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(Re)insurers - Europe

Financial leverage increases, driven by favourable refinancing conditions

Financial leverage for the largest European (re)insurers edged higher to 25% on average in 2016 and in the first half of 2017, after declining for the last seven years, driven by favourable refinancing conditions. This confirms our view that the deleveraging trend that began in 2009, with a peak of 32.8% in 2008, has come to an end. We expect European (re)insurers' financial leverage to gradually increase over the next two years, driven by the following factors:

» **Growing focus on deployment of excess capital to improve returns.** With the largest players reporting solid overall capital positions, insurers have started looking more closely at deploying surplus capital through share buybacks, dividend increases or acquisitions. These measures will hold back growth in (re)insurers' shareholders' equity, contributing to an increase in leverage.

» **Still low interest rates encourage debt pre-financing and new issuance.** While interest rates rose slightly during 2017 and 2018YTD, they remain historically low, creating opportunities to refinance debt at very low cost. We expect (re)insurers to continue taking advantage of low borrowing costs by pre-financing maturing debt, in some cases exceeding their refinancing needs. We also expect them to issue new debt ahead of potential monetary tightening by central banks.

» **Hybrid issuance continues to be (re)insurers' preferred way of supporting Solvency II ratios**. Insurers issue hybrid capital as a relatively cheap way to boost their solvency ratios, particularly given the high degree of volatility of these ratios to market events. While political risks in Europe have receded, potential uncertainty this year related to the outcome of Italian elections in March and the ongoing Catalonian independence dispute, could increase volatility in the ratios and insurers could respond by issuing subordinated debt.

» **Solvency II will influence the type of debt issuance, with loss-absorbing securities becoming more common.** (Re)insurers that are subject to Solvency II will continue to issue primarily Tier 2 debt, given its relatively low cost and the generally good capacity available in their capital structure to issue such debt. However in 2018 we expect issuance of restricted Tier 1 debt, which has loss-absorbing features, to rise gradually. This is in line with a trend that began in 2017, reflecting growing market demand. The impact of Tier 1 debt on financial leverage will be limited, as it attracts a high level of equity credit. Senior debt and Tier 3 debt issuance will remain modest.

Exhibit 1

Current Moody's rating for the 10 largest European (re)insurers

Issuer	Insurance Financial Strength	Senior debt	Subordinated debt	Short-term	Outlook
Aegon N.V.	A1**	A3	Baa1	P-2	STA
Allianz SE	Aa3	Aa3	A2	P-1	STA
Assicurazioni Generali S.p.A.	Baa1	Baa2	Baa3	-	STA
Aviva Plc	Aa3**	A2	A3	P-1	STA
AXA SA	Aa3**	A2	A3	P-1	STA
Munich Reinsurance Company	Aa3	-	A2	-	STA
Prudential Plc	Aa3*	A2	A3	P-1	STA
SCOR SE	Aa3	-	A2	-	STA
Swiss Re	Aa3	Aa3	A2	P-1	STA
Zurich Insurance Company Ltd	Aa3	A1	A2	-	STA

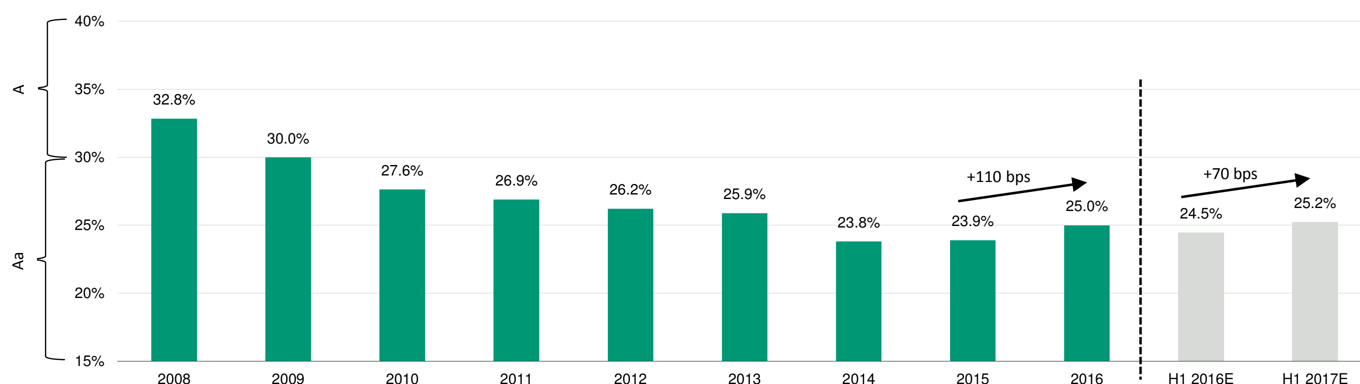
* IFSR refers to the UK Life operating entities ** IFSR refers to the main operating entities
All groups in our rated cohort above are subject to Solvency II, with the exception of Swiss Re and Zurich, which are subject to the Swiss Solvency Test and have been reporting their capital ratios on this regulatory basis for a number of years. Ratings as at 26 February 2018.
Source: Moody's Investors Service

Financial leverage increases after falling for seven consecutive years

Financial leverage for the largest European (re)insurers edged higher to 25% on average in 2016 and in the first half of 2017, after declining for the last seven years, reflecting favourable refinancing conditions (see Exhibit 2). This confirms our view that a deleveraging trend that began in 2009 has now come to an end.

Exhibit 2

Adjusted financial leverage edged higher in 2016 and H1 2017



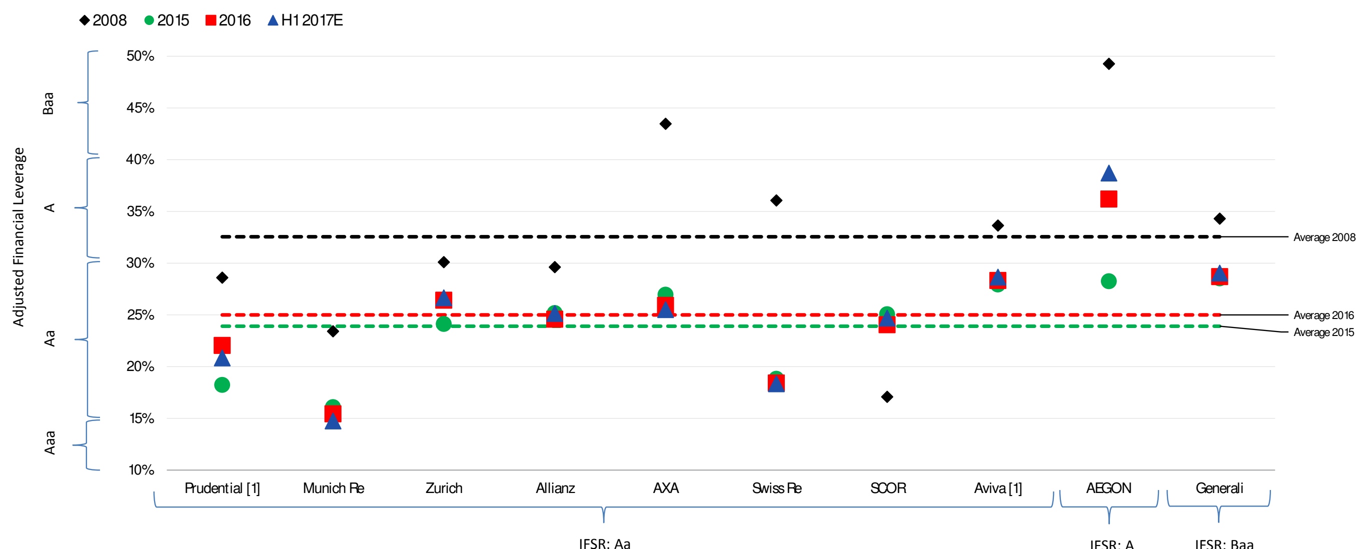
The parameters on the Y-axis are based on Moody's primary insurance methodology. These figures refer to the average adjusted financial leverage of our rated cohort and have not been adjusted to eliminate the impact of refinancing. Figures for H1 2016 and H1 2017 are estimates.
Source: Moody's Investors Service, Company data (Annual Reports)

Any future increase in financial leverage will likely be very gradual

Although financial leverage increased on average in 2016 and in the first half of 2017, it remained low for most of the large (re)insurers, in most cases well below the level commensurate with their ratings. European (re)insurers therefore have the capacity to issue new debt without any significant adverse impact on their leverage profiles (see Exhibit 3).

