BeFrank
Active Lifecycle

Q4 2022

BE FRANK

Investing in a lifecycle

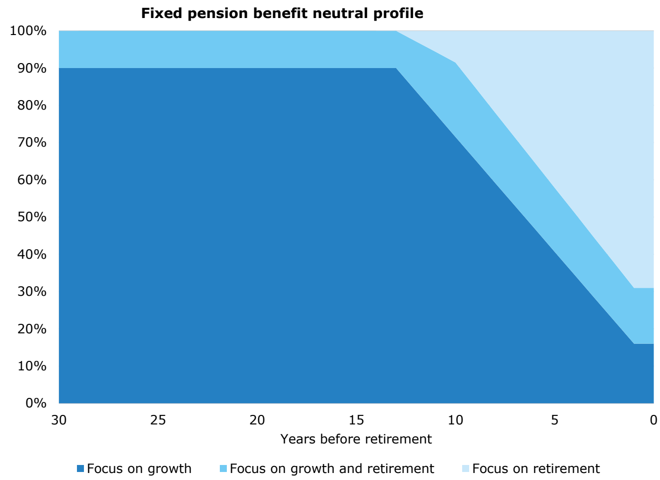
In lifecycle investing, the investment risk is automatically reduced as the retirement date approaches. We do this by gradually reducing the proportion of the pension money that we invest in risky investments (such as equities) and allocating more to low-risk investments such as government bonds.

The lifecycle consists of three parts, also called building blocks:

- **Focus on growth**
  This part aims to generate attractive returns. To accomplish this, we invest in the BeFrank First Class Return Fund, which allocates the majority of its assets to global equities, but also invests in other riskier asset classes such as high-yield corporate bonds and emerging market government bonds.

- **Focus on growth and retirement**
  This part combines generating attractive returns and reducing the investment risk ready for retirement. In order to achieve this, we invest in less risky investment asset classes such as green and corporate bonds with a high credit rating and Dutch mortgages (Hybrid Fund).

- **Focus on retirement**
  This part is intended to reduce interest rate risk. On retirement date, a benefit is purchased with the pension capital. The size of the pension benefit depends on a number of factors including the market interest rate at the time. If interest rates are low, more money is needed to buy the same pension benefit than when interest rates are high. The NN Liability Matching Funds reduce this interest rate risk. If interest rates fall, the returns generated by these funds increase. The reverse also applies. If interest rates rise, the value of investments decreases, but because interest rates are higher, less money is required to purchase the same pension benefit. This is how we try to 'match' the purchase of pensions with interest rate movements. We use three bond funds with different interest rate sensitivity profiles (NN Liability Matching Funds M, L, XL) that invest in European government bonds to do this. These bond funds reduce the risk associated with lower market interest rates.



Source: NN IP

Financial markets

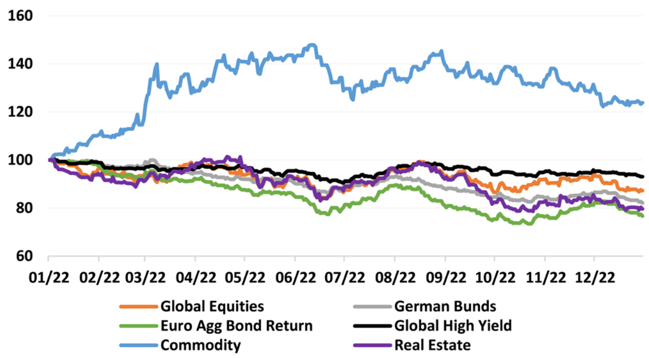
Lifecycle returns depend on the performance of financial markets. How did markets perform over the last quarter?

Focus on growth: volatile quarter for equities
In the focus on growth category, equities account for the largest share of investments. To get an idea of how this category performed, we look towards the largest capital markets in the world, the United States and Europe.

- Global equities had something to make up for in the fourth quarter, after a September month with the biggest losses in twenty years. Investors' risk appetite increased in October and November, in response to the less hawkish tone of the US central bank and tentative signs of a moderation in inflation. The milder than expected weather in Europe also contributed, as it was beneficial for energy consumption in the region. In December, investors became risk averse again though, and equity prices fell. On balance, however, global equities (according to the MSCI World index for all countries) posted a modest quarterly gain of 0.87% in euros. European equities (+9.62% in euros) benefited from the rise of the euro against the US dollar. US equities, on the other hand, lost ground due to the weaker dollar (-1.67% in euros). In sector terms, the energy, industrial, materials and financial sectors performed well, while consumer discretionary, telecom and IT were among the biggest losers.

