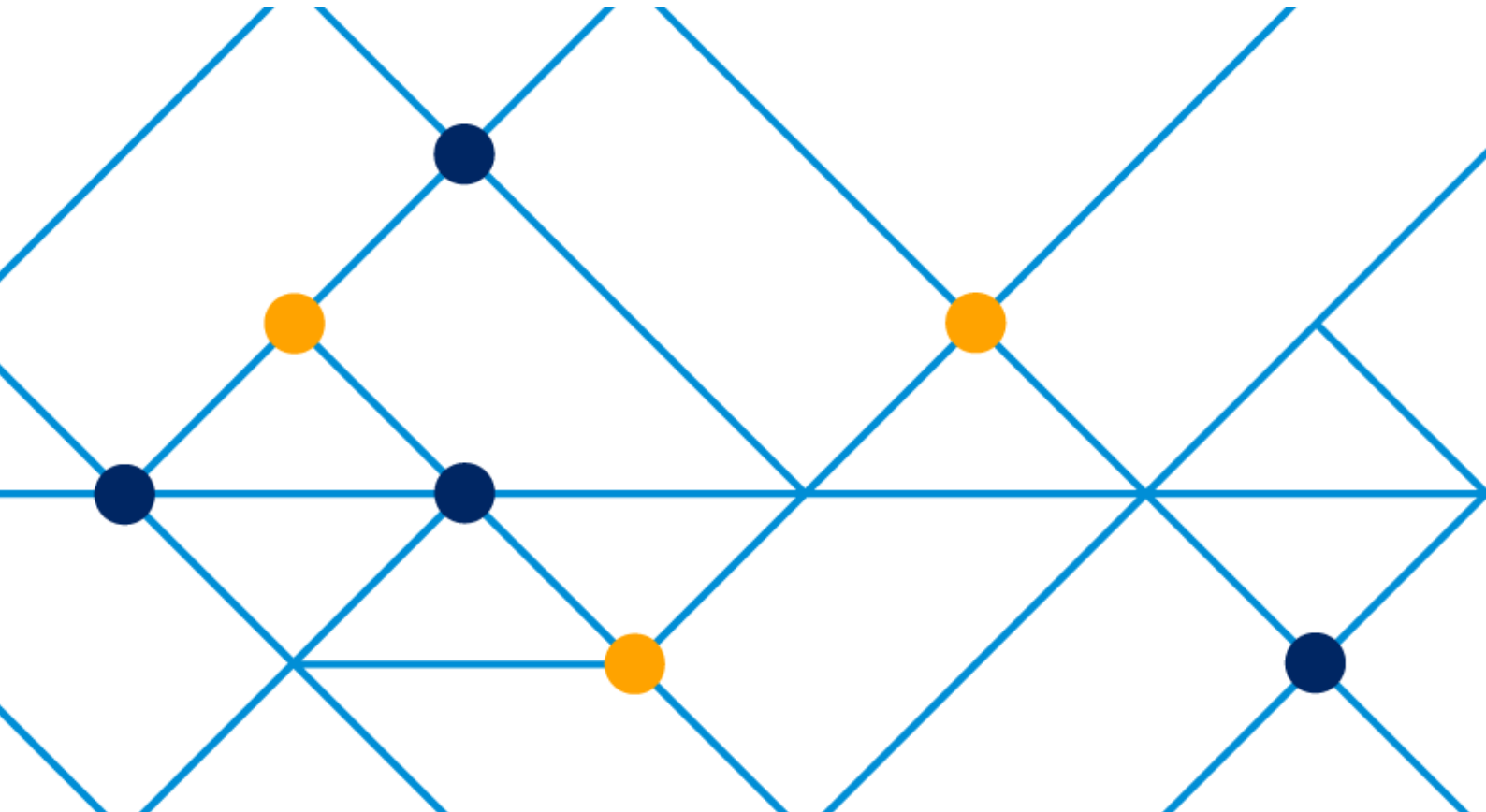




CFA Society
Netherlands

RISK STANDARDS INVESTMENTS 2026

CFA SOCIETY NETHERLANDS



PURPOSE AND USAGE

Since 2010, CFA Society Netherlands has published the *Risk Standards Investments* report to support the investment industry in the careful selection of investment categories and the construction of investment portfolios. The report is primarily used in private wealth advisory and discretionary portfolio management¹.

