NAIC National Association of Insurance Commissioners & The Center for Insurance Policy and Research

Capital Markets Special Report

The NAIC's Capital Markets Bureau monitors developments in the capital markets globally and analyzes their potential impact on the investment portfolios of US insurance companies. A list of archived Capital Markets Bureau Special Reports is available via the index

Market Volatility: The Impact of Hurricane Sandy on the Financial Markets

Over the past two weeks, there has been a considerable degree of anxiety over Hurricane Sandy's arrival on the East Coast and its aftermath, both in terms of the economic impact on the affected areas — which in turn influences the size of the resulting insurance claims, especially for the property/casualty insurance industry — and the echoing impact on the various financial markets. While the intensity of the storm, which made landfall on Oct. 29, 2012, and the ensuing widespread damage have been widely covered by the media, the full economic burden to the affected residents and, subsequently, to their insurers will take weeks (if not months) to assess. Meanwhile, the financial markets have processed and reflected the available information about the hurricane much more quickly; therefore, the Capital Markets Bureau thought it would be appropriate to review the latest trends of specific financial market indices. We reviewed the markets' movements throughout the day before the U.S. presidential election (Nov. 6, 2012) to provide the most up-to-date information from the hurricane impact, while separating it from the reaction to the election results.

Below are graphs obtained from Bloomberg showing changing levels of selected indices and indicators throughout the capital markets for the previous six months through early November 2012 (except where noted). Nonetheless, we focused our analysis on the two-week time period leading to Sandy's arrival plus a few days afterwards. The graphs include indices and indicators for the equity markets, government bonds, corporate bonds, catastrophe bonds, asset-backed and mortgage-backed securities, the euro, an often-watched crude oil index and interest rate swaps.

Equity Markets

Since April 16, 2012, the Standard & Poor's 500 Index (S&P 500) experienced a low point on June 1 and subsequently increased 14.3% to a peak on Oct. 17 due mainly to the Federal Reserve's new stimulus program that was enacted in September (Quantitative Easing 3, or QE3), as well as other factors, such as the highest consumer confidence levels since 2007 and a pickup in the U.S. economy (including housing and employment improvements). Year to date, the S&P 500 gained 13.6%. As the busy third quarter earnings season began in mid-October, stocks began their downward spiral as companies reported lackluster sales growth, disappointing earnings and downbeat forecasts that have disappointed investors. The S&P 500 dropped 3.6% from the Oct. 17 peak to a recent low on Oct. 24. The stock market was closed Monday, Oct. 29, and Tuesday, Oct. 30, due to Hurricane Sandy, and reopened Wednesday, Oct. 31, with the index closing flat, a sigh of relief to investors. The index has subsequently gained 0.8% as the market shrugged off the economic impact of Hurricane Sandy, and looked forward to the economic benefits of rebuilding.

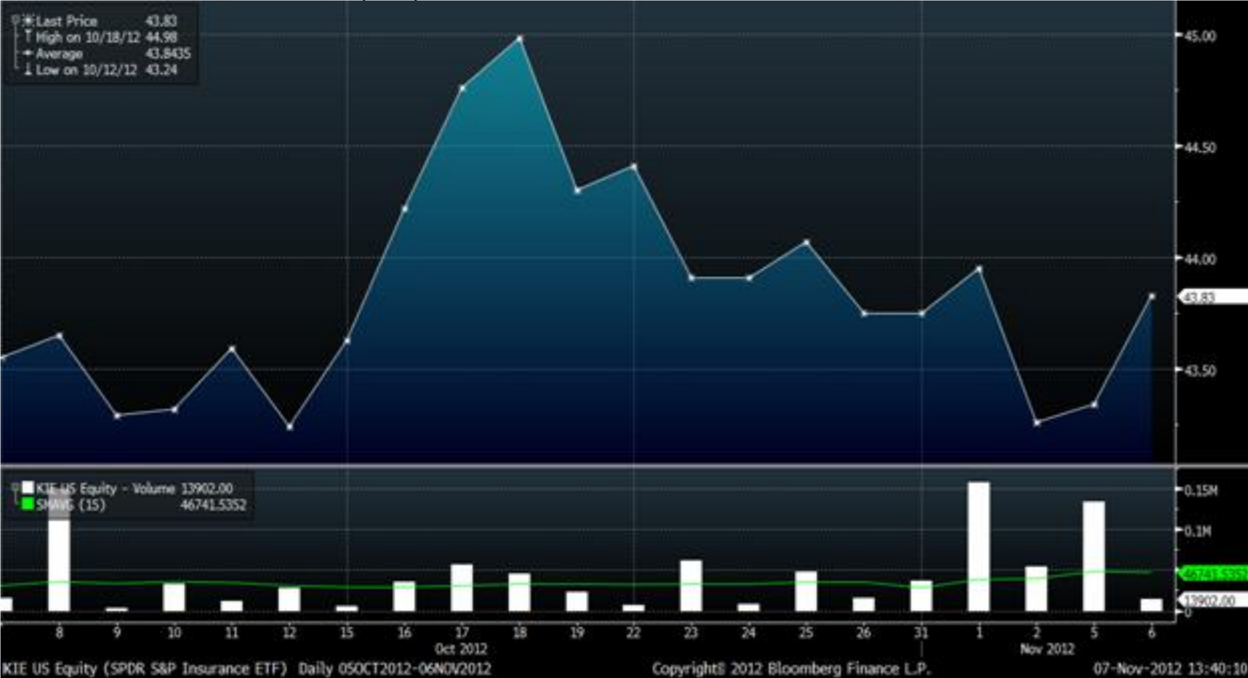
U.S. S&P 500 Index (SPX)

