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Year-End 2016 Foreign Currency Exposure in the U.S. Insurance Industry

As of year-end 2016, U.S. insurers reported foreign currency denominated bond exposure to 39 different currencies with a book/adjusted carrying value (BACV) of \$94 billion, or about 1.5% of total cash and invested assets, an increase from \$82.9 billion in 2015. This NAIC Capital Markets Bureau Special Report examines the foreign currency-denominated bond exposure of U.S. insurers, with further analysis on the largest five foreign currency exposures. Foreign currency exposure is translated and reported in U.S. dollars as per *Statement of Statutory Accounting Principles (SSAP) No. 23—Foreign Currency Transactions and Translations*. The translation of investments denominated in foreign currency to U.S. dollars (USD) in a weak dollar cycle benefits U.S. insurers, increasing the BACV of those investments (and the reverse when the U.S. dollar is strong relative to those currencies).

Since January 2017, expectations for U.S. gross domestic product (GDP) growth diminished slightly when the Federal Open Market Committee (FOMC) voted to leave the benchmark federal funds rate unchanged between 0.5% and 0.75% following its January 2017 meeting. The federal funds target rate was subsequently raised 0.25% following both the March 2017 and June 2017 FOMC meetings, taking the upper range of the target to where it currently stands at 1.25%. With the U.S. inflation rate, as measured by the Personal Consumption Expenditures Price Index (PCE), remaining below the FOMC's 2% target, along with mixed economic data indicating continued sluggish growth, the benchmark federal funds rate was left unchanged following a July 2017 FOMC meeting. Slow but improving gross U.S. GDP growth has weakened the USD. On Sept. 20, 2017, the Federal Reserve announced it would begin unwinding its balance sheet through assets sales, and it has expectations for further rate increases. The Fed believes the U.S. economy is able to withstand a return to a less accommodating monetary policy. This, in turn, may lead to the USD increasing in value against other currencies.

The USD gained strength against other currencies in fourth-quarter 2016 based on post-2016 U.S. election expectations of fiscal policy proposals (such as tax and regulatory reform and infrastructure spending) to stimulate stronger GDP growth. However, as cited in the NAIC Capital Markets Bureau Special report titled "Capital Markets Update: Summer 2017," lower U.S. GDP forecasts by the Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF) reflect delays in President Donald Trump's plans to implement tax cuts and infrastructure spending. A pronounced decline of the USD against most currencies began in mid-April when President Trump declared that the dollar is "getting too strong."

U.S. Insurer Year-end 2016 Exposure

As of year-end 2016, the Japanese yen (JPY) accounted for the largest non-USD bond exposure (\$56.8 billion) at 60% of the total (see Table 1). American Family Life Assurance of Columbus (AFLAC) accounted for 98.5% of JPY exposure, or \$55.9 billion. The second-largest currency exposure was in British pounds (GBP) at \$14.2 billion, followed by the euro (EUR) at

\$13.3 billion. As Table 1 also shows, the top three currencies account for almost 90% of the U.S. insurance industry's foreign currency bond exposure.

U.S. life insurers held about 94.0% (\$88.4 billion) of the industry's total non-USD bond exposure at year-end 2016, followed by P/C companies at 5.7% (about \$5.4 billion). As a percentage of the industry's exposure to non-USD denominated bond investments, sovereign debt accounted for 56% of the total BACV. Corporate bonds accounted for 44% of total foreign currency bond BACV, with the financial sector as the largest single sector at 3% of total non-USD bond exposure.

Table 1: U.S. Insurer Year-End 2016 Non-USD Bond Exposure (BACV, \$Bil.)

Currency	Fraternal	Life	P/C	Title	Health	Total	Pct of Total
Yen	-	56,612	186	-	-	56,797	60%
British Pound	26	13,789	395	-	-	14,210	15%
Euro	83	12,049	1,197	1	-	13,330	14%
Australian Dollar	11	1,829	1,388	-	-	3,227	3%
Canadian Dollar	-	1,018	1,062	32	-	2,112	2%
Bangladeshi Taka	-	1,067	-	-	-	1,067	1%
Other	-	2,002	1,124	73	20	3,220	0
Total	119	88,365	5,352	106	20	93,963	100%
Pct of Total	0%	94%	6%	0%	0%	100%	

Insurers that conduct business in foreign countries often purchase assets in the currencies of those countries, in part as a natural hedge against liabilities of the foreign currency. For example, a total of \$1 billion at year-end 2016 was in Bangladeshi taka (BDT), held by insurers that conduct business in Bangladesh.