Based on relevance and applicability, a selection of investment categories has been made for which a number of risk parameters are presented. This overview is not intended as a checklist requiring all listed categories to be included, nor does it imply that non-listed investments are unsuitable. The parameters are designed to support portfolio construction across multiple asset classes. A client's financial objective, financial position, and risk tolerance remain central. The goal of portfolio construction is to maximize the likelihood of achieving these objectives. Assumptions regarding risk are essential in this process.

The *CFA Society Netherlands Risk Standards Investments 2026* report provides an estimate of the volatility of various investment categories and their correlations over a long-term horizon. The data are intended for constructing long-term portfolios and are not aimed at short-term decision-making. These risk parameters can serve as a starting point for assessing long-term investment risk but provide only an indication without further analysis. Significant fluctuations may occur in the interim.

Over the past twenty years, for example, equity markets experienced four bear markets², and since 2022 the correlation between equities and bonds has turned positive. Such “regime shifts” can always occur and may significantly affect risk. Therefore, own analysis remains essential, and the assumptions and caveats underlying this report should be carefully considered. The outcomes of this report should be viewed as guidance for portfolio construction. Actual portfolio implementation may differ due to various factors and judgments.

Finally, CFA Society Netherlands emphasizes that historical data do not predict the future, nor does an increase in volatility necessarily imply higher future investment risk. To assess whether a client can achieve their financial goals, investors must make assumptions regarding expected returns. These expectations depend on investment views, economic and geopolitical developments, financial market dynamics, and the assessment of climate-related impacts and the integration of sustainability into the investment process. As investment beliefs differ across asset managers, expectations of future returns may vary significantly. Therefore, CFA Society Netherlands deliberately refrains from including forward-looking return estimates in this report.

¹ No distinction is made between advisory and discretionary management.

² A bear market is defined as a decline of more than 20% from a recent market peak.

ASSUMPTIONS

The following assumptions apply in determining the risk standards for the various investment categories:

