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

Capital Markets Activity in Early 2015

The NAIC Capital Markets Bureau periodically reviews the status of different markets and comments on any noteworthy trends as they pertain to the U.S. insurance industry's investments.

Key Points:

- The world's major economies are diverging, as the U.S. recovery gathers momentum while Europe and Japan continue to languish, and China's growth continues to moderate. Changes in interest rates will likely have significant ramifications for insurers' investment portfolios.
- The U.S. dollar's ascent reflects current economic trends and central bank policies, and may go on for some time. Oil prices have collapsed and other commodities have weakened in concert with the dollar's rise and because of sluggish global demand and excess supply.
- Credit markets have been stable overall, despite some pressure on high-yield and emerging credit markets because of the fall in commodity prices. Diminished corporate bond market liquidity could heighten the volatility of fixed income returns as interest rates begin to rise.
- Lofty equity market valuations—fueled by low interest rates—set the stage for future volatility episodes as markets anticipate a U.S. interest rate "lift-off."

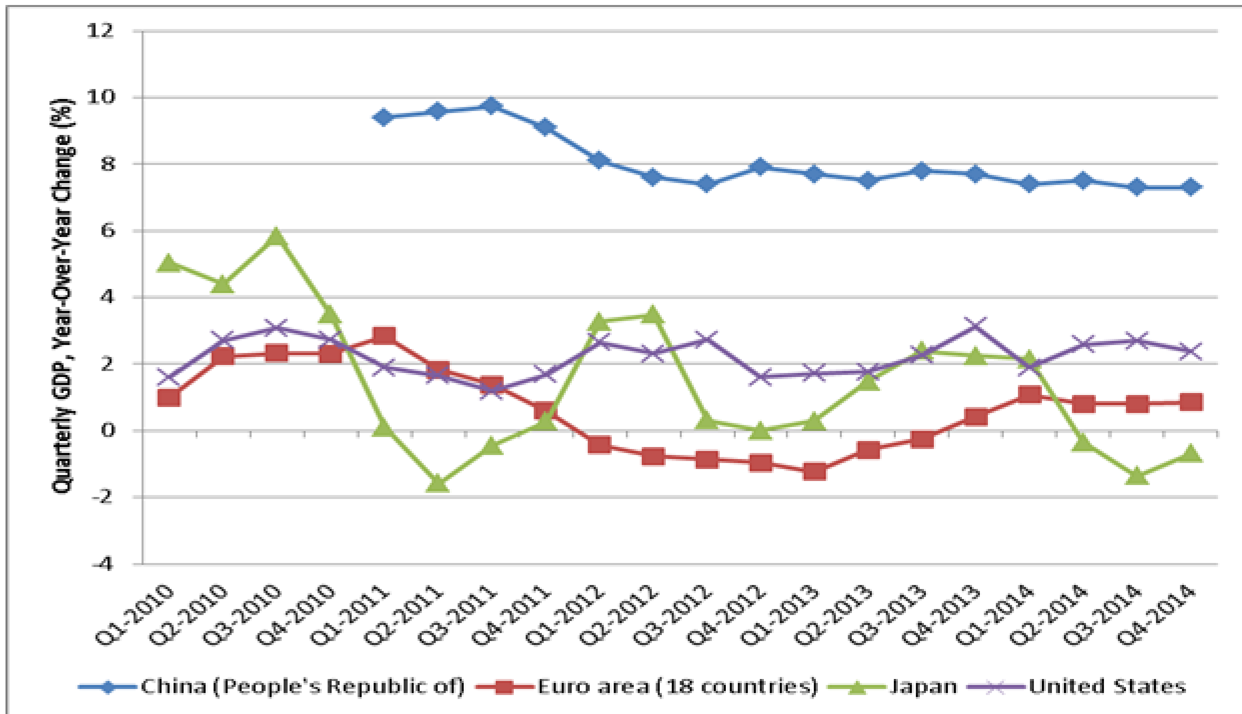
As Chart 1 shows (evidenced by the Standard & Poor's (S&P) 500 Index and Euro STOXX 50 Index), since the middle of 2014, the capital markets have experienced periods of heightened volatility in reaction to shifting macroeconomic trends and monetary policy expectations, evolving regulatory regimes, and pockets of geopolitical instability around the world. With market volatility potentially on the rise, a deeper dive into the key forces at play in the capital markets seems appropriate. In this report, we discuss trends in the capital markets for government bonds, corporate bonds and stocks in key regions around the world through early March 2015, as well as currencies and commodities, particularly oil.