Profile of the Top Five Foreign Currency Exposures

The largest five non-USD bond exposures in U.S. insurer investment portfolios accounted for 95% of total non-USD bond exposure (see Table 2). As of year-end 2016, about 81% (\$46.3 billion) of the JPY exposure was in government bonds. AFLAC held 99% (\$46 billion) of the \$46.3 billion JPY-denominated government bonds.

Table 2: Largest Five Non-USD Bond Exposures as of Year-End 2016 (BACV, \$Bil.)

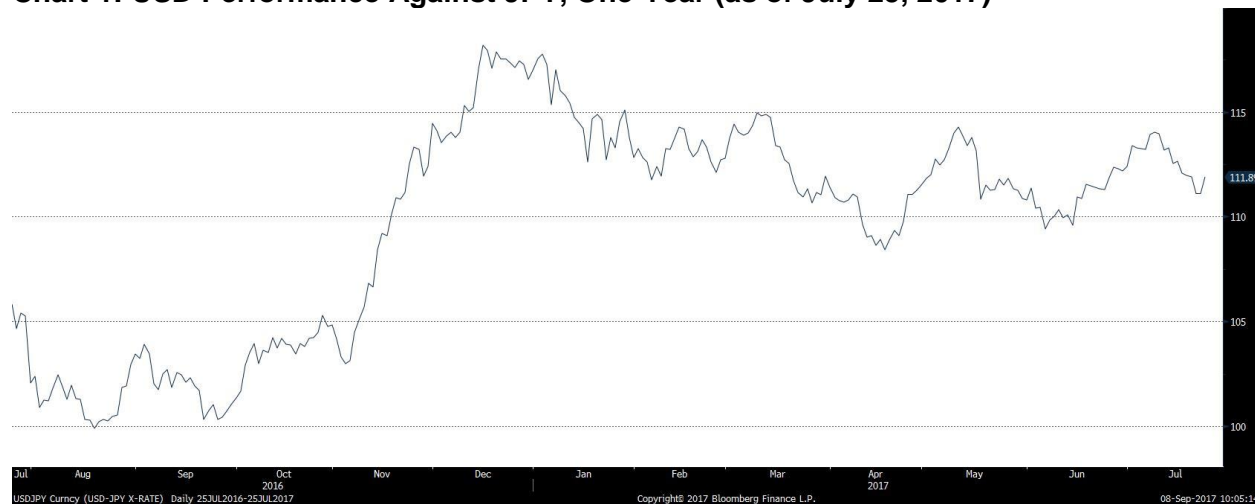
Currency	Financial	Government	Other	Total
Yen	1,289	46,262	9,246	56,797
British Pound	194	1,435	12,581	14,210
Euro	191	366	12,773	13,330
Australian Dollar	402	997	1,829	3,227
Canadian Dollar	293	1,196	623	2,112
Other	99	2,573	1,614	4,286
Total	2,467	52,830	38,666	93,963

Japan

The USD has been gradually weakening through 2017. During the one-year period ending July 25, 2017, the JPY exchange rate increased 5.7% to 111.89 from 105.81. A peak exchange rate of 118.18 was reached on Dec. 15, 2016 (see Chart 1). The Bank of Japan (BOJ) continued to maintain an accommodative monetary policy following a July 2017 meeting, whereby it remained committed to keeping the 10-year Japanese government bond yield around 0% until inflation exceeds and remains above the 2% target. As of July 2017, core inflation in Japan rose 0.4% from the prior year. The IMF World Economic Outlook (dated July 2017) anticipates 1.3% GDP growth for Japan in 2017, an increase from 1.0% in 2016. Japan's continued lower-than-expected growth will most likely keep monetary policy accommodative and yields low. A

weakening USD to the JPY, or a strengthening value of the JPY, increases the BACV of U.S. insurers' exposure to those bonds denominated in the Japanese currency. During the recent 12-month period (ending July 25, 2017), the JPY-to-USD exchange rate, from peak to trough, strengthened from 118.18 to 100, a differential of 18%. That differential, translated into a difference in BACV for the JPY denominated exposure is \$8.7 billion.