Exhibit 3

Adjusted financial leverage has edged higher in the last 18 months



The parameters on the Y-axis are based on Moody's primary insurance methodology. These figures have not been adjusted to eliminate the impact of refinancing. Figures for H1 2017 are estimates. [1] Leverage ratios at YE2016 and H1 2017 are not fully comparable with previous years due to the different treatment of the surplus funds of the with-profits business under Solvency II. With the advent of the Solvency II regime the surplus funds have been calculated using 50% of the Solvency II surplus funds instead of PRA return-derived realistic with-profit surplus.

Source: Moody's Investors Service, Company data (Annual reports)

The 2016 and 2017 year-on-year changes indicate that the upward trend for adjusted financial leverage is still in its infancy, with most insurers reporting modest increases of less than 100 basis points. There are just a few exceptions:

» After several years of deleveraging, Aegon's financial leverage increased materially in 2016 (+7.9% points) and the first half of 2017 as a result of additional borrowing and a decline in shareholders' equity.

» Prudential's adjusted financial leverage increased by 3.8% points in 2016, following the issuance of two subordinated Tier 2 notes.

» Conversely, the financial leverage of SCOR, Munich Re and Zurich declined due to debt repayment.

With the advent of the Solvency II capital regime, we changed the treatment of the surplus funds of the UK with-profits business by adopting the Solvency II surplus funds instead of the Prudential Regulation Authority's (PRA) return-derived realistic with-profits surplus. This had a negative impact on Prudential's financial leverage in 2016, which increased by 90 bps, and a positive impact on Aviva's financial leverage (-230 bps) in 2016.

Growing focus on deployment of excess capital to improve returns

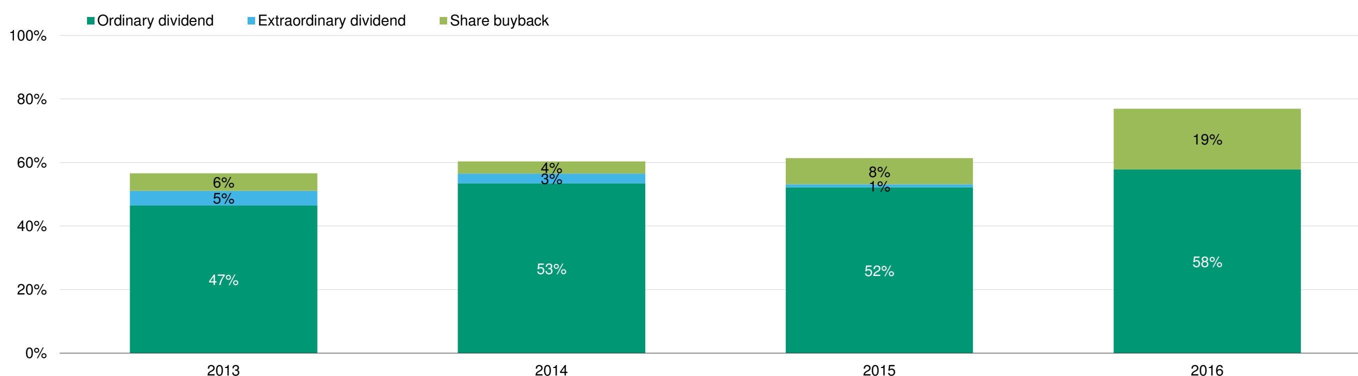
With insurers reporting generally solid capital positions, we anticipate a growing focus on deploying surplus capital through share buybacks, higher dividends, or mergers and acquisitions (M&A). We expect capital optimisation measures of this kind to slow growth of shareholders' equity, thereby pushing up the combined share of debt to equity for our European (re)insurers.

In our peer group, growth in retained earnings slowed to 4% in 2016 compared with an average of 13% over the previous 5 years. At the same time, use of special dividends and share buybacks further increased (see Exhibit 4), a trend that we expect to continue. In 2016 almost 80% of earnings were distributed to shareholders. In 2017, our peer group returned a total of €5.3 billion to investors through special dividends and extraordinary share buybacks. A €3 billion share buyback from Allianz and share buybacks by Munich Re and Swiss Re accounted for a high proportion of this.

Exhibit 4

(Re)insurers' dividend payout ratio has increased by 20% points since 2013

Dividends and share buyback as percentage of net income



Payout ratio is calculated as the weighted average of the payout ratios of the 10 (re)insurers in our peer group (Aegon, Allianz, Assicurazioni Generali, Aviva, AXA, Munich Re, Prudential, SCOR, Swiss Re and Zurich).

Source: Moody's Investors Service, Company data (Annual Reports)

In 2017 and 2018YTD, several European insurers announced new share buyback programs. In February 2018, Zurich disclosed the intention to repurchase $1 billion in shares, while Allianz announced a further €2 billion share buyback program. In 2017 Aviva and SCOR launched buyback programs of £300 million and €200 million respectively.

M&A activity could drive new debt issuance, but leverage impact limited

We expect M&A activity in the insurance sector to be focused mostly on bolt-on acquisitions, driven by three trends:

» Large groups (e.g. Generali, AXA and Aegon) will continue to focus on portfolio optimisation by disposing of assets that they no longer consider core to their strategy

» Life insurers, particularly in the UK and Germany, will look more closely at selling parts of their annuities businesses and guaranteed back books (e.g. acquisition of the insurance business of Standard Life Assurance by Phoenix Group)

» Insurers will increasingly seek deals that enhance distribution (e.g. Zurich's acquisition of ANZ) or that increase their footprint in specific segments of the market (e.g. Allianz' joint venture with LV)

We expect M&A deals to be financed mainly from excess capital, and only partly from new debt issuance. Recent examples of M&A funded through debt issuance include Zurich's acquisition of ANZ, Tryg's acquisition of Alka and Cattolica's acquisition of a stake in a bancassurance JV with Banco BPM.

Still low interest rates encourage debt pre-financing and new issuance

Persistently low interest rates, which encourage (re)insurers to borrow and refinance existing debt cheaply, are the primary driver of increased in leverage. European (re)insurers' adjusted financial debt (see Appendix 2 for definition) grew by 11% in 2016, the strongest increase in recent years.