Since April 16, 2012, the Stoxx Euro 600 (Price) Index experienced a low point on June 4 and subsequently increased by 18.1% to a peak on Oct. 18, in lock step with the U.S. markets. Europe also had its own government stimulus plans that helped to drive the short-term bull market in European stocks, such as the European Central Bank's direct purchase of bonds of European countries, such as Spain and Greece, instead of relying on the credit markets for financing (conditional on EU oversight of fiscal and economic policies). Fears of the collapse of the Euro due to the potential exit of Greece from the European Union have since subsided. Thus, the European stock market has remained near its 2012 highs, with no impacts from U.S. and European Q3 company earnings or Hurricane Sandy. Year to date, the STOXX Europe 600 index is up 12.4%.

STOXX Euro 600 Price Index (SXXP)

The SPDR S&P Insurance ETF (KIE) is a modified equal-weighted index comprising of three-quarters of the market capitalization of the entire U.S. public insurance company universe. Top sectors include property/casualty (38.7%), life and health (20.1%), multi-line (15.8%), reinsurance (15.6%), insurance brokers (9.3%) and unassigned (0.5%). For the latest month, the KIE outperformed the S&P 500, with a gain of 0.6% vs. a loss of 2.6%. The KIE peaked on Oct. 18, but then dropped by 3.8% to a low on Nov. 2, against S&P 500's decline of 3% for the same period. The KIE was losing ground before Hurricane Sandy entered the picture, with 1.1% of the decline coming from the reaction to the storm. It then rebounded to close flat to the Oct. 31 closing price.

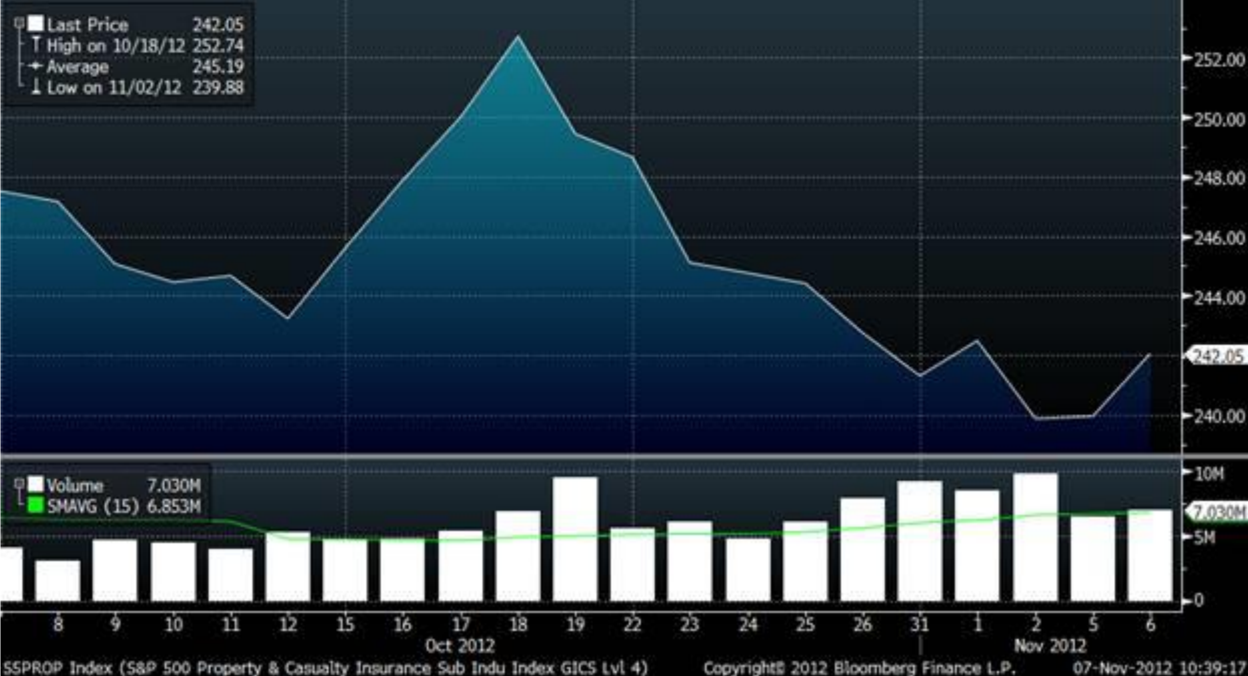
SPDR S&P Insurance ETF (KIE)



The sector most impacted by the hurricane is the property/casualty insurance industry. The S5PROP index consists of eight market cap weighted property/casualty insurance companies in the S&P 500, which includes Ace, Allstate, Berkshire Hathaway, Chubb, Cincinnati Financial, Progressive, Travelers and XL Group plc. For the latest month, the S5PROP index outperformed the S&P 500, with a loss of 2.2% vs. a loss of 2.6%. Year to date, the S5PROP index is up 16.4%, also outperforming the S&P 500's 13.6% gain. The S5PROP index also peaked on Oct. 18, but it has since dropped more than the KIE index, by 5.1% to a low on Nov. 2. The property/casualty insurance companies closed down slightly by 0.6% on the first day of trading following Hurricane Sandy (Wednesday, Oct. 31) vs. the KIE and the S&P 500 indices, which were both flat, as Hurricane Sandy had a greater impact on the property/casualty companies.