Chart 1: USD Performance Against JPY, One-Year (as of July 25, 2017)



Source: Bloomberg

UK

The GBP fluctuated significantly during the one-year period ending July 25, 2017 (see Chart 2), finishing down slightly (1.2%). Thus far, there has been minimal impact to the markets following Great Britain's vote to exit the European Union (EU), commonly referred to as "Brexit." Although the markets initially experienced a significant decline immediately after the referendum, they have since calmed, recognizing that there is a two-year window after Article 50 was triggered in March for negotiations to occur. Notwithstanding some significant concerns, talks between the United Kingdom (UK) and the EU may be able to smooth that transition. Interest rates in the UK are still lower than before the referendum, although they have recovered somewhat, and the GBP remains considerably weaker relative to the EUR. In addition to working on Brexit negotiations, discussions regarding immigration and trade between the UK and EU are pending. Whereas there are potential negative impacts on UK GDP, such as restrictions on trade or imposition of visa requirements on travel to EU countries, the IMF projects a 2017 GDP growth of 1.7% for the UK (as of its July report), followed by 1.5% in 2018. In addition, there could be potentially significant impacts on U.S. insurers that conduct business in the UK and EU, especially if the negotiations do not go well. Fluctuation in the value of the USD against the GBP creates volatility in the BACV of GBP-denominated investments; when the value of the GBP strengthens, the BACV of U.S. insurer exposure to GBP increases. During the recent 12-month period (ending July 25, 2017), the GBP-to-USD exchange rate, from peak to trough, strengthened from 0.83 to 0.74, a differential of 12%. That differential, translated into a difference in BACV for the GBP-denominated exposure is \$1.5 billion.

Chart 2: USD Performance Against GBP, One-Year (as of July 25, 2017)