- Most other asset classes showed a similar trend to equities in the fourth quarter (see Figure 1). In December, the rally also ended abruptly for Eurobonds (green line) and German government bonds (grey line). The performance of commodities (blue line) showed a rather irregular trend, but this category did relatively well in December. This was mainly due to the performance of gold and copper.

Figure 1: performance of asset classes (euros)



Sources: Refinitiv Datastream, NN IP

Focus on growth and retirement: bond markets slightly less instable
When looking at corporate bonds, the *credit spread* is the difference between the interest rate on a corporate bond and the corresponding *benchmark* loan (government bond with the same maturity). The credit spread indicates how much extra return the investment offers compared to other (safer) investments. This is also known as the risk premium.

- During the fourth quarter, credit spreads on high-quality European corporate bonds (investment grade) decreased significantly. Credit spreads on global high-yield bonds have also declined, but at a slower pace. Over 2022, however, credit spreads in both segments have risen sharply on balance.

- In the fourth quarter, the turnaround in the Dutch housing market continued. The average selling price for an existing home was 407,000 euros: a decrease of almost 4% compared to the previous quarter. The number of mortgage applications has fallen by over 20% compared to the fourth quarter of 2021 to almost 52,600. This was due to a decline in both the number of refinancings and the number of applications for the purchase of a home.

Focus on retirement: aggressive tone ECB pushes up interest rates

For the focus on retirement, interest rate movements are important. For this we look at the monetary policy of the US Federal Reserve (Fed) and the European Central Bank (ECB).

- In the US, inflation dynamics were somewhat more promising at the end of 2022. In response, the Fed has slowed the pace of rate hikes. However, the US central bank has reiterated that interest rates will continue to rise until a clear cooling of the US labor market and wage growth. However, recent readings still point to a tight market. Still, the end of the Fed's hiking cycle seems to be approaching. In Europe, the picture looks different. Inflation has risen to higher levels than in the US, although here too the peak in headline inflation seems to be behind us. However, ECB President Christine Lagarde struck a surprisingly sharp tone in December, following the expected rate hike of 0.5 percentage points. According to her, the markets should expect further interest rate hikes in the first months of 2023, despite the recession risk in Europe. Lagarde also announced that the ECB will start reducing its bond holdings in March. The ECB's hawkish tone pushed up European bond yields. The yield on 10-year German government bonds rose by 64 basis points in December, to the highest level since 2011.

Outlook

- Although some central banks are already raising interest rates less quickly, a change in their monetary policy is not yet in sight. Inflation is still too high, and the US labor market still seems tight. The latter is an important indicator for the Fed. Central banks will therefore keep their interest rates at higher levels for a longer period, despite the risks to economic growth. On the positive side, Europe seems to have averted an energy crisis this winter. Gas prices have fallen sharply recently, and this may alleviate some of the concerns about economic growth. In our base case scenario, we assume only a mild recession in Europe. We expect growth to bottom out in 2023, starting in Europe.

- In 2022, higher real interest rates have led to a decline in asset valuations. We expect that in 2023, developments in macroeconomics and corporate fundamentals will again play a greater role in the financial markets. A point of attention is that the markets may have not discounted all the bad news about corporate profits yet. Meanwhile, the investor sentiment remains negative. All in all, we remain cautious in the short term. Over the medium term, the gradual normalization of inflation and the subsequent pause in interest rate hikes will put a floor under valuations and pave the way for a sustainable market recovery once growth prospects pick up.