Chart 1: Select Volatility Indicators in U.S. and Europe

Diverging Economic and Interest Rate Trends

In the four months since the NAIC Capital Markets Bureau last reported on capital markets activity, the most significant development has been the shift in economic and interest rate trends, specifically the reversal of U.S. rates, which are now rising in anticipation of tighter monetary policy as the economy improves and diverging from the ongoing monetary ease and near- or below-zero interest rate regimes persisting in the EU and Japan. The deep 2008-2009 recession forced global economic cycles to converge, but the pace of recovery around the world has been shaped by different policy responses and the unique structural issues of each regime, as well as their differing exposures to commodity prices. Chart 2 shows the difference in economic growth experienced by the U.S., EU and Japan since 2010.

Chart 2: Year-to-Year GDP Growth in U.S., EU and Japan, 2011—Present



Source: Organisation for Economic Co-operation and Development (OECD).

Chart 3: 10-Year Government Bond Yields in U.S., Japan and Europe, 12 Months Ending Mar. 24, 2015

Chart 3—which tracks the yields of 10-year government bonds in the U.S, EU (represented by German bunds) and Japan—shows that, with the exception of the moderately significant sell-offs in September and October 2014, long-term interest rates in the major developed markets continued to grind lower through the end of 2014 into January 2015, reaching historic lows near zero in Japan and Germany. (Bond prices and yields are inversely related, so as prices rise, yields fall.) Signs of improving growth caused investors to move into riskier fixed income asset

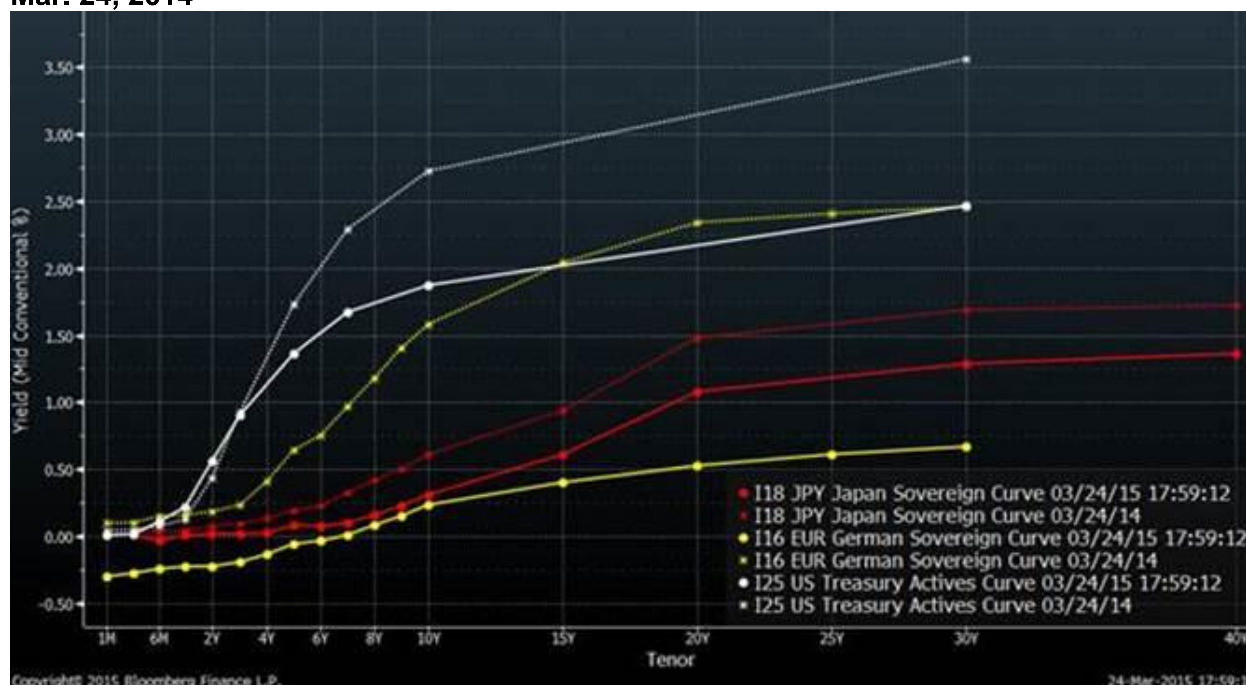
classes, producing a sharp sell-off in Treasuries. All told, from its Jan. 31, 2015 low of 1.64%, the U.S. 10-year yield rose 60 basis points (bps) by Mar. 6, 2015, and remains about a quarter-point above the low as of Mar. 24, 2015.