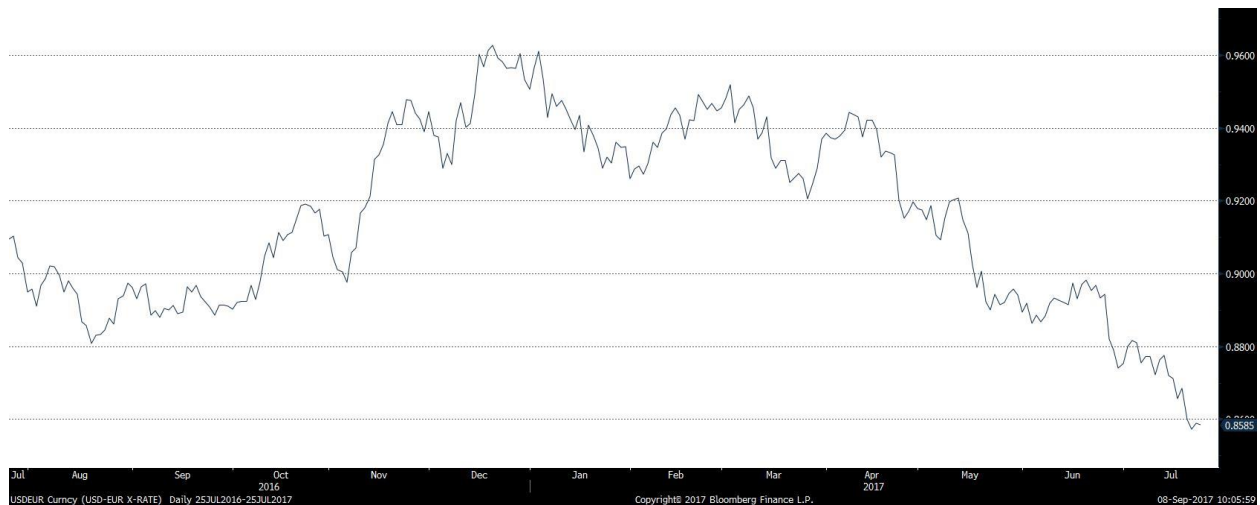
Source: Bloomberg

EU

As of July 25, 2017, the EUR increased 6.8% for the 12-month period ending July 25, 2017 (see Chart 3). According to the IMF, Eurozone GDP is expected to grow by 1.9% in 2017, after experiencing 1.7% growth in 2016. Within the EU, Germany (its largest economy), is expected to grow 1.8% in 2017, whereas a less developed economy, such as Spain, is expected to grow 3.1%. The modestly stronger growth is reflective of those countries' recovery from a deeper downturn as domestic demand for local goods and services grows. The EU experienced GDP growth of 2.3% in quarter two 2017, the fastest GDP growth since 2011.

The European Central Bank (ECB), while acknowledging acceleration in economic activity, left interest rates unchanged after its July 2017 policy meeting. In addition, it confirmed the continuation of government bond purchases (known as "quantitative easing") through the end of 2017, seeking additional information about the area's economic outlook before it begins tapering off the program. Economic strength in the EU relative to the U.S. enables the EUR to maintain gains made against the USD. Gains in the EUR benefit the BACV of U.S. insurer exposure to EUR-denominated investments. Conversely, any weakening of the EUR against the USD will result in decreased BACV of the relative investments. During the recent 12-month period (ending July 25, 2017), the EUR-to-USD exchange rate, from peak to trough, strengthened from 0.96 to 0.86, a differential of 12%. That differential, translated into a difference in BACV for the EUR denominated exposure is \$1.4 billion.

Chart 3: USD Performance Against EUR, One-Year (as of July 25, 2017)

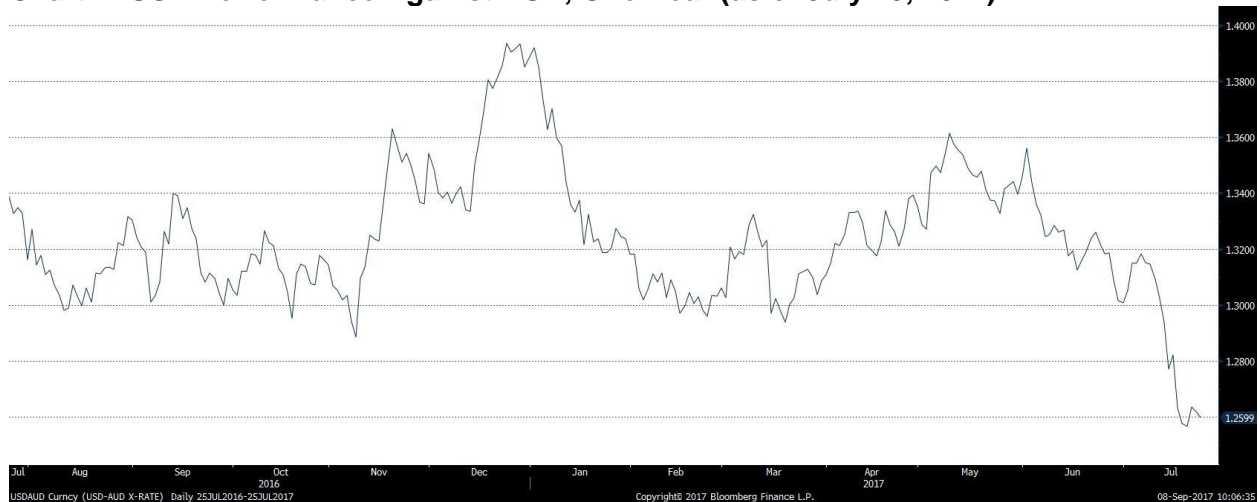


Source: Bloomberg.