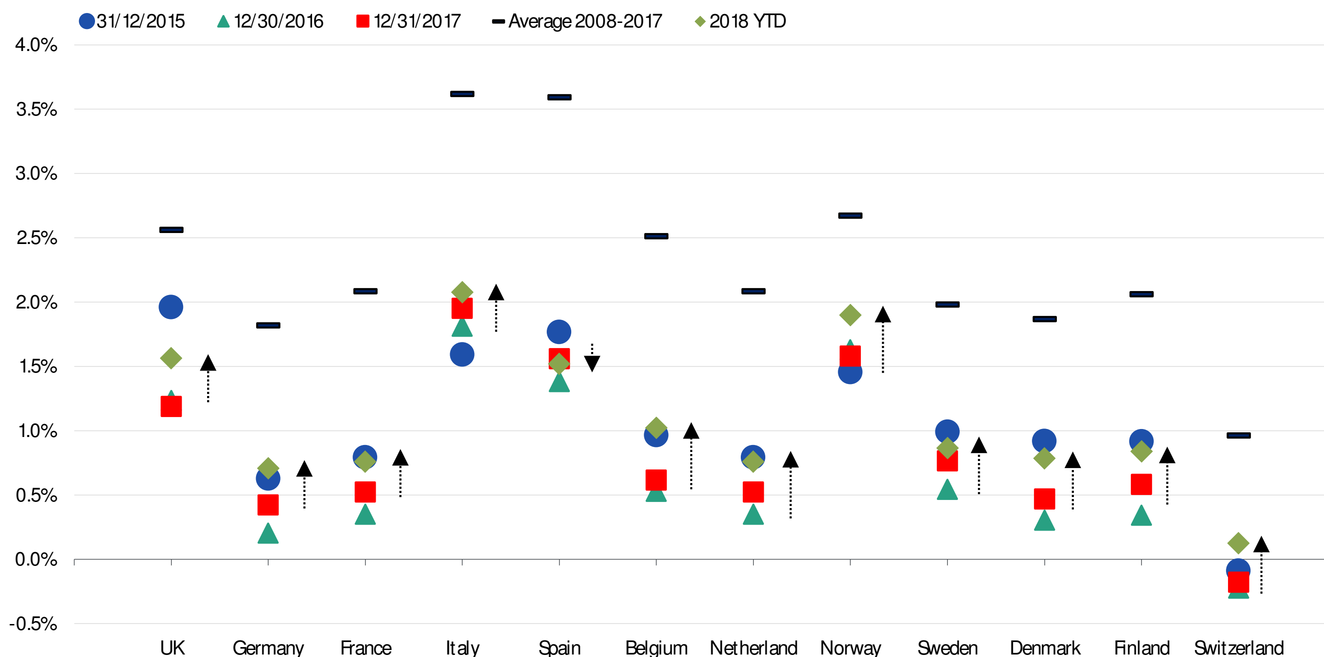
This growth in financial debt reflected a mix of new issuance and early refinancing, which in some cases outstripped actual refinancing needs. In 2016, for the first time in seven years, the increase in debt outpaced growth in adjusted shareholders' equity, which reached a more modest 4%.

Although interest rates rose during 2017 and 2018YTD, they remain well below the average for the last 10 years (see Exhibit 5). With (re)insurers continuing to take advantage of low refinancing costs, we expect financial debt to continue rising in 2018.

Exhibit 5

Interest rates have increased in 2017 and 2018YTD, but remain at a very low level

10-year government bond yield of major European countries



2018 YTD refers to 22 February 2018.
Source: Moody's Investors Service, Bloomberg

In 2016 and 2017, senior debt issuance became particularly attractive as further buying by the European Central Bank (ECB) as part of its quantitative easing program contributed to depressed yields. For example, in August 2017, Dutch insurer Aegon N.V. was able to issue 1-year senior unsecured notes with a fixed rate coupon of 0% (see Appendix 3).

In the subordinated debt market, insurers have also been able to issue Restricted Tier 1 debt at relatively low rates of interest. In October 2017, Dutch insurer A.S.R. Nederland N.V. issued the first Euro denominated restricted Tier 1 contingent convertible capital instrument, at a fixed rate coupon of 4.625%, while Direct Line Insurance Group issued the first Sterling denominated perpetual restricted Tier 1 contingent convertible notes at a fixed rate of 4.750% (rated Ba1(hyb), see Exhibit 15).

Over the next few years we expect central bank interest rates and long-term government bond yields to rise incrementally in Europe, albeit from a very low level. Any expectation of monetary tightening will accelerate new debt issuance as (re)insurers seek to lock in current very low debt servicing costs.

Low interest rates boost unrealized gains, reducing leverage

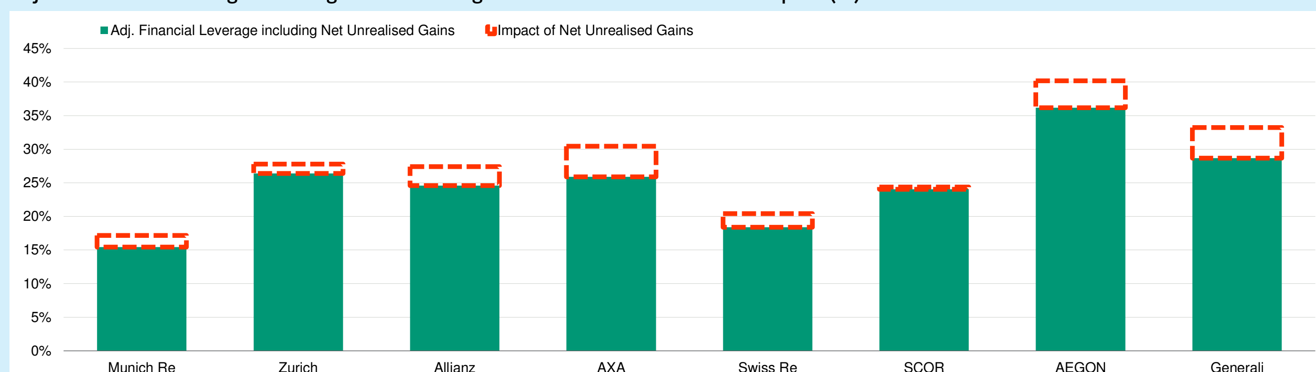
A decline in interest rates increases net unrealized gains on (re)insurers' available for sale investments. An increase in net unrealized gains, a material component of shareholders' equity under IFRS, in turn reduces leverage. During 2017, the contribution of net unrealised gains to (re)insurers' shareholders' equity remained material, despite a slight rise in interest rates. At H1 2017, the equity contribution from net unrealised gains was particularly high for composite insurers such as Generali (23%), AXA (19%) and Allianz (17%).

For the continental European insurers in our peer group, net unrealized gains lowered adjusted financial leverage by 2.7% points on average as at YE2016 (see Exhibit 6). The reduction was particularly marked in the case of Generali (4.6% points), AXA (4.5%) and Aegon (4%).

Exhibit 6

Low interest rates reduce leverage by increasing net unrealised gains

Adjusted financial leverage excluding net unrealised gains for selected Continental European (re)insurers as at YE2016



These figures have not been adjusted for refinancing.
Source: Moody's Investors Service, Company data (Annual reports)

Low interest rates increase defined pension liabilities, increasing leverage

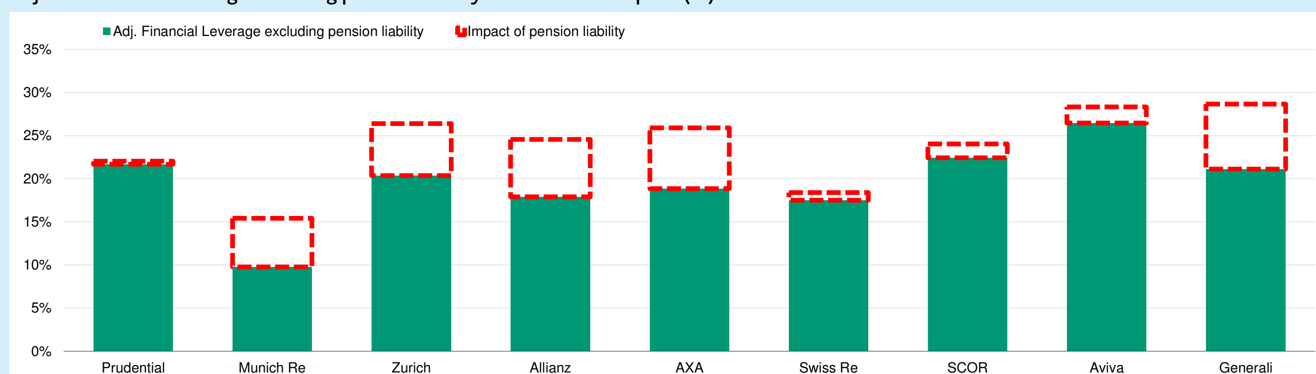
Under IFRS, companies record the deficit or surplus of their employee defined benefit retirement plans on balance sheet. We treat any deficit, defined as total pension obligations net of the fair value of pension plan assets, as financial debt. The discount rate used to calculate the obligation is correlated to interest rates. A decline in interest rates increases the pension obligation, and therefore financial leverage.

Following a decline in interest rates during 2016, the net pension liability for our peer group increased on average by 15%. As a result, the largest (re)insurers' adjusted financial leverage rose by 4.2% points on average as at YE2016 (see Exhibit 7). The increase was greatest for Generali (7.5% points), AXA (7%) and Allianz (6.7%).

