Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

Asset Price Monitor

European Equity Markets

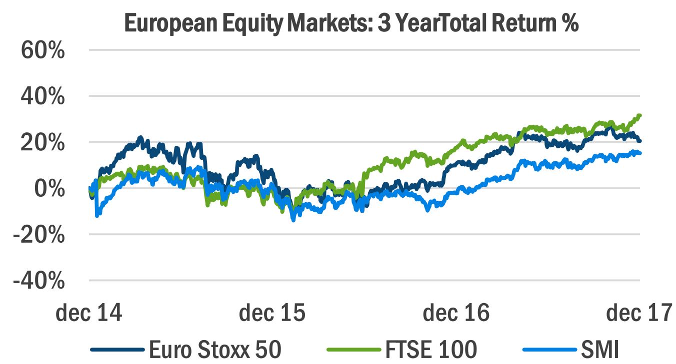
- European equities returned strongly in 2017, after meagre returns in the previous two years for the Eurozone and Swiss markets. This was helped by steady growth and reduced political uncertainty in Europe. Switzerland was one of the better performing markets with a 2017 return close to 18%.

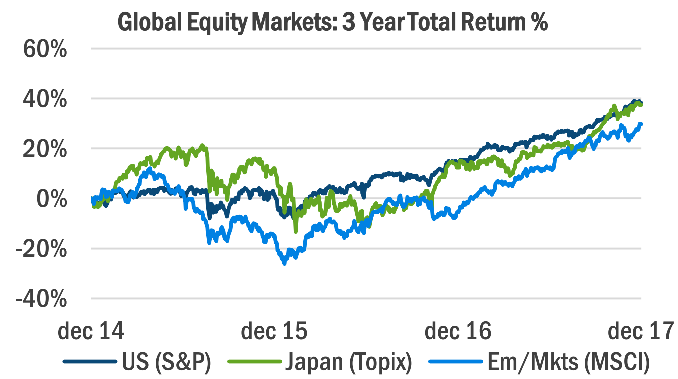
Global Equity Markets

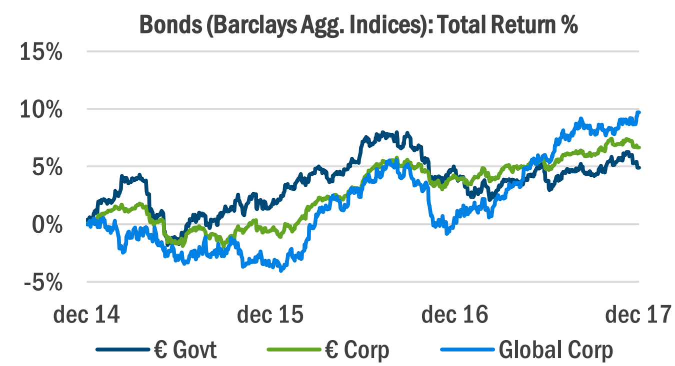
- 2017 was a strong year for equities across the globe too. On the whole, international equity markets performed better than European markets in 2017. The global economy growth looked brighter, boosted by the promise of lower taxes and de-regulation in the US. Emerging market equity was one of the strongest performing asset classes in 2017, with over a 37% return on the year. However, its three-year performance still lags behind the main US and Japanese benchmarks.
- The returns for international indices are shown in their local currency.

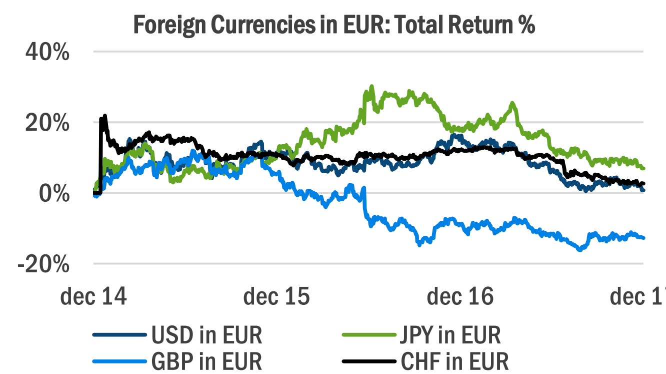
Bond/FX Markets

- Bond markets have not fared as well as equity markets in 2017. In particular, the European Central Bank signalled its plan to reduce bond purchases during the year. Government bonds returns were barely positive for the year, while corporate bonds fared slightly better.
- The Euro has been the strongest performing major currency of 2017, as it recovered from depreciation against other currencies in the two previous years.
- Since the EU referendum result in 2016, the GBP has performed poorly. Although its pace of decline slowed in 2017.