Australia

The Australian dollar (AUD) strengthened 3.9% for the one-year period ending July 25, 2017 (see Chart 4). In 2016, Australia undertook efforts to modernize its economy from a heavy dependence on mining, while increasing services and manufacturing. The Reserve Bank of Australia (RBA) began easing rates in 2011 to accommodate the modernization, and it has maintained that policy following the July 2017 RBA meeting. According to the IMF, economic growth in Australia is expected to be 3.1% in 2017, up from 2.5% in 2016, and it is expected to grow 3% in 2018. Continued strengthening of the AUD against the USD may require successful modernization of the Australian economy; the BACV of U.S. insurer AUD-denominated investments benefit from a strong AUD. During the recent 12-month period (ending July 25, 2017), the AUD-to-USD exchange rate, from peak to trough, strengthened from 1.39 to 1.26, a differential of 11%. That differential, translated into a difference in BACV for the AUD-denominated exposure is \$309 million.

Chart 4: USD Performance Against AUD, One-Year (as of July 25, 2017)



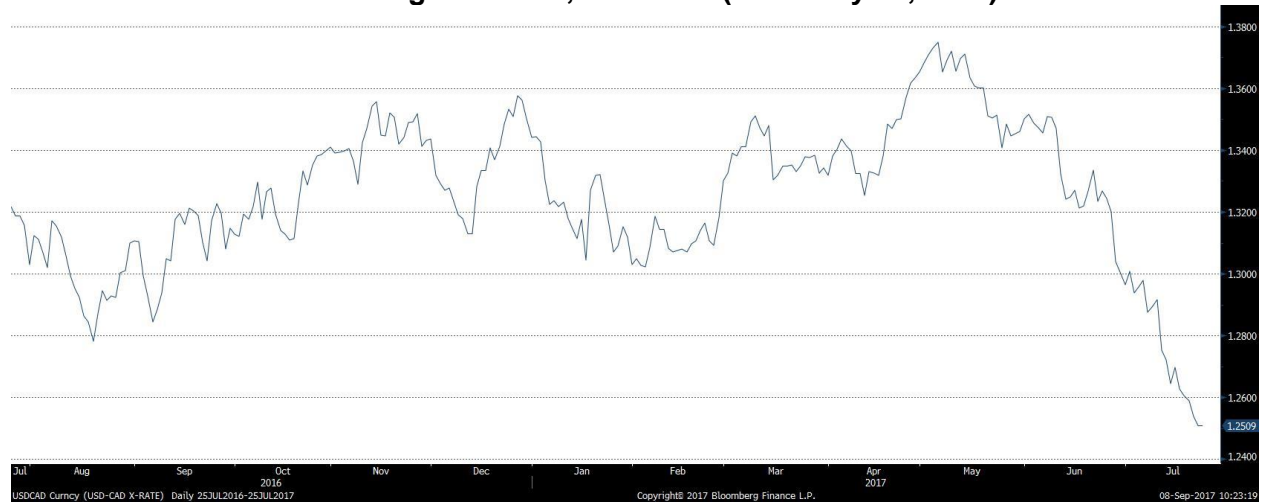
Source: Bloomberg

Canada

The Canadian dollar (CAD) weakened in 2017. During the one-year period ending July 25, 2017, the CAD exchange rate decreased 5.0% to 1.25 from 1.32. A peak exchange rate of 1.37 was reached in May 2017 (see Chart 5). GDP growth in Canada, much like the U.S., has been

lackluster. GDP growth was 1.5% in 2016 and, based on the IMF World Economic Outlook, it is expected to be 2.5% in 2017 and 1.9% in 2018.

Chart 5: USD Performance Against CAD, One-Year (as of July 25, 2017)



Source: Bloomberg.

Central bank policy between Canada and the U.S. is diverging; where the FOMC in the U.S. has been gradually raising interest rates, the Bank of Canada is considering cutting rates. Despite strong growth in the fourth quarter of 2016, the Bank of Canada may not raise interest rates anytime soon from its current level of 0.5%, given the uncertainties with the renegotiation of the North American Free Trade Agreement (NAFTA), and other U.S. trade and tax policy. A positive resolution of these cross-border issues may result in a strengthening USD (i.e., weakened CAD) and a resultant decrease in BACV of CAD-denominated U.S. insurer investments. During the recent 12-month period (ending July 25, 2017), the CAD-to-USD exchange rate, from peak to trough, strengthened from 1.38 to 1.25, a differential of 10%. That differential, translated into a difference in BACV for the CAD-denominated exposure is \$195 million.