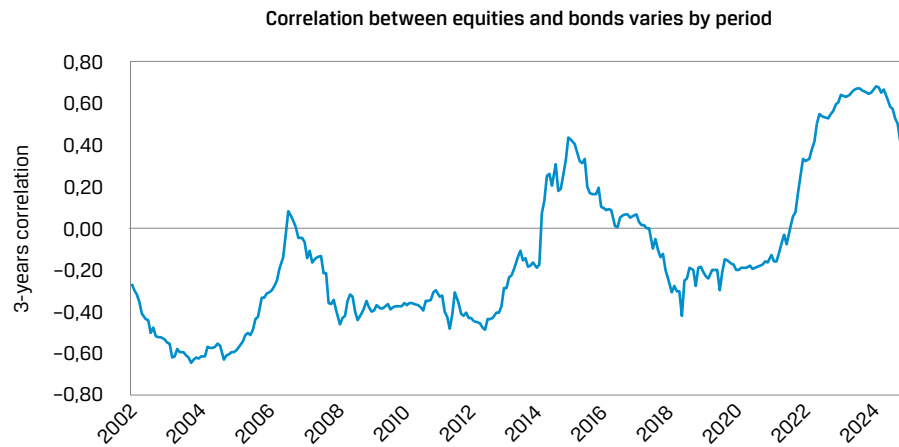
- The investment categories identified represent a broad reflection of those commonly found in private investor portfolios.
- The selected market indices are broad, well-diversified, and widely accepted. If risk is primarily driven by selection effects, the category is excluded (e.g., private equity).
- Investment categories must be distinguishable by risk characteristics. An exception is made for eurozone AAA-AA government bonds versus EMU government bonds. While their risk and correlation differences are limited, the index compositions differ sufficiently for asset managers to prefer one over the other³.
- Historical data are used to estimate risk standards, assuming a long-term investment horizon of at least 10 years. If a client cannot invest for the long term, investing may be less appropriate. Longer horizons capture multiple economic and monetary cycles, improving risk estimation. The more economic data available, the better the risks can be assessed.
- A start date of 1999 has been chosen because from that point onward historical data is available for nearly all investment categories. During this period, several “unique” crisis periods occurred, such as the dot-com bubble, the global financial crisis, COVID, and the interest rate shock. For a number of series, a shorter period has been used (see appendix), while for some series a longer historical period may be used if desired. Longer series may lead to higher volatility, particularly for fixed income and cash. This is due to higher interest rate levels over longer periods in the past and the so-called interest rate – dependent volatility, meaning that interest rate volatility is often higher when interest rate levels are higher.
- For fixed income investments, portfolio duration should align with benchmark duration. A longer duration implies higher volatility.
- The investment categories included have not been changed this year. As in the previous year, we have analyzed sustainable indices for equities and bonds. The available history for sustainable indices is shorter than for conventional indices. Therefore, we have compared the sustainable variants of the MSCI World, the MSCI Emerging Markets, and the Bloomberg EuroAgg with their conventional counterparts over the (shorter) period for which both are available. The volatility of sustainable equity indices⁴ differs only marginally from traditional indices. The MSCI World, being more diversified, shows slightly lower volatility than sustainable variants. For bonds, differences are also limited, with sustainable indices⁵ generally showing slightly lower volatility.
- We refrain from making predictions regarding future financial and economic developments and scenarios. Investors should take into account the current economic situation and developments in financial markets. These may be decisive for the assumptions and development of the investment categories. Furthermore, this report does not take into account “mean reversion” or “mean aversion” effects.
- Standard deviation is a simplified risk measure and does not capture all risks, such as liquidity risk. It may underestimate risk during periods of financial stress. Additional measures – such as drawdown and recovery time – provide insight into historical downside risk. Drawdown represents the decline from a previous peak to the lowest point. Historical data since 1999 show that losses in high-risk investment categories can be substantial. Commodities declined by 82% from a previous peak, equities lost 56% of their value, and real estate fell by 66%. Although the decline in bonds was more limited – just over 20% – it was still significant. The time required to recover from these losses also varies across asset classes. Developed market equities took approximately 14 years to recover, while real estate required more than 6 years. Emerging market equities and small caps recovered more quickly, after around 7 and 5 years respectively. Notably, commodities and bonds had not yet returned to their previous peak levels by the end of 2025, after approximately 17 years and more than 4 years respectively.
- Correlations are calculated using monthly returns. During market stress, correlations tend to increase, reducing diversification benefits.

3 The AAA-AA benchmark at the end of 2025 includes a smaller number of bonds, has a slightly longer maturity, and offers a lower yield than EMU government bonds. The credit quality of the bonds is higher than that of the EMU index.

4 The sustainable equity indices analyzed include the MSCI ESG Universal Select, MSCI World ESG Leaders, MSCI World Paris Aligned PAB, and MSCI World SRI indices.

5 The sustainable bond indices include, among others, the Bloomberg MSCI Euro Agg Sustainability, Bloomberg MSCI Euro Agg ESG Weighted, EuroAgg SRI, and FTSE ESG Select EMU.

- Correlations do not account for “regime shifts.” For example, from 1999 to 2021 the correlation between equities and bonds was largely negative, whereas during the period from 1970 to 1990 and again since mid-2022 this correlation has been positive. The current positive correlation is attributed to the higher inflation observed between 2021 and 2025 compared to the period from 2013 to 2021.