Standard & Poor's noted that insurance stocks usually rise in the aftermath of major storms. This typically occurs after some understanding of claims is realized along with an expectation of improved pricing. Only for Hurricane Ike in August 2008 (during the financial crisis) and Hurricane Hugo in 1989 were stock declines seen in the three-month and six-month intervals after the storm. The median six-month gains were 6%. Following Hurricane Irene in August 2011, insurance stocks were down almost 8%, but then recovered as damage amounts became known and investors were comfortable that insurance companies could handle the losses.

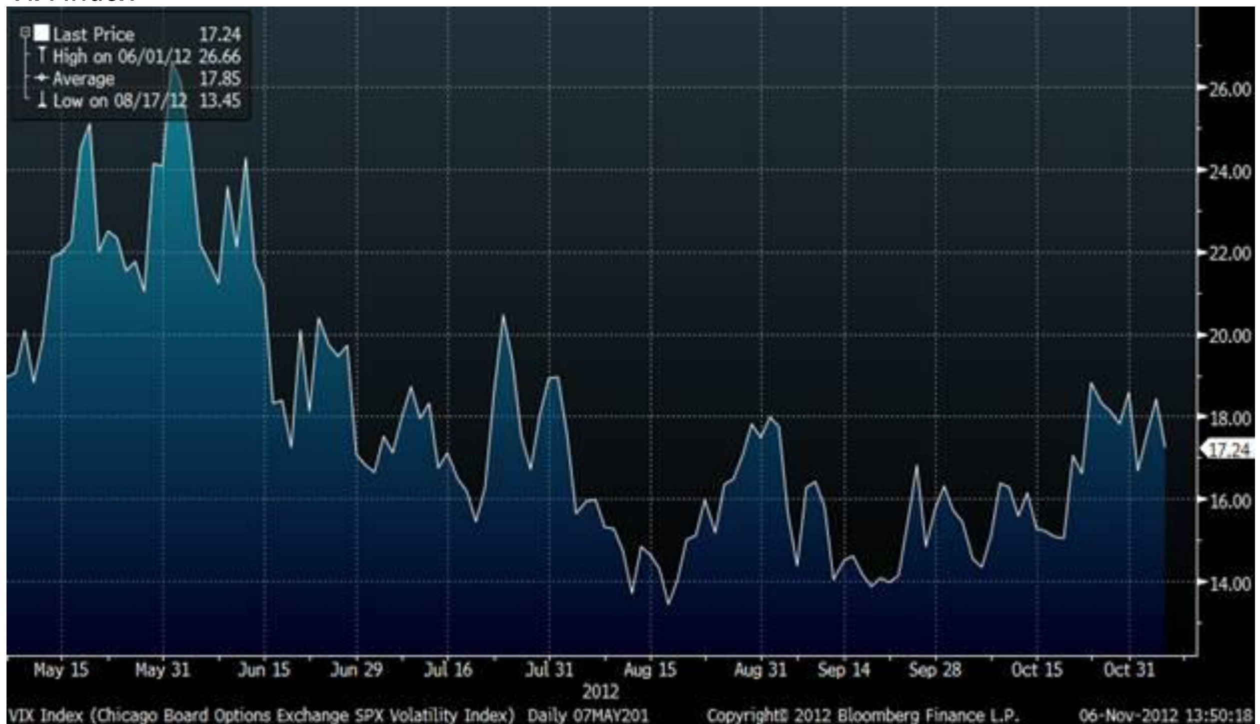
S&P Property/Casualty Insurance Index (S5PROP)



SPX Volatility Index

As the U.S. equity markets opened for trading post-Sandy (Oct. 31), the Chicago Board Options Exchange SPX Volatility Index, commonly known as the VIX index and regularly used by market watchers as a broad measure of equity market volatility, rose by 0.8 points to 18.6 from 17.8 the most recent trading day before (Oct. 26). However, this was still lower than an 18.8 level reached the week prior (Oct. 23) on disappointing earnings reports and slumping stock prices. The VIX index plummeted by 1.9 points the second day of post-Sandy trading (Nov. 1) to 16.7, as post-hurricane clean-up and rebuilding was vigorously under way, indicating a path toward normalcy; however, in the next two days, the index rose by 0.9 and 0.8 points up to an 18.4 level, as the full extent of Sandy's damage and devastation was revealed. Since then, the VIX index has eased by about 1.2 points to 17.2, with many of the affected areas showing signs of recovery, especially in terms of power outages and gasoline shortages. In the past six months, but prior to the past two weeks much weighed upon by Sandy and its aftermath, the VIX index has been trending lower from its mid-20 highs reached in the time period between May and June 2012 to a mid-teens level.