Exhibit 7

Low interest rates increase leverage by pushing up defined benefit pension obligations

Adjusted financial leverage excluding pension liability for selected European (re)insurers as at YE2016



These figures have not been adjusted for refinancing.
Source: Moody's Investors Service, Company data (Annual reports)

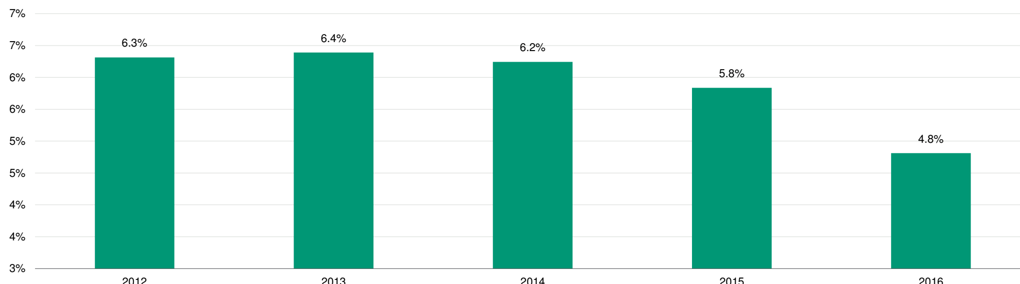
Low refinancing costs support interest coverage

Low interest rates have had a positive impact on (re)insurers' earnings coverage of interest, which has been improving gradually in recent years. Indeed, despite increases in the total stock of debt as a result of extensive refinancing, debt servicing costs have declined in our peer group by 150bps over the last 4 years (see Exhibit 8).

Exhibit 8

Low interest rates have reduced financing costs in recent years

Average interest expense as percentage of financial debt outstanding for the 10 largest European (re)insurers



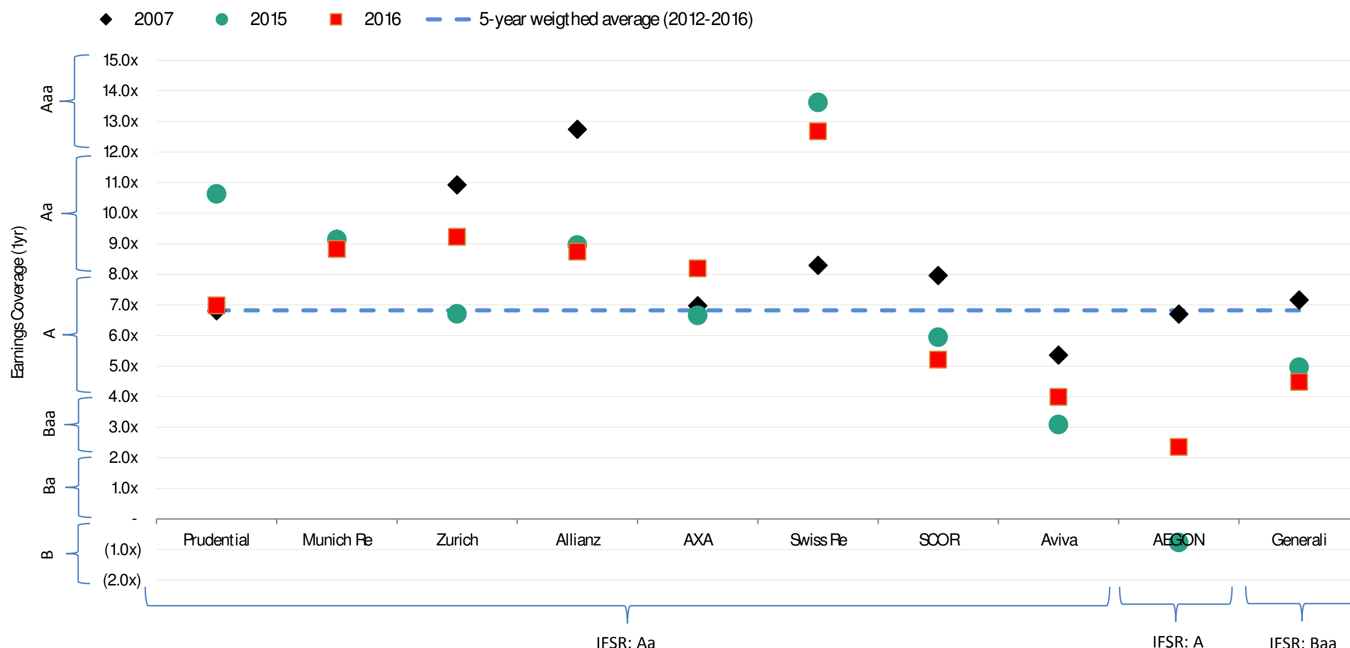
Source: Moody's Investors Service, Company data (Annual Reports)

However, average earnings coverage, which increased in 2016 to 7.1x, remains subdued by historical standards for most of our (re)insurers. For AXA, SCOR, Aviva and Aegon, earnings coverage on a 5-year weighted average basis remains below our expectation for their rating levels (see Exhibit 9). Looking ahead, we expect earnings coverage to continue improving gradually. Although any increase in financial debt combined with rising interest rates would be negative for earnings coverage, we would expect any increase to occur very slowly over the next 2 years. Low interest rates will continue to weigh on investment income, and will therefore remain a profitability headwind, especially for P&C insurers.

Exhibit 9

Earnings coverage continues to gradually improve

1-year earnings coverage for the 10 largest (re)insurers



The parameters on the Y-axis are based on Moody's primary insurance methodology. These figures have not been adjusted for refinancing.

Source: Moody's Investors Service, Company data (Annual Reports)

Early refinancing improves maturity profiles

The recent debt refinancing and new debt issuance of our European (re)insurance cohort has extended its debt maturity profile overall, which we view as positive. Financial debt falling due beyond 5 years accounts for 57% of total debt outstanding, up from 49% at YE2013. While the share of short term borrowings with maturity or call dates within 1 year has remained largely unchanged, the proportion falling due within 1 to 5 years fell to 26% at YE2016 from 32% at YE2013

While the overall maturity profile of our peer group remained mostly unchanged in 2017 (see Exhibit 10), debt falling due between 2019 and 2022 increased by €5 billion. This is mostly attributable to securities issued by Allianz, Generali and Munich Re which will mature or be called in 2022, and were previously classified as due after 5 years.

Aegon and SCOR have the highest proportion of short-dated instruments within our peer group, with respectively 40% and 28% of their total debt outstanding due within one year. In the case of Aegon, this includes €3 billion of junior perpetual capital securities for €3 billion whose repayment is at the discretion of the company. At the other end of the spectrum, just 2% of Generali's financial debt is short-dated.

Munich Re has the highest share of debt falling due between 2019 and 2022 (76% of financial debt). Conversely, Aegon and SCOR have the lowest refinancing requirement during this period, with less than 10% of their debt falling due.

More than 70% of Axa's debt outstanding falls due after 2022.

Exhibit 10

Early refinancing has extended debt maturity profiles

Financial debt maturity profile including first call date as de facto maturity date at YE2017

Data in Euro billion. Exchange rates at 29 December 2017: EUR/GBP: 1.1271, USD/EUR: 1.1993. These estimates treat optional call dates as the de facto maturity date. The financial debt excludes operational debt and includes other debt instruments as part of shareholders' funds. Credit facilities such as commercial papers, bank loans, overdrafts and other short term borrowings have been excluded. These figures have not been adjusted to eliminate the impact of refinancing. Maturity profiles are calculated using YE2017 book values for Swiss Re and Zurich and YE2016 book values for the remaining and have been adjusted to include debt issued during 2017. [1] "After 2022" category includes US and Asia retail issuances the first call dates of which have passed. [2] "2018" category includes junior perpetual capital securities of €3 billion which have been classified based on their next call date as disclosed in the annual report. These perpetual securities have no final maturity date, repayment is at the discretion of the company [3] "2018" category includes perpetual subordinated notes the first call date of which have passed.