Chart 4: Two-Year Gov. Bond Yields in U.S., Japan and Europe, 12 Mos. Ending Mar. 24, 2015

Some signs of a rebound in economic growth outside the U.S. also emerged, as the Eurozone grew at a stronger-than-expected pace in the fourth quarter of 2014, led by Germany. However, the news only temporarily dampened the Eurozone sovereign debt rally that followed the European Central Bank's January 2015 announcement that it would buy sovereign bonds starting in March. Japanese fourth-quarter 2014 GDP data showed that the country has come out of a short recession, but consumer spending remains weak, and the Bank of Japan (BoJ) is in its second round of bond purchases.

Government bonds are not all created equal; it is important to note that the term structure of interest rates (or yield curve) has changed in each of the major developed markets as economic views and monetary policy expectations have shifted. Indeed, while yields on longer-dated U.S. Treasury securities (chiefly from seven years on) have fallen as much as one percentage point in the past 12 months, short- intermediate maturities (such as the two-year note shown in Chart 4) have increased 10-15 bps as of Mar. 24, 2015, in anticipation of an increase in short-term interest rates by the Fed later in the year. Taken in terms of the one- to 30-year Treasury spread, which is the yield differential between 30-year T-bonds and 12-month T-bills, the curve has flattened by more than a full percentage point, from 343 bps to just 222 bps, near the narrowest level seen in the past year. At the longer end of the yield curve (from 10 to 30 years), there is strong demand despite the end of bond purchases by the Fed in October 2014. Between ongoing geopolitical concerns, aggressive bond buying programs by foreign central banks and new capital requirements coming into effect for banks around the globe, demand for long-dated Treasuries remains robust, putting downward pressure on their yields. When strong demand at the long end of the curve is combined with the effects of investors gradually pricing in a tightening of Fed policy at the short end, the result is a flatter yield curve. Chart 5 shows the flattening in the U.S. yield curve over the past 12 months, along with changes in the Japanese and German curves for the same period. The change in each of these curves reflects the divergence of economic prospects and policy responses.

Chart 5: U.S. German and Japanese Government Yield Curve Changes, Mar. 24, 2015 vs. Mar. 24, 2014



Curve flattening and monetary tightening have widespread ramifications for institutional investors; in particular those (such as banks and some hedge funds) that rely on cheap leverage—the so-called "carry trade"—in which an investor borrows money at a low short-term interest rate in order to invest in an asset that is likely to provide a higher return. A slightly more complex version—the currency carry trade—involves the borrowing of a currency in a low interest rate country, converting it to a currency in a higher interest rate country and investing it in risk assets of that country. Near-zero interest rate policies in some of the world's main economic regimes allowed carry trades to flourish in recent years, driving government bonds, stocks, and corporate credits to ever-richer valuations. For the time being, even with yield curves flattening and monetary policy set to tighten in the U.S. (raising interest rates), conditions still favor the carry trade, as both the European Central Bank (ECB) and the BoJ continue to step up their monetary stimulus (keeping short-term rates near or below zero). However, when conditions become less favorable, investors will unwind these positions, and if a trade is "overcrowded" the resulting scramble could disrupt the markets. The late 2014 sell-offs in high yield and emerging market credits—and in equities—may have been exacerbated by the unwinding of leveraged positions. While they may be unsettling, these market disruptions are temporary and probably not a serious concern for long-term investors such as insurance companies.

Insurance Industry Impact

The majority of U.S. insurance industry investments are in bonds, with a book/adjusted carrying value (BACV) of $3.74 trillion as of year-end 2013. At $234 billion, U.S. government debt accounted for only 6% of total bond investments, but movements in the government yield curves directly affect the market value of all fixed-coupon instruments, and indirectly influence the value of most other asset classes.