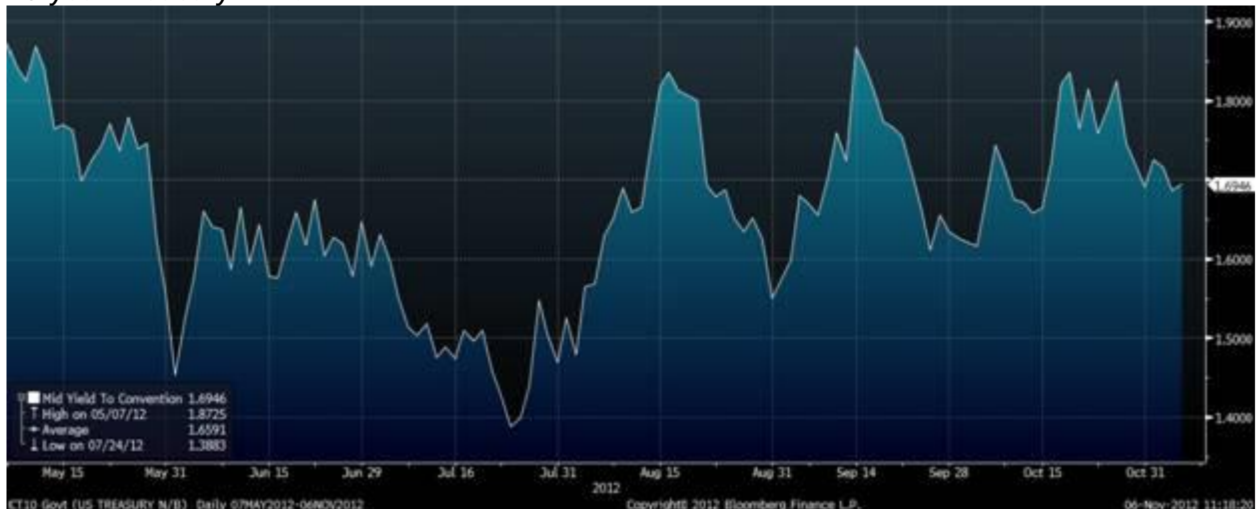
VIX Index



Government Bonds

The yield on the U.S. 10-year Treasury bond has fluctuated since May 2012, but has remained in a relatively narrow range of 1.39% and 1.87%. After the Federal Reserve announced its plan to expand its “Operation Twist” program — in which it sells short-term bonds in its portfolio and replaces them with long-term debt and is commonly referred to as QE2 — the 10-year yield declined to its lowest point in the past six months of 1.39% on July 24, 2012. In mid-September, the Federal Reserve announced that it would further expand its holdings of long-term securities with open-ended purchases of $40 billion of mortgage debt per month; this program is commonly referred to as QE3. Subsequent to the Federal Reserve’s announcement of QE3, the 10-year Treasury bond rallied, with yields declining 26 basis points (bps) in eight trading days. In the days following Hurricane Sandy, the 10-year Treasury yield remained relatively unchanged.

10-year Treasury Bond



The shape of the yield curve provides an indication of the market's expectations for interest rates, as well as economic activity in the future. The current yield curve is positively sloping, where yields increase as the time to maturity increases. On Nov. 7, 2012, the generic 12-month Treasury bond was yielding 0.18%, and the generic 30-year Treasury bond was yielding 2.89%. The spread, or the differential, between these two yields represents the slope of the yield curve. The steepness of the yield curve has increased to 272 bps from its flattest point in the past six months of 228 bps in late July. Despite this increase, the shape of the yield curve remains relatively flat compared to July 2011, when the spread between the 12-month and 30-year Treasury bonds was approximately 400 bps. As discussed in previous special reports from the NAIC Capital Markets Bureau, the combination of a flat yield curve together with low interest rates, especially for a prolonged period of time, could pose serious challenges to insurance companies in the long run. For example, a flat yield curve does not allow life insurers to differentiate their products from competing shorter-term products. Furthermore, a prolonged period of low interest rates could result in the erosion of investment yields, leading to pressure on profit margins and profitability. In September, the Federal Reserve announced that it expects to maintain interest rates at low levels at least through mid-2015.

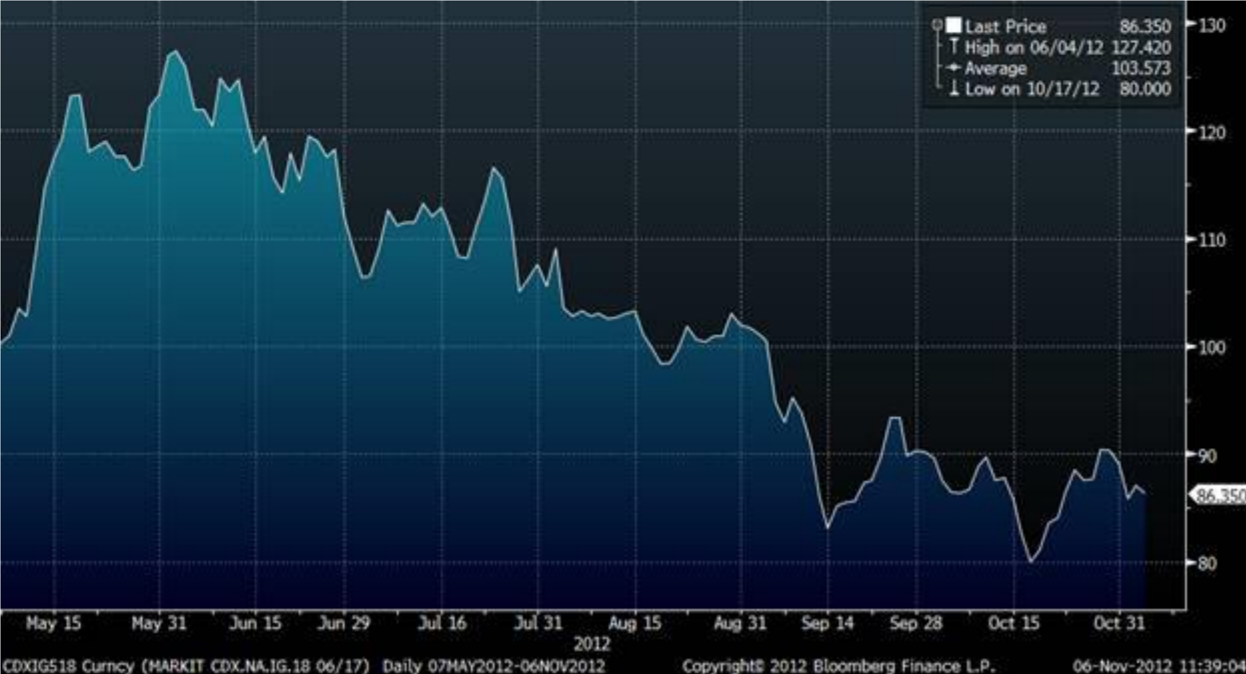
Shape of the Yield Curve: 12-month Treasury Bond and 30-year Treasury Bond

