portfolio management due to their high correlation with equities. Still, as the sample portfolios rolling returns chart illustrates, hedge fund coverts do provide a counterbalance in some periods of high volatility, however with limited diversification benefits. This benefit is visible in the rolling returns chart for the period following the tech bubble – see green portfolio P3 line from 2001 through 2004 – yet during the most recent economic crisis, where 50% of convertible arbitrage hedge funds shut down resulting in massive forced selling, that benefit was lost (see 2008 through 2011). Institutional investors may find that other asset classes can offer lower portfolio volatility over time with similar returns and enhanced diversification benefits.

Plan sponsors should consider incorporating converts into their periodic strategic asset allocation studies to assess their risk-reward portfolio contribution relative to the menu of available investment options. While they may not be a good match for defined benefit LDI strategies, converts can play a role within an alternative bucket or as an allocation within a target-date or target-risk strategy in participant-directed plans by potentially reducing volatility as part of a larger tactical allocation.



The current reality is that the diversification benefits of a long-only convertible bond strategy are minimal while over several full economic cycles, a 20% allocation to a hedge fund convert strategy can offer mild risk-adjusted return benefits to a balanced equity/fixed income portfolio during certain periods of high volatility. Hedge fund converts could be thought of as an alternative risky asset class displacing a portion of both equities and fixed income, from which the allocation could initially be sourced (if not from the alternatives bucket). However, a portfolio manager's ability to hedge away both of these exposures makes it possible to categorize the asset class as one having risk-reducing diversification benefits on an ongoing basis. An adept hedge fund convert portfolio manager can then tactically manage underlying equity-fixed income exposure in addition to hedging undesirable risks. Toward that end, it is important that institutional investors select effective portfolio managers in this asset class – those well-versed in derivatives, optionality, and the nuances of both equity and fixed income valuations.

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