Bond price movements due to interest rate changes can be significant. As an example, the 2.75% Treasury note maturing November 2023 traded as low as 97.63 cents on the dollar at the start of 2014, and as high as 109.56 on Jan. 30, 2015, for a positive swing in market value of 12.2%. The 10-year Treasury is fairly representative of the interest rate sensitivity of life companies' bond portfolios; NAIC data show the average maturity of the bond portfolios of U.S.

life insurers was 12.9 years as of Dec. 31, 2013. Portfolios associated with other types of insurance business may have shorter average maturities, however, with bond prices that are less sensitive to interest rate changes; the 1.5% Treasury note maturing December 2018 traded as low as 98.75 cents on the dollar (on Jan. 8, 2014), and as high as 101.94 on Jan. 15, 2015, for a gain of just 3.2%. Note that life insurers, in particular, are traditionally "buy-and-hold" investors that attempt to match the duration of their assets and liabilities, thereby limiting their net interest rate exposure. Market risk may only be a concern if an insurer needs to sell bonds before maturity, in which case losses will be realized if bond yields have increased.

The U.S. Dollar Ascends and Commodities Fall

As Chart 6 shows, the dollar (i.e., the exchange rate of the U.S. dollar to the euro and to the Japanese yen) began appreciating in earnest versus both currencies around the middle of 2014 as the Eurozone's recovery stalled. The dollar's strengthening trend became more pronounced in August – September 2014 as U.S. economic data grew more robust and the potential for tighter monetary policy became a frequent topic of discussion, while the ECB and the BoJ appeared locked into an easy monetary policy stance. U.S. Treasuries performed well, helped by benign inflation data and "flight to quality" and "carry trade" capital inflows.

Chart 6: USD – Yen and USD – Euro (inverted), 12 Months Ending Mar. 24, 2015

The rising dollar is having profound effects on commodity prices—oil in particular. For much of the past four years, the economic effects of the *high* price of oil and petroleum products were the subject of much discussion, detailed in a Capital Markets Special Report dated April 15, 2011. In the past nine months, however, the tables have turned; the global price of crude oil has been in decline since mid-June 2014, and in December 2014 the downtrend steepened, as described in a Capital Markets "Hot Spot" article published Dec. 17, 2014, and in greater detail in a Capital Markets Special Report dated Feb. 27, 2015. As Chart 7 shows, U.S. West Texas Intermediate (WTI) crude appears to have stabilized between $45 and $50 per barrel — down more than 50% from its mid-June 2014 peak — and Brent (North Sea) crude is between $55 and $60 per barrel. U.S. economic momentum has been offset by the weak Eurozone recovery and slowing Chinese growth, and OPEC has thus far refused to cut production in an effort to gain market share, resulting in as much as two million barrels per day of excess supply. Similarly, other commodity prices have been falling; the S&P GSCI Index (formerly the Goldman

Sachs Commodity Index) and Thomson CRB indices — both broad measures of commodity prices — have fallen more than 40% and 30%, respectively, since mid-June 2014.

Chart 7: WTI and Brent Crude, $/bbl, Past Five Years

Insurance Industry Impact

As discussed in the NAIC Capital Markets Bureau's "Hot Spot" article published Jan. 14, 2015 and the Sep. 5, 2014 Capital Markets Special Report on year-end 2013 foreign exposure in the U.S. insurance industry, the industry's direct exposure to foreign currency risk remains modest. Based on statutory filing data compiled as of Mar. 23, 2015, the U.S. insurance industry had total foreign currency exposure, translated to U.S. dollars, of $100.7 billion as of December 31, 2014, of which the five largest exposures were $39.3 billion in Japanese yen, $26.1 billion in Canadian dollars, $17.9 billion in British pounds, $12.2 billion in euros, and $2.8 billion in Australian dollars.

As oil prices have declined further, the effect on the global economy and financial markets has become more pervasive. Still, insurers' exposure to the oil and gas sector itself is modest at $226 billion (4.1% of total cash and invested assets) as of Dec. 31, 2013; the industry also has $169 billion of exposure to oil-exporting countries (3.1% of cash and invested assets—not mutually exclusive from the industry's oil and gas industry exposure). The industry is also indirectly exposed through financial institutions that lend to oil producers, suppliers to the oil sector, municipalities dependent on the energy sector, and real estate investments in oil-rich geographies. No one of these exposures is material by itself, and the industry's aggregate exposure to falling oil prices probably is manageable, albeit more significant.