Corporate Bonds

One of the most commonly used measures of bond market activity is the CDX, an index-based credit default swap. Although used as a hedging tool and, therefore, driven by different market dynamics, the CDX provides a general sense of market sentiment.

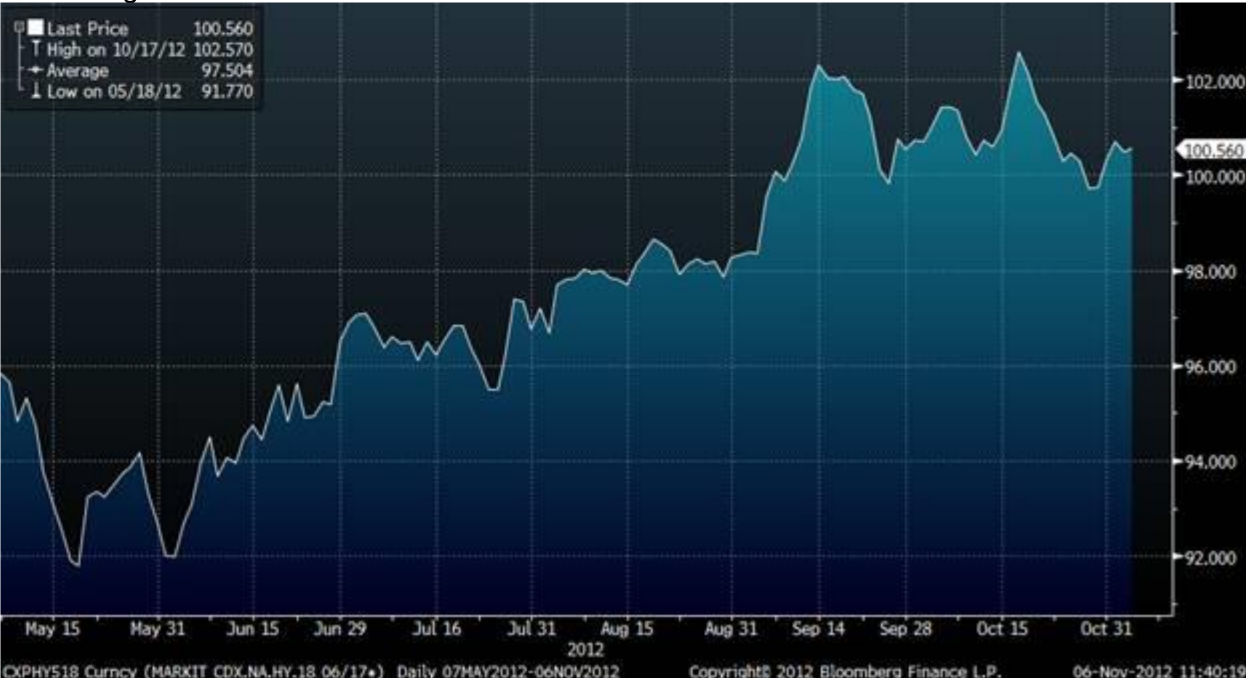
The Markit CDX North America Investment Grade Index (CDX IG) consists of 125 investment grade entities domiciled in North America. The spread on the CDX IG index has been on a declining trend, tightening from 127 bps on June 14, 2012, to 86 bps on Nov. 7, 2012. With the sustained low interest rate environment in the U.S., investors in general have been searching for better-yielding alternatives than Treasuries. This has resulted in strong investor demand for investment grade corporate bonds, which has led to tighter spreads. The spread on the CDX IG index widened approximately 2–3 bps as a result of Hurricane Sandy, but the spread widening was retraced within a few days.

CDX – Investment Grade



The Markit CDX North America High Yield Index (CDX HY) is composed of 100 non-investment grade corporate entities domiciled in North America. Unlike the CDX IG index, which trades on spread, the CDX HY index trades on price. Price moves inversely with yield and spread. The CDX HY index has also been benefitting from investor demand for higher-yielding assets, as its price is on an upward trend. The price on the index declined modestly in response to the effects of Hurricane Sandy but recovered soon thereafter.