Source: Moody's Investors Service, Company data (Annual reports)

In our peer group, around €14 billion of financial debt will mature or reach the first call date in the next 2 years (see Exhibit 11 and Appendix 4). Grandfathered Tier 1 debt accounts for the largest share of this, with €5.2 billion, or 36% of total refinancing needs for the largest European (re)insurers, falling due in 2018 and in 2019. Senior debt accounts for €4.3 billion (30% of the total refinancing needs) followed by Tier 2 subordinated debt (€2.3 billion, or 16%) and subordinated debt under the SST regime (€2.6 billion, or 18%).

Exhibit 11

Grandfathered restricted Tier 1 and Senior debt will drive refinancing needs in 2018 and 2019 in our peer group

Insurance debt with maturity/first call date in 2018 and 2019 for the 10 largest (re)insurers

Q1 2018
Prudential 5.25% USD700 m
Allianz 1.38% EUR500 m

Q2 2018
Aviva 6.88% EUR500 m
Munich Re 7.63% GBP300 m
Zurich 4.63% CHF500 m

Q3 2018
Swiss Re 8.25% USD750 m
Allianz 5.50% USD1,000 m
AEGON 0.00% EUR500 m
SCOR 5.25% CHF315 m

Q4 2018
Generali 7.90% EUR100 m
AXA 6.46% USD750 m
Aviva 0.10% EUR350 m
SCOR 5.00% CHF250 m
Zurich 2.38% CHF525 m
Generali 7.68% EUR150 m
Friends Life 7.88% USD575 m
Aegon 5.19% EUR136 m

Q1 2019
Generali 8.50% EUR350 m
Generali 7.24% EUR350 m
Swiss Re America 6.45% USD234 m

Q2 2019
Zurich 1.50% CHF400 m
Prudential 11.38% GBP400 m
Swiss Re 6.30% GBP500 m

Q3 2019
Generali 9.00% EUR50 m
Zurich 1.13% CHF400 m
Swiss Re 6.38% USD750 m
Zurich 7.50% EUR425 m
Allianz Finance BV 4.75% EUR1,500 m
Allianz 3.25% CHF500 m

Q4 2019
AXA 5.50% USD850 m
Aegon 4.63% EUR75 m
Aviva 6.88% GBP210 m
AXA 6.77% GBP700 m

Maturity profile excludes commercial papers, credit facilities (e.g. bank loans and overdrafts), other short term borrowings, retail issuances with no expectations of being called, subordinated debt that have already passed their first call date.

Source: Company data (Annual Reports, Presentation and Solvency and Financial Conditions Reports

Color code

Senior Debt
Subordinated debt - Tier 2
Subordinated debt - restricted Tier 1
Subordinated debt under SST

Hybrid issuance continues to be (re)insurers' preferred way of supporting Solvency II ratios

Solvency II ratios for most of our rated insurers remain comfortably within, and in some cases above, their target ranges. However, since market and credit risks are typically the largest components of solvency capital requirements, these ratios have a high degree of volatility to market events. As observed in Q1 2016, this volatility can be material, especially in the event of combined market movements.

Although pressure to boost Solvency II ratios has eased compared with 2015 and 2016, when the Solvency II regime was introduced, we expect insurers to limit any volatility in their ratios by issuing new Tier 2 debt.

The capital position of the (re)insurers in our peer group, as measured by their solvency ratios, are sensitive to a fall in interest rates. This is particularly true of the Solvency II ratios of Munich Re, SCOR and Aegon, and the Swiss Solvency Test ratio of Zurich.

A widening of credit spreads is another potential trigger for material volatility, with most (re)insurers reporting a double digit decline in their solvency ratios in the event that credit spreads increase (see Exhibit 12).

Exhibit 12

Interest rates and credit spreads are the primary source of volatility for Solvency II/SST ratios

European (re)insurers - Solvency II/SST key sensitivities at YE2016

		Solvency II/SST ratio				impact of market movements on Solvency ratio as at YE2016			
Group	IFSR	Q3 2017	YE2016	Var. % pts	Target ratio	fall in interest rates	rise in interest rates	credit spread widening	decline in equities
Prudential Plc	Aa3*	201%[1,2]	201%[2]	0% pts	n.d.	-9% pts (-50bps)[3]	+13% pts (+100bps)[3]	-3% pts (+100bps)[3]	-7% pts (-40%)[3]
Munich RE	Aa3	258%	267%	-9% pts	175-220%	-19% pts (-50bps)	+17% pts (+50bps)	-41% pts (+100bps)[1]	-16% pts (-30%)
Zurich	Aa3	n.d.	227%***	-	n.d.	-20% pts (-100bps)	+6% pts (+100bps)	-33% pts (100bps)	-4% pts (-20%)
Allianz SE	Aa3	227%	218%	+9% pts	180-220%	-11% pts (-50bps SII non-parallel shift)	+2% pts (+50bps SII non-parallel shift)	-12% pts (+50bps in gov. bond spreads)	-2% pts (-30%)
AXA	Aa3**	201%	197%	+4% pts	170-230%	-9% pts (-50bps)	+3% pts (+50bps)	-1% pts (+75bps in corporate spreads)	-7% pts (-25%)
Swiss RE	Aa3	262%*** [4,5]	261%*** [4]	+1% pts	220%	n.d.	n.d.	n.d.	n.d.
Aviva Plc	Aa3**	170%[6,7]	172%[6]	-2% pts	n.d.	-8% pts (-50bps)[8]	+13% pts (+100bps)[8]	-1% pts (+100bps in corporate bond spreads)[8]	-3%pts (-25%)[8]
SCOR SE	Aa3	213%	225%	-12% pts	185-220%	-21% pts (-100bps)	+19% pts (+100bps)	-10% pts (+100bps corporate spreads)	-1% pts (-10%)
Aegon N.V.	A1**	195%	157%	+38% pts	140-170%	-18% pts (-100bps)	+2% pts (+100bps)	+2% pts (+100bps)	-6% pts (-20%)
Assicurazioni Generali	Baa1	195%[9]	178%[9]	+17% pts	n.d.	-9% pts (-50bps)	+6% pts (+50bps)	-11% pts (+100bps in Italian BTP spread)	-6% pts (-20%)

Color code:
decline by more than 15% pts
decline between 5-15% pts
decline between 0-5% pts

*IFSR refers to the UK Life operating entities ** IFSR refers to the main operating entities ***Swiss Solvency Test 1) Coverage ratio at Q3 2017 is estimated 2) Solvency II ratio refers to the shareholders' view 3) Sensitivities refer to the shareholders' view 4) SST ratio refers to the new SST ratio definition 5) As of YE2017 6) Solvency II ratio refers to the regulatory view 7) As of H1 2017 8) Sensitivities refer to the regulatory view 9) Solvency II ratio refers to the Regulatory Solvency ratio. Economic Solvency ratio at Q3 2017 and YE2016 was respectively 215% and 194%

Source: Moody's Investors Service, Company data (Solvency and Financial Conditions Reports, Interim reports and presentations)

Market movements remain a wild card

In 2017, Solvency II ratios generally improved, reflecting good capital generation and favourable market movements, despite concerns that Brexit and general elections in Germany, France and the Netherlands might result in volatility (see Exhibit 13).

In 2018, while political risks in Europe have generally receded, potential uncertainty related to the outcome of Italian elections in March and the ongoing Catalonian independence dispute could contribute to interest rate and credit spread volatility. The capital position of Italian insurers, in particular, is very sensitive to credit spread movements, given the high concentration of Italian government bonds within their investment portfolios.