Corporate Bonds: Credit Spreads Stable Overall, But Low Liquidity Could Raise Volatility

High-yield credit markets suffered from heightened volatility over the second half of 2014, as mutual fund investors withdrew from the sector amid concerns about elevated valuations and talk of a "credit bubble." As shown in Chart 8, the Markit CDX High-Yield Index (HY Index) reached a 2014 high of 109.195% of par on July 4, which equates to a credit spread of 291 bps. The index price began to decline shortly thereafter, and was quite volatile in September and October 2014. The CDX HY Index reached a peak credit spread of 406 bps (104.0% of par) on Dec. 14, 2014. Since then, market conditions have improved, and the spread has tightened about 95 bps. Investment-grade corporate credit was affected similarly during this period,

although the magnitude of the shift was far more subdued. The Markit CDX Investment Grade (IG) Index peaked at 76 bps on Dec. 16, 2014, and has declined 13 bps since then.

Chart 8: High-Yield and Investment-Grade CDS Spread Changes, 12 Months Ending Mar. 24, 2015

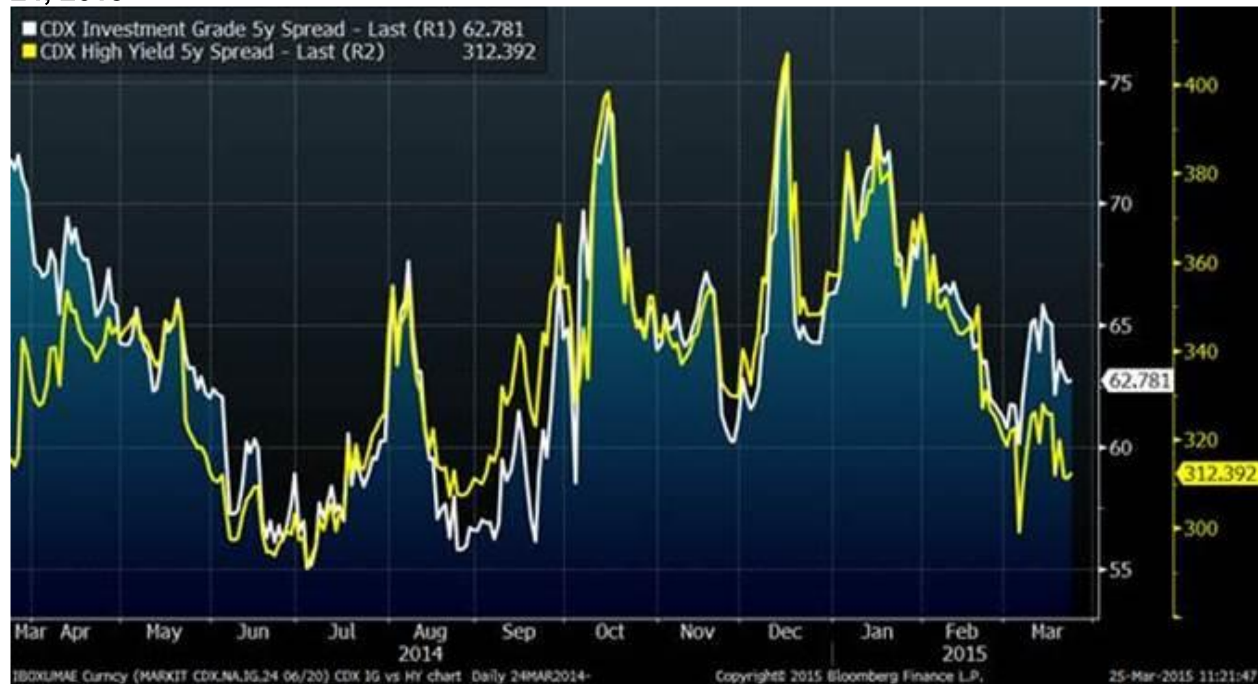


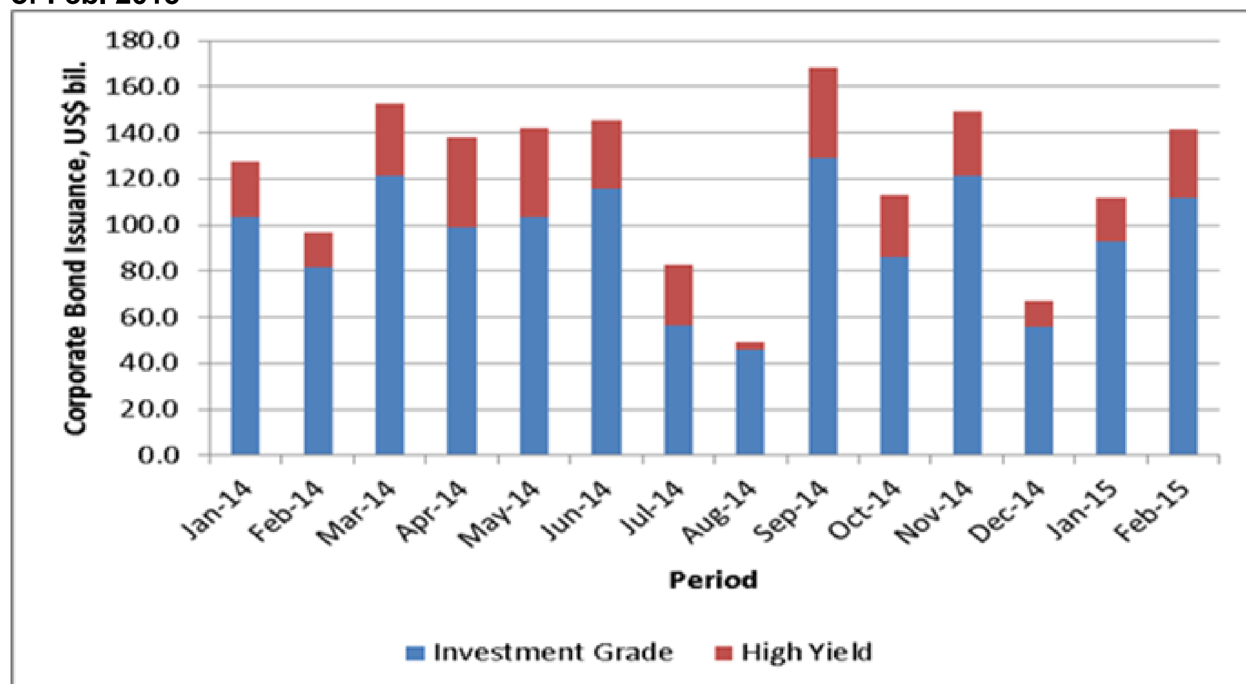
Chart 9: High Yield CDS Spreads – HY Index vs Energy Sector, 12 Months Ending Mar. 24, 2015

Many causes were cited for the sell-off in high-yield credit, including potential Fed rate hikes, emerging market headwinds, global growth concerns, and stock-market volatility. More specific to the high yield market was the strengthening of the U.S. dollar and attendant fall in oil prices. This trend ignited investor concern about the credit quality of energy companies, which had sold more than $50 billion of high-yield debt in 2014, the third consecutive year of heavy issuance,

according to Bank of America Merrill Lynch. Chart 9 shows the change in energy sector high-yield credit spreads in recent months.