CDX – High Yield



Catastrophe Bonds

The Swiss Re Cat Bond Total Return Index (which tracks total rate of return for all outstanding U.S. dollar-denominated cat bonds) fell to 234.57 Nov.2 from the year-to-date peak of 241.65 as

recently as Oct. 19. Corresponding year-to-date returns fell to 7.1% on Nov. 2 from a peak of 10.3%. The sharp drop was the largest since 2004, making cat bonds among the most volatile bonds over the past two weeks. The price and return volatility result from the "cliff risk" that is typical of these bonds; i.e., the risk the entire principal of the cat bond may go toward reinsurance claims instead of bond repayment. The "all or nothing" binary nature of these bonds resulted in few, if any, bids on those bonds most affected, directly impacting their mark-to-market value and liquidity (please refer to the May 4, 2012, special report from the NAIC Capital Markets Bureau titled, "A Comprehensive Overview of the Insurance-Linked Securities Market").

Swiss Re Cat Bond Total Return Index

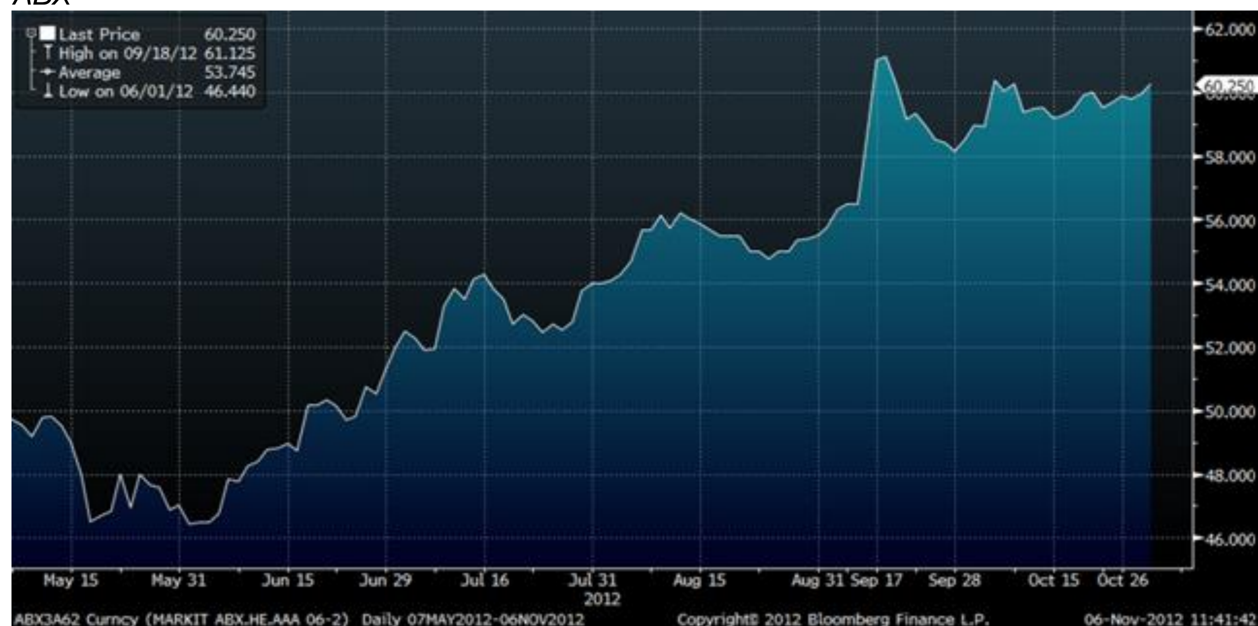
Structured Securities

The Markit ABX index is comprised of reference obligations in 20 non-agency RMBS issuers. The steady increase in RMBS prices between May and November 2012 suggests some improvement in the U.S. housing market due, perhaps, to the spring and early summer serving as seasonally strong home-buying months. The increase in prices also may reflect the seasonality of the mortgage loans that comprise the RMBS pools within the ABX index. In addition, according to Standard & Poor's (S&P) there was a "strengthening" demand for home, commercial and auto loans over the past three months, based on the Federal Reserve Board's October 2012 Senior Loan Officer Opinion Survey on Bank Lending Practices.

Since reaching its highest price in mid-September at $61.13, the index has been relatively steady and was $60.25 as of Nov. 5. In particular, over the past two weeks, there has been no significant change to the index prices, indicating it was somewhat unaffected by the recent Hurricane Sandy — so far. The storm has destroyed thousands of homes in the coastal areas of New York and New Jersey. Consequently, this could negatively impact the U.S. housing market. According to a recent S&P structured finance research update: "It is too early to accurately assess the credit impact, in our view, as it will depend on the extent of flood and other insurance coverage, the length of business interruptions, and any regional macro effects. October and November consumer and [commercial mortgage-backed securities] delinquencies may be higher than they otherwise would be due to mail and power disruptions." In addition, S&P expects October and November home sales to decrease as a result of Hurricane Sandy but expects minimal adverse impact on home prices due to low inventory. Home prices may also adjust downward in the coming months for seasonal reasons. Private label RMBS were 3% of

U.S. insurance industry total investments as of year-end 2011 ($123 billion on a book/adjusted carrying value (BACV) basis).