Exhibit 13
Market movements in 2017 have been favourable for insurers' Solvency II ratios

Market movement		2015	2016	2017	2018 YTD
10 yr swap rates *(change in bps)*	Euro	19	-34	22	25
	UK	16	-77	4	38
10 yr sovereign yield (*change in bps*)	Italy	-29	22	14	13
	Spain	17	-39	18	-4
	France	12	-44	17	24
	UK	20	-72	-5	38
	Germany	9	-42	22	29
	Avg. Change	**6**	**-35**	**13**	**20**
10 yr sovereign spread compared to German Bund (*change in bps*)	Italy	-38	64	-8	-16
	Spain	8	4	-4	-33
	France	3	-2	-5	-5
	UK	11	-30	-27	9
	Netherland	3	-2	-5	-5
	Avg. Change	**-3**	**7**	**-10**	**-10**
Corporate bond index 5-7 year spread (*change in bps*)	Euro	44	-14	-38	-7
	Sterling	44	-45	-22	5
Equity market (*change %*)	STOXX Europe 600	7%	-1%	8%	-3%
	FTSE All-Share	-3%	12%	9%	-6%

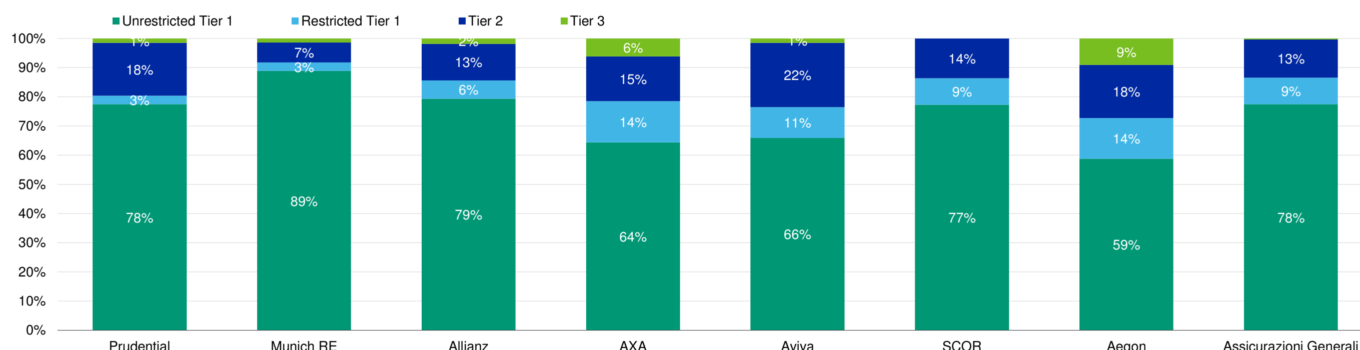
2018 YTD refers to trends from January 1 to February 22.
Source: Moody's Investors Service, Bloomberg and Factset

Solvency II will influence the type of debt issuance, with loss-absorbing securities becoming more common

We expect Solvency II to influence primarily the type of debt issuance, but ultimately it will not materially alter insurers' quality of capital, or their capital structures.

As of YE2016, our peer group's capital remained of high quality, with Tier 1 capital (restricted and unrestricted) accounting for on average 82% of available own funds, equivalent on average to 154% of the solvency capital requirements (SCR). Munich Re reported the highest share of Tier 1 capital (92%), followed by Generali (87%), Allianz and SCOR with 86% (see Exhibit 14). However, we note that Tier 1 capital under Solvency II includes future profits. These can make up a material share of the total, especially for life insurers.

Exhibit 14
Capital quality remains high under Solvency II
Capital structure at YE2016 based on regulatory view



Source: Moody's Investors Service, Company Data (2016 Solvency and Financial Condition Report)

Tier 2 debt will continue to dominate new issuance

With Tier 2 and Tier 3 capital accounting for only 18% of own funds on average, the industry's capacity for new issuance of these instruments is relatively high. We estimate that unused Tier 2 capacity within our peer group was around €26 billion at YE2016. We

therefore expect (re)insurers to continue issuing primarily Tier 2 debt, encouraged also by its relatively low cost. This would mark a continuation of current trends.

Munich Re, Generali, Allianz and SCOR had the highest Tier 2 capacity in our peer group at YE2016. Aviva, AXA and Aegon, in contrast, had less than 10% of their SCR available for Tier 2 and Tier 3 issuance. Several insurers in our rated universe have also fully used their Tier 2 capacity, among them KLP, RSA and Tryg.

Tier 1 debt issuance will rise gradually in 2018

In 2018, we expect issuance of Tier 1 debt, which has loss-absorbing features, to increase, in a continuation of the trend that began in 2017. This reflects growing market demand for these securities. In 2017, several insurers issued restricted Tier 1 contingent capital securities with a total market value of €1.1 billion (see Exhibit 15). Danish insurer Tryg announced in December 2017 that it would partly finance the acquisition of peer Alka by issuing a DKK500 million Tier 1 bond during H1 2018.

Exhibit 15

Recent issuances of contingent capital securities

Issuer	Date	Currency	Amount	Coupon	Callable
Gjensidige Forsikring ASA	29/08/2016	NOK	1,000 million	3m NIBOR + 3.60%	2021
RSA Insurance Group	27/03/2017	SEK	2,500 million	3m STIBOR + 5.25%	2022
		DKK	650 million	3m CIBOR + 4.85%	2022
ASR Nederland N.V.	12/10/2017	EUR	300 million	Fixed rate 4.625%	2027
Direct Line Group	5/12/2017	GBP	350 million	Fixed rate 4.750%	2027

Source: Moody's Investors Service

Under Solvency II, Tier 1 debt can account for up to 20% of total Tier 1 capital. It is the most risky of the three layers of hybrid capital, and is therefore more expensive than Tier 2 debt, although cheaper than equity. In the run-up to Solvency II's entry into force in January 2016, European insurers were given the option of grandfathering Tier 1 debt by a deadline of January 2015. Many therefore hold a sizeable volume of grandfathered Tier 1 instruments in their capital structure.

Within our peer group, Aegon and AXA have used up most of their Tier 1 debt capacity, while SCOR and Generali still have approximately half of theirs. Munich Re and Prudential have the highest remaining capacity.

Overall, we expect the impact of Tier 1 debt on financial leverage to be relatively limited. This is because under Moody's hybrid methodology, we assign a 75% equity credit to these securities. As a result, we treat only 25% of their value as debt.

Issuance of senior and Tier 3 debt to remain modest

Solvency II rules do not consider senior debt as eligible to cover regulatory capital requirements, limiting insurers' incentive to issue it. We expect senior debt to be issued primarily by groups that do not have any remaining Tier 2 capacity.

Solvency II allows Tier 3 capital to account for up to 15% of insurers' SCR, but stipulates that the combined contribution of Tier 2 and Tier 3 capital cannot exceed 50%. This limits insurers' appetite for Tier 3 debt issuance. We therefore expect them to use their Tier 3 capacity primarily for deferred taxes.

An IFRS view: insurers' capital structures remain of generally good quality, with retained earnings accounting for the majority of capital

Within our peer group, the vast majority of capital under IFRS is made up of retained earnings, with subordinated debt and other securities accounting on average for only 22% of the capital structure (see Exhibit 16).

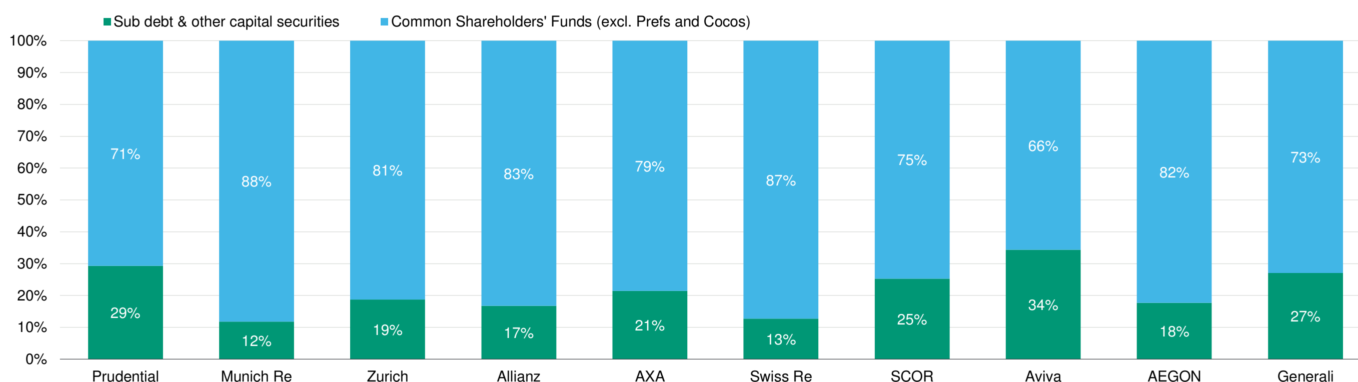
The overall loss absorbing capacity of subordinated instruments remains limited. Under Moody's hybrid debt methodology, we attribute a certain equity credit to Tier 1 and Tier 2 subordinated debt. Based on the actual capital structure reported by our peer group, our rated insurers receive a benefit on Moody's adjusted financial leverage equal to around 32% of the nominal value of the subordinated debt issued.