The high volume of overall high-yield issuance —exceeding $300 billion for the third consecutive year in 2014, according to Securities Industry and Financial Markets Association (SIFMA) data (seen in Chart 10 along with high-grade issuance) — also raised concern among some investors that a "credit bubble" was forming not unlike 2007. Outflows from mutual funds were cited as a driver of the weakness in corporate bond markets, along with declining market liquidity. Total non-government bond inventories at primary dealers—including CMBS, RMBS and commercial paper—have dropped to about $57 billion from about $250 billion pre-2008 crisis, according to the Federal Reserve Bank of New York. Inventory of true corporate bonds accounted for only $14.7 billion as of Feb. 25, 2015, down 38% from a year earlier. Many news reports and market pundits have linked the inventory decline to increasing regulatory capital requirements being implemented under the federal Dodd-Frank Wall Street Reform and Consumer Protection Act. Bond trading statistics also are raising liquidity concerns; despite overall trading volume remaining relatively steady in recent months, the average size of an institutional trade has declined, suggesting that it may take bond holders longer to exit positions. Dealers' corporate bond inventories remain light compared to pre-financial-crisis levels, but fund flows have recovered; taxable bond mutual funds brought in $18.9 billion in net flows in the first two months of 2015, after outflows of $23.5 billion in December 2014, according to the Investment Company Institute. Both investment grade and high yield corporate bond issuance have rebounded with the resurgence in demand, as shown in Chart 10.

Chart 10: Investment Grade and High Yield Corporate Bond Issuance, 2014 – 2015 YTD as of Feb. 2015



Source: SIFMA.