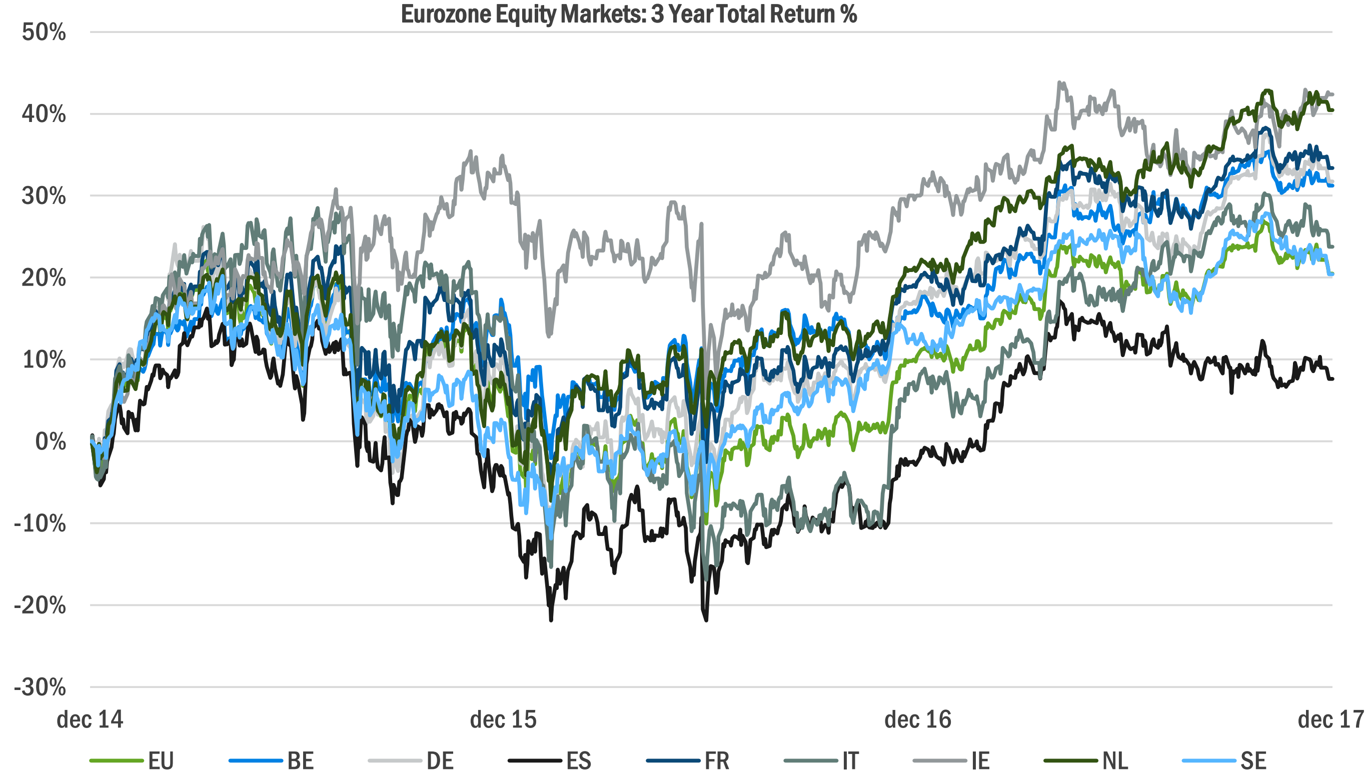
Calendar Year Total Returns

	Euro Stoxx 50	FTSE 100	SMI	US (S&P)	Japan (Topix)	Em/Mkts (MSCI)	€ Govt	€ Corp	CHF in EUR	USD in EUR	JPY in EUR	GBP in EUR
2017	9.2%	11.9%	17.9%	21.8%	22.2%	37.3%	0.2%	2.4%	-8.4%	-12.4%	-9.0%	-4.0%
2016	3.7%	19.1%	-3.4%	12.0%	0.3%	11.2%	3.1%	4.7%	1.6%	3.2%	6.1%	-13.6%
2015	6.4%	-1.3%	1.2%	1.4%	12.1%	-14.9%	1.5%	-0.6%	10.4%	11.4%	10.8%	5.4%

Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

EU Equity

- Major EU equity markets all posted healthy positive gains in 2017. Italy and the Netherlands were the strongest EU performers, with returns of more than 15%, while Sweden lagged behind the others at year end.
- The Netherlands and Ireland have returned over 40% during the last 3 years. Spain has consistently underperformed against other European countries, returning less than 10% over the same period.



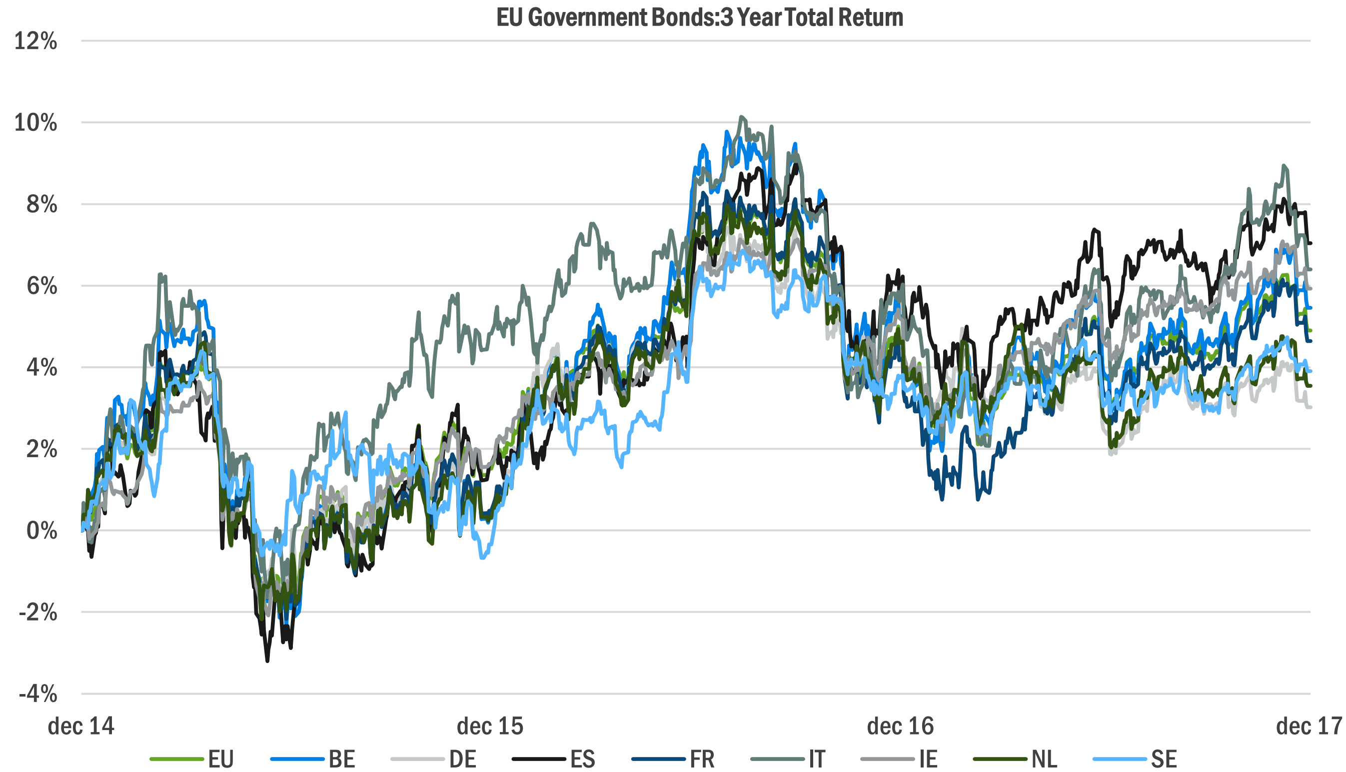
Equity Calendar Year Total Return

	EU	Belgium	Germany	Spain	France	Italy	Ireland	Netherlands	Sweden
2017	9.2%	13.2%	12.5%	10.5%	11.7%	16.3%	9.5%	16.1%	7.7%
2016	3.7%	0.2%	6.9%	1.7%	7.7%	-7.5%	-2.7%	13.1%	9.4%
2015	6.4%	15.7%	9.6%	-4.3%	10.9%	15.0%	33.6%	7.0%	2.2%

Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

EU Government Bonds

- EU Government bonds had a muted performance in 2017. There were largely positive returns, led by Spanish bonds, whose return was marginally more than 1%. German and Dutch bonds have returned negatively for the year, lagging behind their EU counterparts.
- Over the 3 year period, Spanish and Italian bonds provided the best performance, posting consecutive positive gains. Their 3 year returns were over 6%. Whereas German bonds underperformed, returning less than half of those of Spain and Italy during the same period. The government bond spreads between Eurozone core and peripheral countries have narrowed.



Bond Calendar Year Total Return

	EU	Belgium	Germany	Spain	France	Italy	Ireland	Netherlands	Sweden
2017	0.2%	0.2%	-1.4%	1.1%	0.5%	0.8%	0.7%	-1.0%	0.2%
2016	3.1%	4.9%	4.0%	4.2%	3.7%	0.7%	3.5%	4.2%	4.1%
2015	1.5%	0.3%	0.4%	1.6%	0.5%	4.8%	1.6%	0.3%	-0.3%

Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

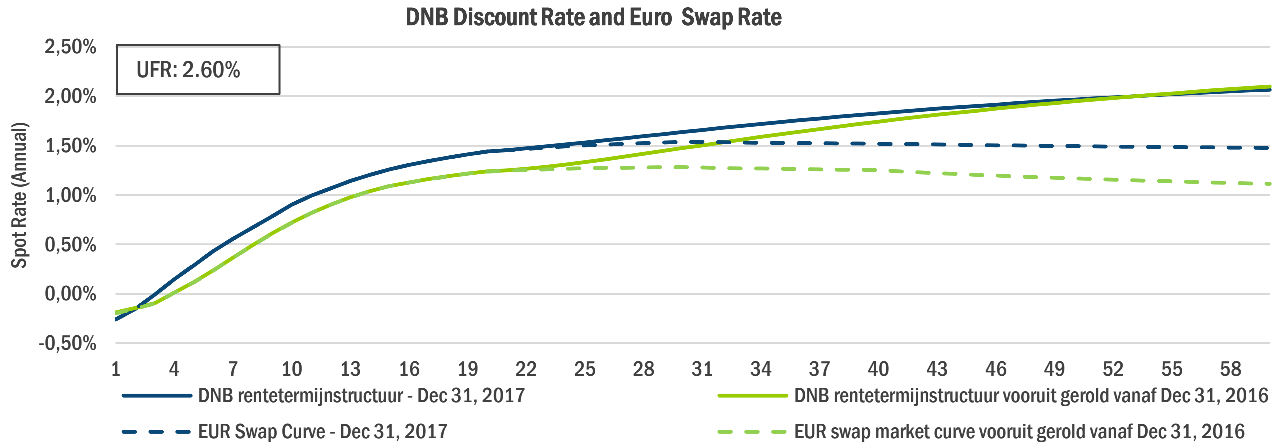
Liability Valuation Monitor

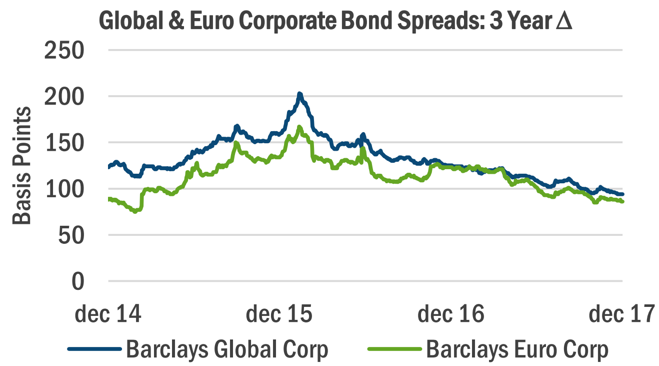
DNB Pension Valuation Rates

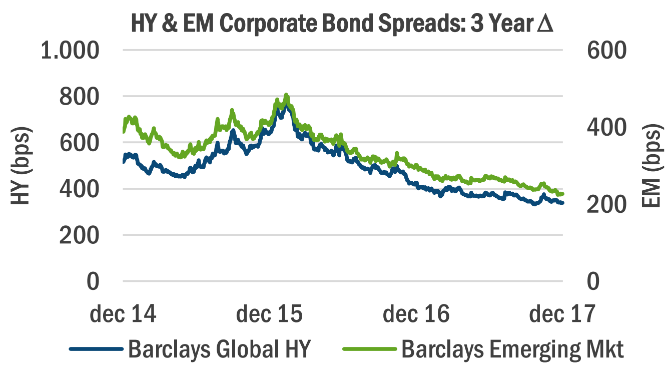
- The DNB pension valuation curve has increased at all but very short terms across 2017, now being between 10 and 23 basis points higher than year-end 2016. This year marked a reversal from 2 consecutive years of decreasing rates across all terms, as the European Central Bank looked to ease its quantitative easing programme.
- The UFR have decreased by 30 basis points every year since the introduction of the current methodology mid-2015.
- The increase in valuation interest rates and positive performance in many asset classes, means that 2017 is likely to have been a beneficial year for solvency coverage ratios.

Bonds

- Corporate bond spreads have decreased across the board in 2017, with Global, European, Emerging Markets and High Yield bond indices seeing a reduction in corporate bond spreads. This continues the downward trend began at the start of 2016.
- The reduction in corporate bond spreads, and increase in corporate bond yields, will have had offsetting effects on overall corporate bond fund values.
- The increase in EUR swap rates in 2017 was more than the increase in Dutch government bond yields. EUR swap rates are higher than Dutch government bond yields at the same corresponding term and the widening of the spread between the two, shows an increased preference for Dutch sovereign risk relative to the Eurozone.