Summary

Expectations for policy solutions leading to increased GDP growth in the U.S. faded in the first half of 2017, leading to a weakening USD. A weak USD translates into increased BACV of foreign currency investments for U.S. insurers.

The largest five non-USD bond exposures as of year-end 2016 held by U.S. insurers included JPY as the largest (60% of total exposure), followed by GBP (15%), EUR (14%), AUD (3%) and CAD (2%).

The continuation of low interest rate policies and quantitative easing strategies worldwide, suggests that central banks believe continued stimulus is necessary for the time being, particularly given that inflation is trending below the 2% target in many countries.

The NAIC Capital Markets Bureau will continue to monitor the insurance industry's foreign currency exposure and we will provide updates as deemed appropriate.

October 13, 2017

Major Insurer Bond Yields

				Weekly Change					YTD	
				Price			Spread over UST		Spread	
Company	Coupon	Maturity	Current	Change	Yield	B.P.	Change	Change		
Life	Ameriprise	AMP	3.700%	10/15/2024	\$105.04	\$0.56	2.90%	77	(1)	(27)
	Lincoln National	LNC	3.350%	3/9/2025	\$101.49	\$0.92	3.12%	94	(6)	(17)
	MassMutual	MASSMU	3.600%	4/9/2024	\$104.88	\$0.56	2.77%	68	(1)	(25)
	MetLife	MET	4.050%	3/1/2045	\$103.44	\$1.81	3.85%	110	(1)	(17)
	New York Life	NYL	2.350%	7/14/2026	\$96.27	\$0.66	2.83%	60	(0)	(14)
	Pacific Life	PACLIF	5.125%	1/30/2043	\$115.03	\$1.59	4.16%	147	0	(43)
	Principal	PFG	6.050%	10/15/2036	\$128.44	\$1.60	3.91%	135	(1)	(35)
	Prudential	PRU	4.600%	5/15/2044	\$111.80	\$1.73	3.88%	115	(0)	(18)
	Allstate	ALL	4.500%	6/15/2043	\$112.29	\$1.85	3.75%	104	(0)	(16)
	Berkshire Hathaway	BRK	4.300%	5/15/2043	\$110.05	\$1.70	3.69%	98	0	(12)
	Travelers	TRV	4.600%	8/1/2043	\$114.37	\$2.64	3.73%	102	(2)	(3)
	XL Group	XL	6.250%	5/15/2027	\$119.94	\$1.19	3.75%	146	(3)	(23)
Other	AON	AON	4.250%	12/12/2042	\$100.13	\$0.61	4.24%	150	4	(23)
	AIG	AIG	6.820%	11/15/2037	\$131.28	\$3.16	4.45%	179	(17)	(31)
	Hartford	HIG	4.300%	4/15/2043	\$105.45	\$1.49	3.96%	123	1	(61)
	Nationwide	NATMUT	5.300%	11/18/2044	\$115.06	\$0.47	4.35%	159	9	(41)
Health	Aetna	AET	6.750%	12/15/2037	\$141.10	\$1.79	3.81%	124	0	(39)
	CIGNA	CI	6.150%	11/15/2036	\$130.53	(\$0.00)	3.87%	130	9	(78)
	United Healthcare	UNH	4.750%	7/15/2045	\$117.01	\$1.39	3.76%	99	2	(13)