With respect to emerging markets, the oil price collapse and ascent of the dollar clearly have had an impact, although returns have been widely dispersed. After performing well for the first half of 2014, emerging market credit spreads widened significantly in the latter part of the year in reaction to the escalation of the Russian crisis and plunging oil prices; oil-exporting countries' debt performed the worst. Most emerging markets still posted a positive total return in 2014, aided by the tailwind from the U.S. Treasury market. For investors, the key to favorable

performance was avoid deteriorating credits — notably, Ukraine, Venezuela and Russia. In the first two months of 2015, emerging market credits (represented by the J.P. Morgan Emerging Markets Bond Index Plus, an index of emerging market external debt instruments) returned 0.17%, but—as in 2014—the returns on individual countries are widely dispersed, with large gains in Argentina and Russia offset by losses in Ukraine and Venezuela.

Insurance Industry Impact: No Reach for Yield

As of year-end 2013, the U.S. insurance industry held $1.98 trillion in BACV of U.S. corporate bonds, which accounted for 53% of total bond investments. Only 5.3% of bond investments were designated NAIC 3 or lower (below investment grade), a decline from 5.7% at year-end 2012, suggesting that insurers in aggregate are not taking on additional credit risk to reach for additional yield, as many other investors appear to have done based on the robust demand for speculative-grade paper. Life insurers typically have significantly more exposure to corporates (60% of year-end 2013 bond investments) than P/C companies (33%). Similarly, life insurers have a slightly larger exposure to below investment grade credits: 5.9% of life insurer bond investments were designated NAIC 3 through NAIC 6, versus only 4.0% for P/C insurers; both figures are little changed from the prior year. It is interesting to note, however, that since year-end 2009, below investment grade exposure for life companies has decreased from 7.7% of total bond investments, while for P/C insurers it has increased from just 2.5%. Because their exposures are limited, adverse developments in high yield credit should only have the potential to affect insurers' investment returns at the margin, unless those developments spill over into the broader corporate market. In any case, the high yield market can provide insight into investors' risk appetite, particularly for credit risk.