ABX



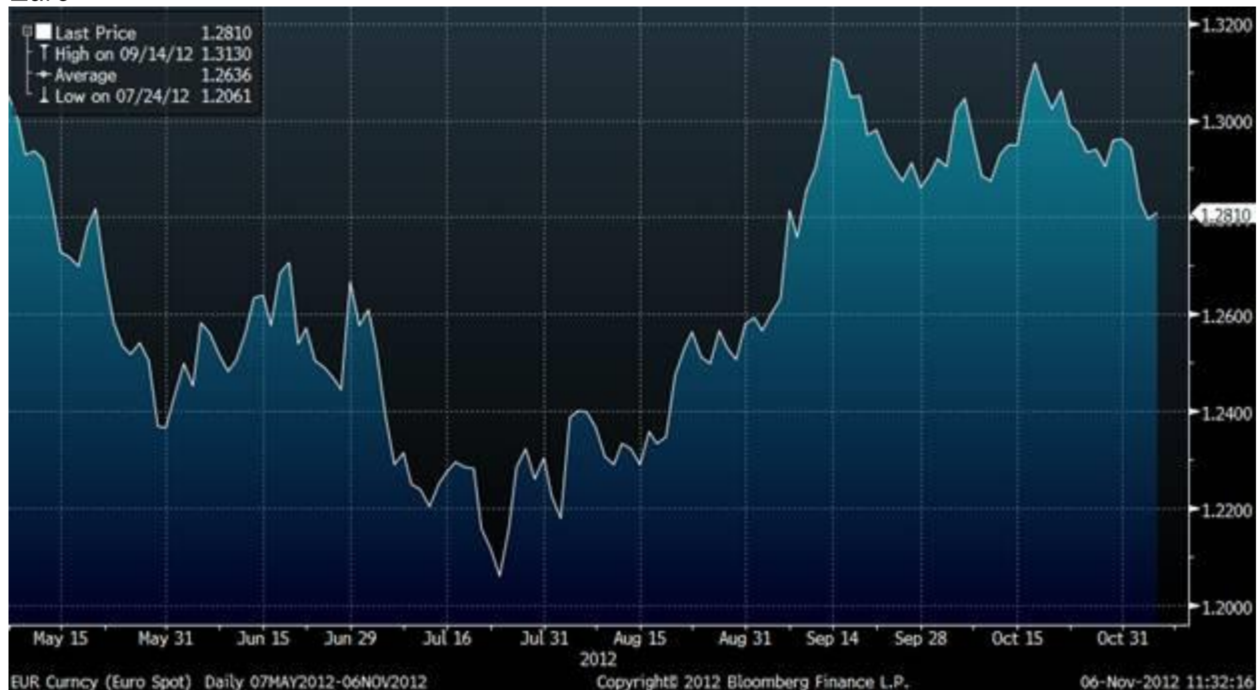
The Markit CMBX index is composed of 25 reference obligations that are tranches of commercial mortgage-backed securities (CMBS). New issuance for 2012 CMBS has been relatively strong and is expected to total more than $40 billion (according to S&P). Similar to the residential mortgage-backed securities (RMBS) market, CMBS market recovery is dependent on broad economic trends, but has not been as severely impacted by the U.S. housing crisis, given the commercial nature of its underlying loans. CMBS prices have steadily increased for the six months ended early November 2012, reaching a high of $95.75 in mid-September. Since then, prices have remained relatively steady, and were $94.50 as of Nov. 5. Prices have, therefore, remained relatively unchanged since the impact of Hurricane Sandy. However, CMBS trading volume for the week of Oct. 29 was below average due to the storm. And, according to Barclays, exposure to properties that comprise collateral in CMBS that are located in counties declared disaster areas by the Federal Emergency Management Agency (FEMA), is relatively small, noting, although, that the full magnitude of damage from the storm has not yet been fully assessed. Nevertheless, the credit impact on CMBS is expected to be minimal. The longer-term effect of the economies of the affected areas may also play a role. As of year-end 2011, the U.S. insurance industry's exposure to CMBS was $164 billion on a BACV basis.

CMBX

Currencies – Euro

The euro has declined only modestly against the dollar by approximately 1.0% since Oct. 26, 2012, the last business day prior to Hurricane Sandy passing over the U.S. Eastern Seaboard. The euro's decline against the dollar during this brief period has still left the euro in the high end of the range it has been trading in during the past six months. The euro had already been declining since Oct. 16, now reaching the level that it last traded at as of Sept. 10, 2012. Overall, the storm and its aftermath have had no meaningful impact on the value of the euro vs. the dollar.