	Change in DNB Discount Rate (bps)							Change in Credit Spreads (bps)			
	1Y	Y5	Y10	Y20	Y30	Y40	UFR	Global Corp	Euro Corp	HY	EM
2017	-4	22	23	22	19	10	-30	-31	-37	-86	-75
2016	-16	-24	-35	-39	-39	-37	-30	-34	-11	-213	-105
2015	-24	-11	0	-5	-26	-42		36	46	122	18

Data sources: Bloomberg; Barclays; EuroStat; Oxford-Man Institute; Milliman FRM

Volatility and Hedging Cost Monitor

- 2017 has been a year of historically low realised volatility on the major equity indices, with all indices ending 2017 well below their historical average levels, and lower than 2015 and 2016. The main US equity benchmark sees a realised volatility of only 5.3% at the end of 2017.
- Implied volatility has also been low by historical levels in 2017. For the Euro Stoxx 50 and S&P 500 implied volatility has remained persistently above realised volatility during the year, with an average risk premium close to 2%. This largely continues the trend from 2015 and 2016. In contrast, the AEX has seen a lower but still largely positive volatility risk premium during the year.
- There were a few events caused spikes in volatility during the year, such as the uncertainty prior to the French election in April, and the rise in geopolitical risk on the Korean peninsula in August. They showed investor sentiment can quickly change in a rising market, and highlighted the importance to remain vigilant as we look towards 2018.