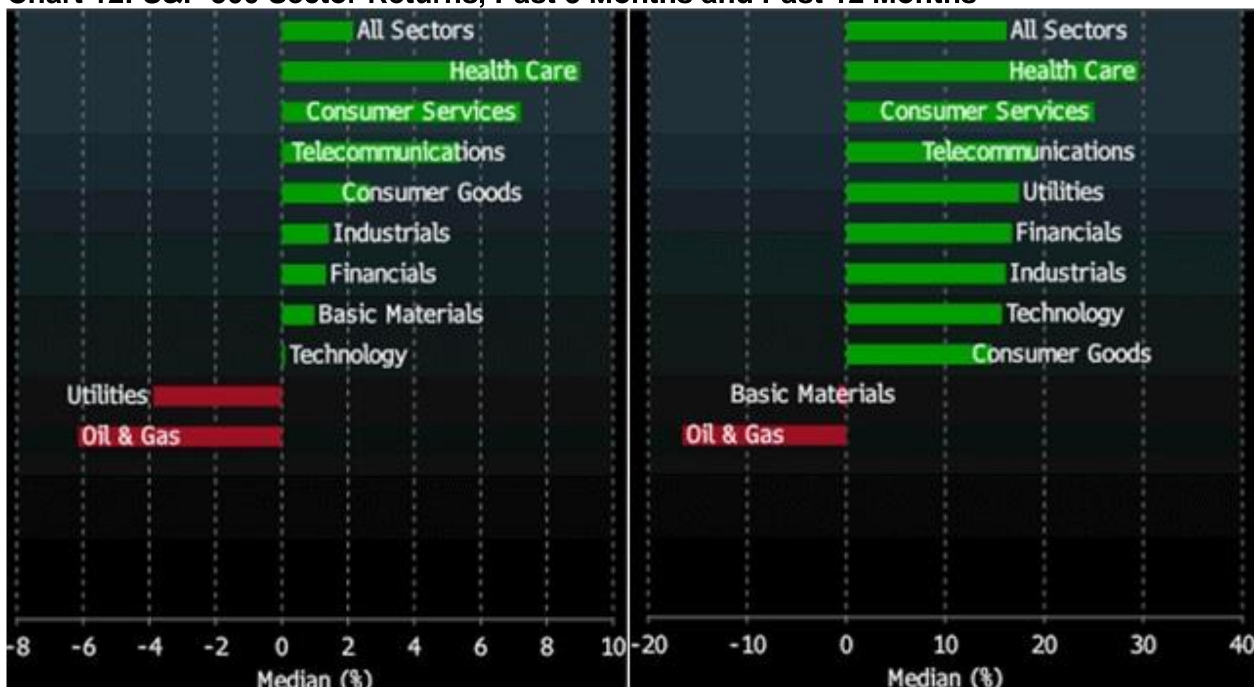
Equity Markets March Higher

As Chart 11 shows, the world's major stock markets have had a comparatively rough ride since the start of fourth quarter 2014. Economic data prompted speculation that a shift in Fed policy was nearing, while the ECB and the BoJ continued to face economic headwinds despite monetary easing. Indications of economic deceleration in China and the accelerating slide in crude oil prices reignited market concerns regarding global growth, deflation, the outlook for Russia and, by extension, Europe. Despite mixed economic signals and uncertainty over the impact of the strong dollar, which could squeeze earnings for multinational corporations, the S&P 500 continued to trend higher through February, but have faltered a bit in March amid signs of moderating U.S. growth and very low inflation. European and Japanese stock markets have continued to soar, fueled by central bank asset purchase programs.

Chart 11: U.S., Europe and Japan Stock Price and Volatility Indices, Jun. 30, 2014 to Mar. 24, 2015

Within the U.S. market, there has been some sector dispersion of returns (Chart 12). Equity returns diverged by sector, with energy the standout loser in the past 12 months, reflecting the drop in oil prices, and basic materials stocks also lagging, reflecting declining commodity prices and the strengthening U.S. dollar. More recently, U.S. stocks have encountered resistance due to these headwinds, so defensive sectors are performing well while other sectors are lagging, and interest-rate-sensitive sectors—especially utilities—have come under pressure as the yield curve has shifted upward.

Chart 12: S&P 500 Sector Returns, Past 3 Months and Past 12 Months



Source: Bloomberg Finance L.P.

While US stocks delivered strong returns in 2014, international equities struggled, thanks in large part to the strong dollar. In 2014, international developed equity markets declined in dollar terms: the Nikkei 225 and Euro STOXX 600 returned -4.2% and -7.9%, respectively, for example. Emerging market equity returns were mixed in dollar terms. Between January and February 2015, international equities rallied in local terms, supported by rate cuts and quantitative easing outside of the U.S. European stocks' gains were muted in dollar terms by the euro's fall; although the index gained nearly 15% in the first two months of the year, in euro terms, it returned only about 6% in U.S. dollar terms. In Japan, the Nikkei 225 returned about 7.5% through Feb. 28 (local currency and U.S. dollar terms), reaching a 15-year high on optimism about Japan's economic recovery.

The U.S. stock market's fourth-quarter gyrations raised questions among investors about whether market volatility is on the rise. The Chicago Board Options Exchange (CBOE) Market Volatility Index (VIX) — a popular measure of the implied volatility of S&P 500 index options — measures investors' expectation of stock market volatility over the next 30-day period, and is the bellwether indicator of stock market volatility. The VIX has remained above its mid-year low of about 10 points, peaking at 31.06 intraday on Oct. 15, 2014, and though it has not approached the 2014 high again, the index has averaged 16.68 year to date, modestly higher than the 2014 average of 14.17. In a long-term context, the increase in the VIX appears modest; the current reading and average for 2014 are below the long-term average since 1990. A modest increase in the index thus seems possible as government stimulus wanes around the world, if only because of central tendency.

Insurance Industry Impact: A Benefit in 2014

As of Dec. 31, 2013, the U.S. insurance industry held common stock investments totaling $667 billion (12% of total invested assets, including affiliated holdings). However, P/C insurers' exposure to common stocks was $472 billion (28.2% of total invested assets), whereas life companies' exposure was only $152 billion (4.2%). Particularly for P/C insurers, the robust stock market returns of recent years—the S&P 500 returned 13% or more in five of the past six years, including dividends—have been a benefit that has helped alleviate some of the pressure on insurers to generate investment income from fixed income investments in the low interest rate environment. That calculus could change going forward, however, if volatility continues to trend higher and interest rates continue to rise.

Conclusion

In summary, in the recent past, the financial markets have been reacting to divergent economic trends and policy shifts between the U.S., the Eurozone and Japan, along with a modest undercurrent of ongoing geopolitical tensions. The NAIC Capital Markets Bureau will continue to monitor market volatility and publish additional research as deemed appropriate.

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

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