October 13, 2017								
Major Insurer Share Prices		Close	Change %			Prior		
			Week	QTD	YTD	Week	Quarter	Year
Life	Aflac	\$84.01	2.1	3.2	20.7	\$82.27	\$81.39	\$69.60
	Ameriprise	152.91	1.3	3.0	37.8	150.99	148.51	110.94
	Genworth	3.94	8.5	2.3	3.4	3.63	3.85	3.81
	Lincoln	74.87	(0.2)	1.9	13.0	75.00	73.48	66.27
	MetLife	52.72	(0.6)	1.5	(2.2)	53.02	51.95	53.89
	Principal	67.21	0.8	4.5	16.2	66.65	64.34	57.86
	Prudential	109.11	(0.5)	2.6	4.9	109.65	106.32	104.06
	UNUM	51.97	(1.1)	1.6	18.3	52.54	51.13	43.93
PC	Axis Capital	57.76	2.9	0.8	(11.5)	56.11	57.31	65.27
	Allstate	92.34	(1.0)	0.5	24.6	93.29	91.91	74.12
	Arch Capital	98.34	(1.6)	(0.2)	14.0	99.94	98.50	86.29
	Cincinnati	76.47	(0.3)	(0.1)	1.0	76.70	76.57	75.75
	Chubb	148.84	1.8	4.4	12.7	146.15	142.55	132.12
	Everest Re	240.51	6.9	5.3	11.1	225.01	228.39	216.40
	Progressive	48.67	(1.2)	0.5	37.1	49.28	48.42	35.50
	Travelers	126.67	1.3	3.4	3.5	125.07	122.52	122.42
	WR Berkley	67.41	(0.2)	1.0	1.4	67.57	66.74	66.51
	XL	41.51	4.9	5.2	11.4	39.57	39.45	37.26
Other	AON	\$149.38	1.7	2.2	33.9	\$146.84	\$146.10	\$111.53
	AIG	63.16	1.4	2.9	(3.3)	62.26	61.39	65.31
	Assurant	95.71	(0.3)	0.2	3.1	96.04	95.52	92.86
	Fidelity National	34.07	(1.0)	(28.2)	0.3	34.40	47.46	33.96
	Hartford	55.99	0.7	1.0	17.5	55.62	55.43	47.65
	Marsh	83.90	0.8	0.1	24.1	83.20	83.81	67.59
Health	Aetna	\$153.06	(5.1)	(3.7)	23.4	\$161.28	\$159.01	\$124.01
	Cigna	186.15	(2.5)	(0.4)	39.6	190.95	186.94	133.39
	Humana	237.73	(3.7)	(2.4)	16.5	246.90	243.63	204.03
	United	192.52	(2.8)	(1.7)	20.3	198.06	195.85	160.04
Monoline	Assured	\$36.89	(1.7)	(2.3)	(2.3)	\$37.54	\$37.75	\$37.77
	MBIA	6.77	(11.5)	(22.2)	(36.7)	7.65	8.70	10.70
	MGIC	12.91	3.5	3.0	26.7	12.47	12.53	10.19
	Radian	19.38	3.5	3.7	7.8	18.73	18.69	17.98
	XL Capital	41.51	4.9	5.2	11.4	39.57	39.45	37.26

October 13, 2017							
Major Market Variables		Change %			Prior		
		Close	Week	QTD	YTD	Week	Quarter
Dow Jones Ind	22,871.72	0.4	2.1	15.7	22,773.67	22,405.09	19,762.60
S&P 500	2,553.17	0.2	1.3	14.0	2,549.33	2,519.36	2,238.83
S&P Financial	433.50	(0.9)	1.0	12.2	437.25	429.08	386.53
S&P Insurance	399.66	0.8	2.3	13.1	396.64	390.84	353.26
US Dollar \$		Change %			Prior		
/ Euro	\$1.18	0.8	0.1	12.4	\$1.17	\$1.18	\$1.05
/ Crude Oil bbl	51.39	4.2	(0.4)	(4.5)	49.34	51.59	53.81
/ Gold oz	1,301.50	2.4	1.6	13.1	1,271.60	1,281.50	1,150.90
Treasury Ylds %		Change bp			%	%	%
1 Year	1.40	0.05	0.10	0.58	1.35	1.30	0.82
10 Year	2.28	(0.09)	(0.06)	(0.17)	2.36	2.34	2.45
30 Year	2.81	(0.09)	(0.06)	(0.26)	2.90	2.86	3.07
Corp Credit Spreads -bp		Change %			Prior		
CDX.IG	54.50	0.5	(2.0)	(19.4)	54.24	55.63	67.59

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

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