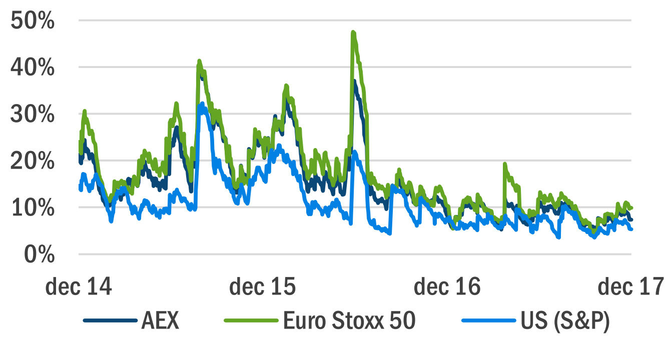
Inflation Monitor

- Price inflation in the Netherlands and Eurozone increased by around 40 basis points in 2017. This being a continuance of the gradual recovery from negative inflation levels at the end of 2014.
- Eurozone wage inflation was unchanged in 2017 as at September and has remained relatively stable over the last 3 years. Whereas Netherlands wage inflation has been more volatile. It gained 90 basis points in 2017, but the level was less than half of the peak at the end of 2014.
- Comparing to historical levels European inflation ends 2017 below the long-term average levels.

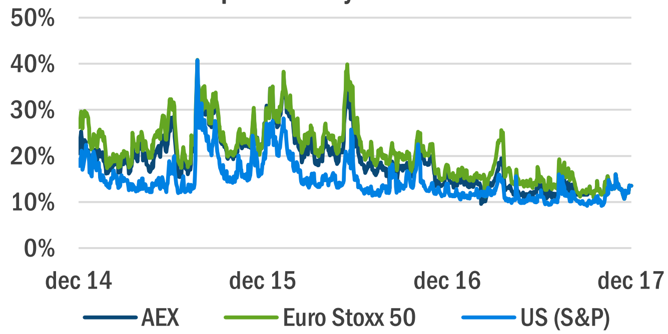
Please contact Milliman for more information on the basis and methodology used.

Volatility

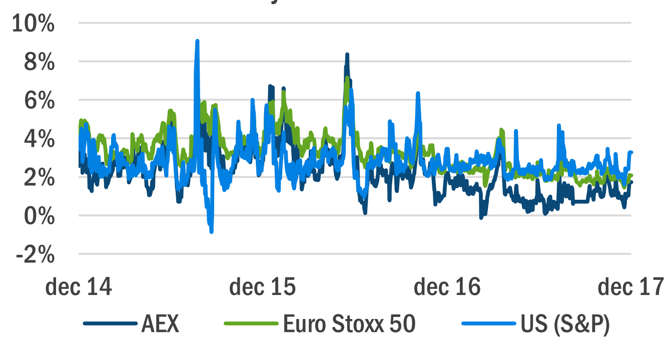
Realised 1-Month Equity Volatility (EWMA)



Implied Volatilty

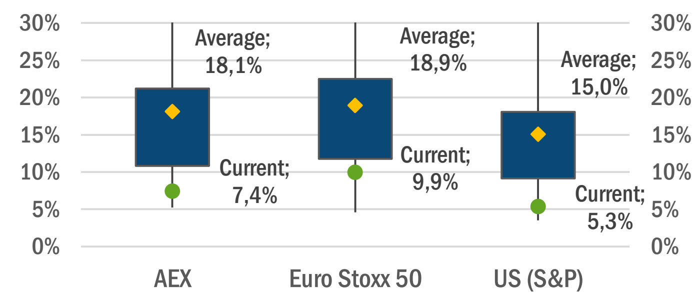


Volatility Risk Premium

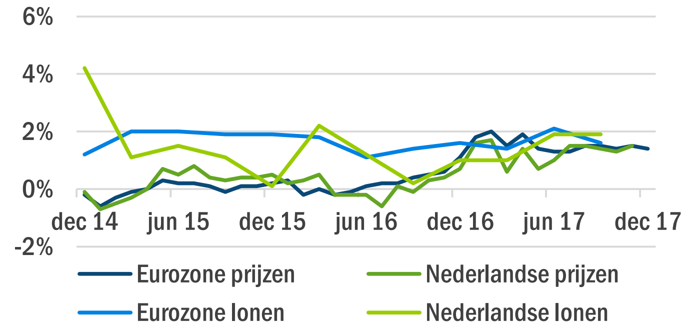


Long Term Volatility and Inflation

Mx,Min and 50% Range: Last 25 Years



Inflatiion Rates



Inflation since Start of Eurozone (1999)