*Correlation between the MSCI World and global government bonds (euro-hedged)
(FTSE World Government Bond Index developed markets)
Source: Bloomberg*

- When constructing portfolios, it is important for the assessment of risk to consider both volatility and correlation. An investment category with relatively high volatility may, due to correlation effects in a portfolio context, be much less risky than the volatility figure alone would suggest. As a result, investment categories with high volatility can still make a valuable contribution, also in portfolios with a low-risk profile.
- In the case of illiquid investments, such as various hedge fund strategies, the value is sometimes less objectively determined. It may occur that hedge funds smooth out extreme returns, both upward and downward, over time. Furthermore, the number of hedge funds included in an index is often limited relative to the broader universe, and the composition may fluctuate significantly due to “survivorship bias.” The value and volatility are also affected by the fact that the index often has only a monthly valuation or even less frequent updates. As a result, the standard deviation for hedge funds (and other less liquid investment categories) may in practice be higher than indicated by the data.
- In addition, policies regarding the (degree of) currency risk hedging may differ. In this report, euro-denominated returns are analyzed without currency hedging. The exception is global investment-grade government bonds, for which a hedged variant has been selected. Government bonds from developed markets typically form the lower-risk part of a portfolio, as their credit risk is generally considered low. To prevent currency fluctuations from resulting in higher downside risk or increased volatility, a hedged position and index are therefore preferred for these government bonds. A currency hedge reduces this risk.
- It is not possible to determine future volatility or correlation. To reflect this uncertainty, ranges are presented instead of point estimates. The ranges are indicative; investors should assess for themselves whether these align with their own implementation.
- Since standard deviations and correlations provide only a first impression of risk, understanding underlying dynamics, dependencies, market size, and risks remains essential.

Annex 1 contains the reference indices used.

STANDARD DEVIATIONS

Based on these assumptions, 17 (sub)investment categories are distinguished. Compared to the 2025 report, all standard deviation ranges remain unchanged, and all outcomes fall within previous ranges.

Drawdown figures are rounded to whole percentages and years. The drawdown period for developed market government bonds, euro investment-grade corporate bonds, and commodities has not yet ended – these categories have not fully recovered from their initial decline.

Investment categories	Standard deviation*	Drawdown	Drawdown in years
Cash	0-1%	-3%	9
Government bonds			
• Government bonds euro AAA-AA	3-6%	-23%	6**
• Government bonds EMU	3-6%	-21%	5**
• Euro-inflation linked government bonds	5-8%	-12%	4**
• Global government bonds (eurohedged)	3-7%	-20%	5**
• Government bonds emerging markets (hard currency)	8-12%	-16%	5
• Government bonds emerging markets (local currency)	6-10%	-12%	1
Corporate bonds (credits)			
• Investment grade corporate bonds euro	3-6%	-17%	4**
• Global investment grade corporate bonds	6-8%	-13%	4
• Global high yield corporate bonds	9-13%	-31%	2
Equity			
• Equity developed markets	12-17%	-56%	14
• Equity developing markets	17-22%	-56%	7
• Equity developed markets small caps	15-20%	-54%	5
Listed real estate	16-21%	-66%	6
Alternative investments			
• Hedge funds	7-12%	-33%	13
• Commodities	20-25%	-82%	18**
• Gold	15-20%	-37%	8

Source: Bloomberg

* Standard deviation on an annual basis, calculated from monthly data.

** As of the end of 2025, not yet recovered from the previous drawdown.

CORRELATIONS

Correlations have changed very little in 2025. Due to rounding, the correlations between emerging market government bonds (hard currency) and commodities with certain bond categories appear slightly higher, while those between emerging market government bonds (local currency) and hedged global government bonds, as well as between emerging market equities and emerging market government bonds (hard currency), appear slightly lower. In principle, correlations are rounded to 0.2 increments. However, correlations above 0.9 are rounded down to 0.9, since in practice a correlation of 1 rarely persists over a longer period.

A long historical dataset is also used to calculate correlations, used to avoid distortion from exceptional periods, ensuring multiple crisis periods are incorporated.