Aviva, Prudential, Generali and SCOR are among the most reliant on subordinated debt and other capital instruments. Munich Re, Swiss Re, Allianz and Aegon have the lowest exposure, with shareholders' equity accounting for least 80% of their capital.

Exhibit 16

Shareholders' equity remains the bedrock of capital under IFRS

Capital structure at YE2016



These figures have not been adjusted to eliminate the impact of refinancing.

Source: Moody's Investors Service, Company data (Annual Reports)

Appendix 1: Adjusted Financial/Total Leverage and Earnings Coverage for Selected Large European Insurers in 2016

Exhibit 17

Adjusted Financial, Total Leverage and Earnings Coverage in 2016

(EUR million)	Prudential [3]	Munich Re	Allianz	AXA [1]	Swiss Re	SCOR	Aviva [3]	Aegon	Generali
Shareholders' Funds	17,130	31,516	67,340	70,597	33,805	6,661	21,463	24,711	24,545
Minority Interest	1	269	3,052	5,283	78	34	1,372	23	1,123
Reported Shareholders' Funds	**17,131**	**31,785**	**70,392**	**75,880**	**33,883**	**6,695**	**22,835**	**24,734**	**25,668**
Deductions									
Other Capital Securities part of Shareholders' Equity (CoCo's, Prefs and Undated Sub Debt)	-	-	-	8,108 [2]	1,045	-	1,837	3,733	-
Additions									
Free Policyholders' Funds	6,178	3,600	10,906	-	-	-	4,407	-	3,747
Equity Credit on Eligible Debt	1,759	1,294	5,024	4,974	1,954	564	2,789	1,860	3,403
Total Additions	**7,937**	**4,894**	**15,930**	**4,974**	**1,954**	**564**	**7,196**	**1,860**	**7,150**
Adjusted Shareholders' Funds	**25,068**	**36,679**	**86,322**	**72,746**	**34,791**	**7,259**	**28,194**	**22,861**	**32,818**
Financial Debt									
Senior Debt	641	324	7,615	2,330	4,102	-	1,593	5,509	3,017
Subordinated Debt	7,094	4,218	13,530	8,920	3,723	2,256	8,425	767	9,126
Other Capital Securities part of Shareholders' Equity (CoCo's and Prefs)	-	-	-	8,108	1,045	-	1,837	3,733	-
Bank Debt, Overdrafts	419	269	-	580	-	224	255	1	53
Total Financial Debt	**8,155**	**4,811**	**21,145**	**19,938**	**8,870**	**2,480**	**12,110**	**10,010**	**12,196**
Basket Credit (-)	1,759	1,294	5,024	4,974	1,954	564	2,789	1,860	3,403
Pension Deficit (+)	151	2,707	9,300	8,509	460	197	985	4,453	4,404
Operating Lease Debt Equivalent (+)	537	464	2,706	1,956	470	184	834	352	-
Adjusted Financial Debt	**7,083**	**6,688**	**28,128**	**25,430**	**7,846**	**2,297**	**11,139**	**12,955**	**13,197**
Adjusted Financial Leverage	22.0%	15.4%	24.6%	25.9%	18.4%	24.0%	28.3%	36.2%	28.7%
Total Leverage	31.6%	18.4%	29.0%	31.0%	24.4%	29.9%	35.4%	43.8%	37.8%
Earnings Coverage (1yr)	7.0x	8.8x	8.7x	8.2x	12.7x	5.2x	4.0x	2.3x	4.5x
Earnings Coverage (5-yr average)	8.5x	8.3x	8.3x	6.2x	13.0x	5.9x	3.1x	2.3x	4.1x

Exchange rates at 31 December 2016: GBP/EUR: 0.8562, USD/EUR: 1.0541. [1] Free Policyholders' Funds not included in the calculation of AXA's leverage, [2] Includes only undated subordinated debt part of Shareholders' Equity [3] Leverage ratios at YE2016 are not fully comparable with previous years due to the different treatment of the surplus funds of the with-profits business under Solvency II. With the advent of the Solvency II regime the surplus funds have been calculated using 50% of the Solvency II surplus funds instead of PRA return-derived realistic with-profit surplus.

Source: Moody's Investors Service and Company data (Annual Reports)

Appendix 2: Financial Flexibility Relevant Metrics

Relevant metrics

Adjusted Financial Leverage: Adjusted debt (Financial debt (including preferred stock) + Moody's pension, hybrid, and operating lease adjustments) divided by (adjusted debt + shareholders' equity)

Total Leverage: [Financial debt (including preferred stock) + operating debt + Moody's pension and operating lease adjustments] divided by [financial debt + operating debt + Moody's pension and operating lease adjustments + shareholders' equity (adjusted for any non-debt items)]

Earnings Coverage: Adjusted earnings before interest and taxes divided by interest expense and preferred dividends (5-year average)

Exhibit 18

Summary of Relevant Metrics for Financial Flexibility

For Property and Casualty Insurers and for Life Insurers

	Aaa	Aa	A	Baa	Ba	B	Caa
Adjusted Financial Leverage	< 15%	15%-30%	30%-40%	40%-50%	50%-60%	60%-70%	> 70%
Total Leverage	< 15%	15%-30%	30%-40%	40%-50%	50%-60%	60%-70%	> 70%
Earnings Coverage (5-yr. avg.)	> 12x	8x-12x	4x-8x	2x-4x	0x-2x	<0x	NA

Source: Moody's Global Rating Methodology for Property and Casualty Insurers and for Global Life Insurers published in May 2017 and April 2016, respectively

For Reinsurers

	Aaa	Aa	A	Baa	Ba	B	Caa
Adjusted Financial Leverage	< 15%	15%-25%	25%-35%	35%-45%	45%-55%	55%-65%	> 65%
Total Leverage	< 15%	15%-25%	25%-35%	35%-45%	45%-55%	55%-65%	> 65%
Earnings Coverage (5-yr. avg.)	> 14x	9x-14x	5x-9x	2x-5x	0x-2x	(2x)-0x	< (2x)