Euro



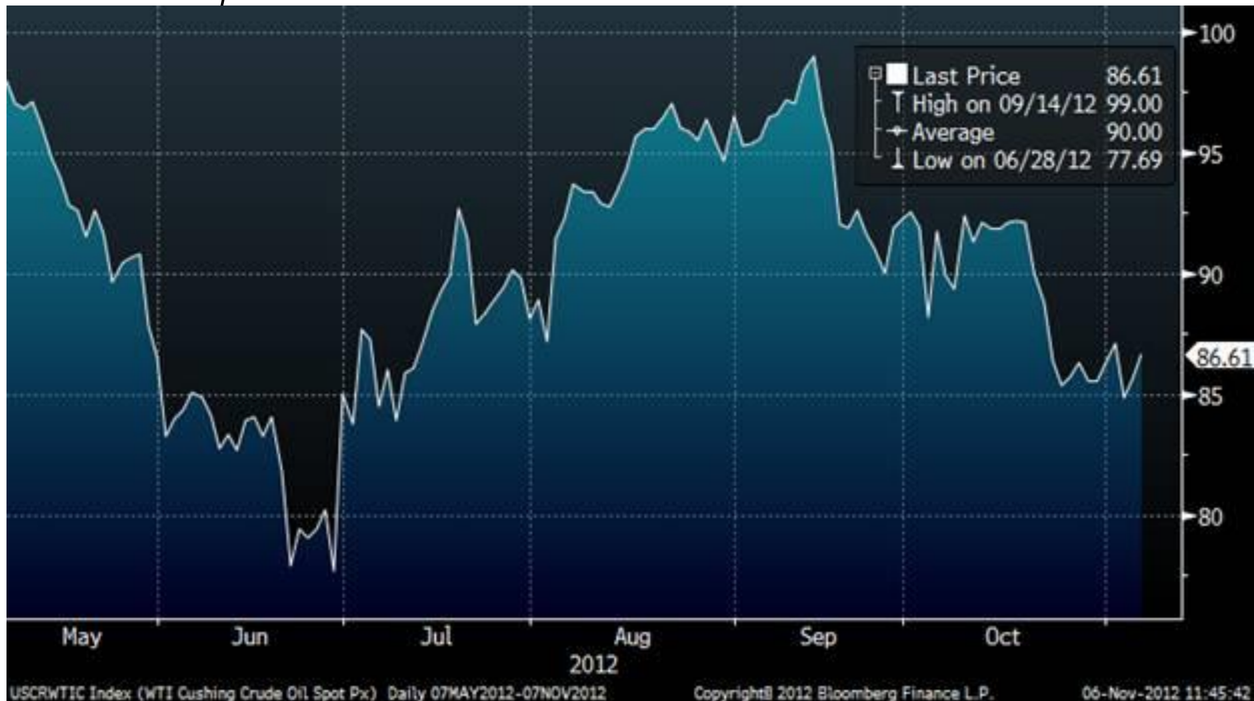
Commodities – Oil

The WTI Crude Oil Index has experienced volatility in the past six months, although the oil price had been relatively stable around the time of Hurricane Sandy. The largest daily change around

the time of the storm was a negative 2.6% drop a week after Hurricane Sandy's landfall. Therefore, there is no evidence to show that Hurricane Sandy had any significant impact on the price of crude oil. On the other hand, according to the Energy Information Administration (EIA), there was a noticeable impact on the price of gasoline in the East Coast region, due to damage from Hurricane Sandy.

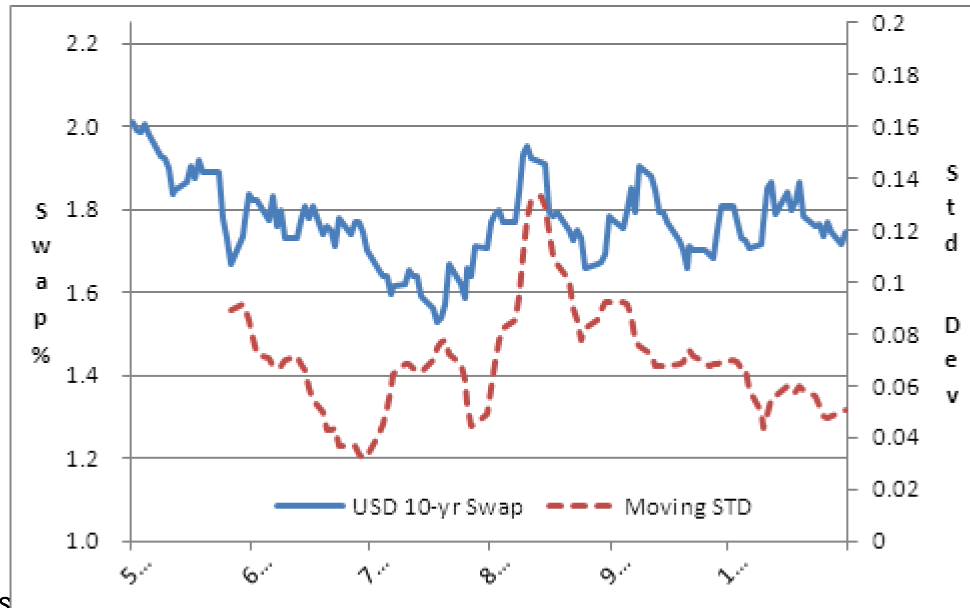
Overall, oil prices have experienced fairly high volatility in the past six months, starting out with May's high of $98 and dropping 20% to $78 two months later and then rallying back up to a high of $99 in September. The 27% rally in September was caused by supply constraints, geopolitical concerns and easing worries over the European debt crisis, according to CNN. Most recently, the oil price has retreated by 13% to $87 from September's high and is now close to the six-month average of $90.

WTI Crude Oil Spot Price



Interest Rate Swaps

Interest rate swaps are derivative contracts used to manage interest rate risk. Yields on 10-year fixed/floating U.S. dollar swaps have been moving in a decreasing range since early September, trading between 1.65% and 1.90%. The volatility of swap yields has also been trending down, as shown in its 20-day moving average standard deviation (see "10-year Swap Rates" graph below). Swap rates have remained soft despite recent, post-Sandy, heavy corporate bond issuance.



10-year Swap Rates

Summary

Overall, the financial markets have had a muted response to Hurricane Sandy and the resulting disruption in the markets and in the Northeast U.S. The NAIC Capital Markets Bureau will continue to monitor market volatility and publish additional research on this topic, as well as events that may affect market volatility, as deemed appropriate.

Questions and comments are always welcome. Please contact the Capital Markets Bureau at **CapitalMarkets@naic.org**.

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