CORRELATION MATRIX

	Cash	Government bonds euro AAA-AA	Government bonds EMU	Euro-inflation linked government bonds	Global government bonds (eurohedged)	Government bonds emerging markets (hard currency)	Government bonds emerging markets (local currency)	Investment grade corporate bonds euro	Global investment grade corporate bonds	Global high yield corporate bonds	Equity developed markets	Equity developing markets	Equity developed markets small caps	Listed real estate	Hedge funds	Commodities	Gold
Cash	1	0,2	0	0	0,2	0	0	0	0	0	-0,2	0	-0,2	-0,2	0	0	0
Government bonds euro AAA-AA		1	0,9	0,4	0,9	0,4	0,8	0,4	0,4	0,2	0	0	0	0	0	-0,2	0,2
Government bonds EMU			1	0,4	0,8	0,4	0,8	0,4	0,4	0	0	0	0,2	0	0	-0,2	0,2
Euro-inflation linked government bonds				1	0,6	0,4	0,8	0,4	0,4	0,2	0,2	0,2	0,4	0	0	0	0
Global government bonds (eurohedged)					1	0,2	0,6	0,4	0,4	0	0	0	0,2	-0,2	-0,2	0,2	0,2
Government bonds emerging markets (hard currency)				1	0,8	0,8	0,6	0,8	0,6	0,6	0,6	0,4	0,6	0,6	0,6	0,2	0,2
Government bonds emerging markets (local currency)						1	0,4	0,6	0,6	0,4	0,6	0,6	0,4	0,6	0,4	0,2	0,4
Investment grade corporate bonds euro							1	0,6	0,4	0,4	0,4	0,4	0,6	0,6	0	0	0
Global investment grade corporate bonds								1	0,8	0,4	0,4	0,2	0,4	0,4	0,8	0,2	0,2
Global high yield corporate bonds									1	0,6	0,6	0,6	0,6	0,6	0,8	0,4	0,2
Equity developed markets										1	0,8	0,8	0,8	0,8	0,6	0,4	0
Equity developing markets											1	0,8	0,6	0,4	0,4	0,4	0,2
Equity developed markets small caps												1	0,8	0,6	0,4	0,4	0
Listed real estate													1	0,8	0,6	0,4	0
Alternative investments														1	0,4	0,2	0
Commodities															1	0,4	0,2
Gold																1	0,2

APPENDIX: REFERENCE INDICES

All indices are denominated in euros or converted to euros.

Investment categories	Reference indices	Data horizon
Cash	1 month Eonia (Jan 1999-Dec 1999), €STR (Jan 2020-Dec 2024)	Jan 1999 – Dec 2025
Government bonds		
• Government bonds euro AAA-AA	ICE BofA AAA-AA Euro government Index	Jan 1999 – Dec 2025
• Government bonds EMU	ICE BofA Euro government Index	Jan 1999 – Dec 2025
• Euro-inflation linked government bonds	Bloomberg Euro Govt Inflation-Linked Bond All Maturities Total Return Index	Jan 2000 – Dec 2025
• Global government bonds (eurohedged)	FTSE World Government Bond Index-Developed Markets	Jan 1999 – Dec 2025
• Government bonds emerging markets (hard currency)	Bloomberg Emerging Markets Hard Currency Aggregate Sovereign TR	feb 2003 – Dec 2025
• Government bonds emerging markets (local currency)	Bloomberg Emerging Markets Local Currency Government TR Index unhedged EUR	Jan 2009 – Dec 2025
Corporate bonds (credits)		
• Investment grade corporate bonds euro	ICE BofA Euro Corporate Index	Jan 1999 – Dec 2025
• Global investment grade corporate bonds	ICE BofA Global Corporate Index	Jan 1999 – Dec 2025
• Global high yield corporate bonds	ICE BofA Global High Yield Index	Jan 1999 – Dec 2025
Equity		
• Equity developed markets	MSCI World Net Total Return Index	Jan 1999 – Dec 2025
• Equity developing markets	MSCI Emerging Markets Net Total Return Index	Jan 2001 – Dec 2025
• Equity developed markets small caps	MSCI World Small Cap Net Total Return	Jan 1999 – Dec 2025
Listed real estate	FTSE EPRA/NAREIT Developed Index Net Total Return	March 2005 – Dec 2025
Alternative investments		
• Hedge funds	HFRX Global Hedge Fund Index	Jan 1999 – Dec 2025
• Commodities	S&P GSCI Total Return CME	Jan 1999 – Dec 2025
• Gold	Bloomberg Gold Subindex Total Return	Jan 1999 – Dec 2025