Source: Moody's Global Methodology for Reinsurers published in September 2017

Appendix 3: European Insurance Debt Issuance during 2017 and 2018 to date

Exhibit 20

Date	Issuer	Amount	Coupon	Type	Rating
22/2/2018	UnipolSai Assicurazioni S.p.A.	EUR500m	Fixed 3.875%	10 year subordinated notes EMTN	Ba1
14/2/2018	Zurich Insurance Company Ltd	USD500m	Fixed 4.875%	30 year NC10 subordinated notes EMTN	A2(hyb)
13/2/2018	Sampo Plc	EUR500m	Fixed 1.625%	10 year senior unsecured EMTN	Baa1
7/12/2017	Direct Line Insurance Group plc	GBP350m	Fixed 4.75%	Perpetual restricted Tier 1 contingent convertible note	Ba1(hyb)
21/11/2017	Unipol Gruppo S.p.A.	EUR500m	Fixed 3.50%	10 year senior unsecured EMTN	Ba2
24/10/2017	Prudential Plc	USD750m	Fixed 4.875%	Perpetual subordinated EMTN	A3(hyb)
30/8/2017	Aegon N.V.	EUR500m	Fixed 0.00%	1 year senior unsecured notes	A3
20/6/2017	Ardonagh Midco 3 plc	USD520m	8.63%	Backed Senior Secured	B3
20/6/2017	Ardonagh Midco 3 plc	GBP400m	8.38%	Backed Senior Secured	B3
12/6/2017	Allianz SE	EUR500m	3-months Euribor + 50bps	Backed Senior Unsecured - GTD Floating Rate EMTN	Aa3
12/6/2017	Allianz SE	EUR750m	Fixed 0.875%	Backed Senior Unsecured - GTD EMTN	Aa3
6/6/2017	Allianz SE	EUR750m	Fixed 0.25%	Backed Senior Unsecured - GTD EMTN	Aa3
30/5/2017	Sampo Plc	EUR500m	Fixed 1.25%	8 year senior unsecured EMTN	Baa1
12/5/2017	Saga plc	GBP250m	Fixed 3.375%	Backed Senior Unsecured	Ba1
24/4/2017	Legal & General Plc	USD500m	Fixed 5.55%	35 year subordinated notes EMTN	Baa1(hyb)
27/3/2017	RSA Insurance Group plc	SEK2500m	Swedish Interbank market rate +5.25%	Perpetual restricted Tier 1 contingent convertible note	Ba2(hyb)
27/3/2017	RSA Insurance Group plc	DKK650m	CIBOR+4.85%	Perpetual restricted Tier 1 contingent convertible note	Ba2(hyb)
21/3/2017	Legal & General Plc	USD850m	Fixed 5.25%	30 year subordinated notes EMTN	Baa1(hyb)
27/1/2017	Allianz SE	USD600m	Fixed 5.1%	32 year NC10 subordinated EMTN	A2(hyb)
17/1/2017	AXA	USD1,000m	Fixed/Floating 5.125%	30 year NC10 subordinated EMTN	A3(hyb)
13/1/2017	Allianz SE	EUR1,000m	Fixed/Floating 3.099%	30 year NC10 subordinated EMTN	A2(hyb)

Appendix 4: Insurance debt with maturity/first call date in 2018 and 2019 for our rated cohort

Exhibit 21

Issue date	Issuer	Type	First call date/maturity	Nominal	Coupon	SII classification
6/3/2013	Allianz Finance II B.V.	Senior debt	13/3/2018	EUR500 m	1.38%	-
15/1/2013	Prudential Plc	Perpetual subordinated debt	23/3/2018	USD700 m	5.25%	Tier 2
16/5/2011	Zurich Insurance Company Ltd	Perpetual subordinated debt	16/5/2018	CHF500 m	4.63%	n.a.
16/4/2003	Munich Re	Dated subordinated debt	21/5/2018	GBP300 m	7.63%	Tier 2
20/5/2008	Aviva Plc	Date subordinated notes	22/5/2018	EUR500 m	6.88%	Tier 2
10/8/2012	SCOR SE	Perpetual subordinated debt	6/8/2018	CHF315 m	5.25%	restricted Tier 1
30/8/2017	Aegon N.V.	Senior debt	30/8/2018	EUR500 m	0.00%	-
29/3/2012	Swiss Reinsurance Company Ltd	Subordinated Loan Note with stock settlement	1/9/2018	USD750 m	8.25%	n.a.
22/11/2012	Allianz SE	Perpetual subordinated debt	26/9/2018	USD1,000 m	5.50%	restricted Tier 1
14/10/1996	Aegon N.V.	Perpetual cumulative subordinated bonds	14/10/2018	EUR136 m	5.19%	restricted Tier 1
8/11/2012	Friends Life Holdings Plc	Perpetual subordinated debt	8/11/2018	USD575 m	7.88%	restricted Tier 1
19/11/2008	Assicurazioni Generali S.p.A.	Perpetual subordinated debt (private placement)	19/11/2018	EUR150 m	7.68%	restricted Tier 1
25/10/2011	Zurich Insurance Company Ltd	Senior debt	23/11/2018	CHF525 m	2.38%	-
30/9/2013	SCOR SE	Perpetual subordinated debt	30/11/2018	CHF250 m	5.00%	restricted Tier 1
14/9/2016	Aviva Plc	Senior debt	13/12/2018	EUR350 m	0.10%	-
14/12/2006	AXA SA	Perpetual subordinated debt	14/12/2018	USD750 m	6.46%	restricted Tier 1
19/12/2008	Assicurazioni Generali S.p.A.	Perpetual subordinated debt (private placement)	19/12/2018	EUR100 m	7.90%	restricted Tier 1
24/2/1999	Swiss Re America Holding Corporation	Senior debt	1/3/2019	USD234 m	6.45%	-
4/3/2009	Assicurazioni Generali S.p.A.	Perpetual subordinated debt (private placement)	4/3/2019	EUR350 m	7.24%	restricted Tier 1
6/3/2009	Assicurazioni Generali S.p.A.	Perpetual subordinated debt (private placement)	6/3/2019	EUR350 m	8.50%	restricted Tier 1
27/3/2007	Swiss Reinsurance Company Ltd	Perpetual subordinated debt	25/5/2019	GBP500 m	6.30%	n.a.
29/5/2009	Prudential Plc	Dated subordinated debt	29/5/2019	GBP400 m	11.38%	Tier 2
25/6/2012	Zurich Insurance Company Ltd	Senior debt	25/6/2019	CHF400 m	1.50%	-
23/1/2014	Allianz SE	Perpetual subordinated debt	4/7/2019	CHF500 m	3.25%	Tier 2
15/7/2009	Assicurazioni Generali S.p.A.	Perpetual subordinated debt (private placement)	15/7/2019	EUR50 m	9.00%	restricted Tier 1
22/7/2009	Allianz Finance II B.V.	Senior debt	22/7/2019	EUR1,500 m	4.75%	-
24/7/2009	Zurich Insurance Company Ltd	Dated subordinated debt	24/7/2019	EUR425 m	7.50%	n.a.
12/3/2013	Swiss Reinsurance Company Ltd	Subordinated contingent write-off loan note	1/9/2019	USD750 m	6.38%	n.a.
18/9/2013	Zurich Insurance Company Ltd	Senior debt	18/9/2019	CHF400 m	1.13%	-
16/10/2007	AXA SA	Perpetual subordinated debt	16/10/2019	GBP700 m	6.77%	restricted Tier 1
21/11/2003	Aviva Plc	STICS Step-up Tier 1 Insurance Capital Securities	21/11/2019	GBP210 m	6.88%	restricted Tier 1
8/12/2004	Aegon N.V.	Senior debt	9/12/2019	EUR75 m	4.63%	-
22/1/2013	AXA SA	Perpetual subordinated debt	22/12/2019	USD850 m	5.50%	restricted Tier 1

This chart excludes commercial papers, credit facilities (e.g. bank loans and overdrafts), other short term borrowings, retail issuances with no expectations of being called, subordinated debts that have already passed their first call date.
Source: Company data (Annual Reports, Presentation and Solvency and Financial Conditions Reports)

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- Italian Insurance: Outlook stable as unit-linked sales grow, P&C profit remains strong (16 October 2017)
- French Insurance: 2018 outlook: P&C negative due to weak profit, life stable on resilience to low rates (29 November 2017)
- Dutch insurance: Life sector refocusing, higher P&C prices drive stable outlook (3 November 2017)

Credit Opinions:

- Aegon N.V. (22 December 2017)
- Allianz SE (12 October 2017)
- Aviva Plc (24 October 2017)
- Assicurazioni Generali S.p.A. (9 November 2017)
- AXA (19 January 2018)
- Munich Reinsurance Company (10 January 2018)
- Prudential Plc (27 September 2017)
- SCOR SE (24 October 2017)
- Swiss Reinsurance Company Ltd (22 December 2017)
- Zurich Insurance Company Ltd (22 December 2017)

Rating Methodologies:

- Global Life Insurers (29 April 2016)
- Global Property and Casualty Insurers (26 May 2017)
- Global Reinsurers (26 September 2017)
- Hybrid Equity Credit (18 January 2017)
- Financial Statement Adjustments in the Analysis of Financial Institutions (13 June 2017)

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