Net return by age group

Fixed pension benefit

Very defensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.1	-14.6	-14.6	5.0
45 years	2.1	-14.6	-14.6	5.0
55 years	1.1	-22.1	-22.1	-1.3
67 years	-0.7	-24.2	-24.2	-8.9

Defensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.3	-14.5	-14.5	5.6
45 years	2.3	-14.5	-14.5	5.6
55 years	1.6	-18.0	-18.0	2.4
67 years	-0.2	-25.3	-25.3	-8.0

Neutral

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.5	-14.5	-14.5	6.1
45 years	2.5	-14.5	-14.5	6.1
55 years	2.5	-14.5	-14.5	6.2
67 years	0.0	-25.8	-25.8	-7.6

Offensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.6	-14.5	-14.5	6.7
45 years	2.6	-14.5	-14.5	6.7
55 years	2.6	-14.5	-14.5	6.7
67 years	0.1	-26.0	-26.0	-7.4

Very offensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.8	-14.4	-14.4	7.3
45 years	2.8	-14.4	-14.4	7.3
55 years	2.8	-14.4	-14.4	7.3
67 years	0.2	-26.2	-26.2	-7.1

Net return by age group

Variable pension benefit reduced risk to 15%

Defensive - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.3	-14.5	-14.5	5.6
45 years	2.3	-14.5	-14.5	5.6
55 years	1.7	-17.1	-17.1	3.3
67 years	0.2	-26.2	-26.2	-7.2

Neutral - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.5	-14.5	-14.5	6.1
45 years	2.5	-14.5	-14.5	6.1
55 years	2.5	-14.5	-14.5	6.3
67 years	0.2	-26.3	-26.3	-7.1

Offensive - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.6	-14.5	-14.5	6.7
45 years	2.6	-14.5	-14.5	6.7
55 years	2.6	-14.5	-14.5	6.7
67 years	0.3	-26.4	-26.4	-7.0

Very offensive - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.8	-14.4	-14.4	7.3
45 years	2.8	-14.4	-14.4	7.3
55 years	2.8	-14.4	-14.4	7.3
67 years	0.3	-26.6	-26.6	-6.9

Net return by age group

Variable pension benefit reduced risk to 30%

Neutral - reduced risk to 30%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.5	-14.5	-14.5	6.1
45 years	2.5	-14.5	-14.5	6.1
55 years	2.5	-14.5	-14.5	6.3
67 years	0.6	-25.8	-25.8	-5.1

Offensive - reduced risk to 30%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.6	-14.5	-14.5	6.7
45 years	2.6	-14.5	-14.5	6.7
55 years	2.6	-14.5	-14.5	6.7
67 years	0.6	-25.8	-25.8	-5.0

Very offensive - reduced risk to 30%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.8	-14.4	-14.4	7.3
45 years	2.8	-14.4	-14.4	7.3
55 years	2.8	-14.4	-14.4	7.3
67 years	0.7	-25.7	-25.7	-4.8

Variable pension benefit reduced risk to 45%

Offensive - reduced risk to 45%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.6	-14.5	-14.5	6.7
45 years	2.6	-14.5	-14.5	6.7
55 years	2.6	-14.5	-14.5	6.7
67 years	1.1	-26.2	-26.2	-3.4

Very offensive - reduced risk to 45%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.8	-14.4	-14.4	7.3
45 years	2.8	-14.4	-14.4	7.3
55 years	2.8	-14.4	-14.4	7.3
67 years	1.1	-26.1	-26.1	-3.2

Variable pension benefit reduced risk to 60%

Very offensive - reduced risk to 60%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	2.8	-14.4	-14.4	7.3
45 years	2.8	-14.4	-14.4	7.3
55 years	2.8	-14.4	-14.4	7.3
67 years	1.5	-26.1	-26.1	-1.4

Developments in sustainable investing

Voting: exerting influence on behalf of clients

As part of responsible investment, NN Investment Partners (NN IP), the manager of the lifecycle investments, pursues an active voting policy to improve corporate behavior. NN IP votes at as many shareholder meetings as possible worldwide, for example on a company's climate plans or remuneration policy. NN IP often forms alliances with like-minded shareholders to exert even more influence together - on behalf of clients.

Leading position

To give an idea of the size of the voting activities: in 2021, NN IP casted votes on more than 3,300 shareholder meetings on almost 36,000 issues. The independent organization ShareAction, which analyses voting policy, has calculated this places NN IP in the top 10 of the world's largest asset managers. NN IP supported 90% of the shareholder resolutions, almost all of which (98%) related to the environment.

Key voting topics

NN IP's voting activities focused on roughly four key topics: (1) board elections, (2) remuneration, (3) shareholder proposals related to sustainability, and (4) companies' climate-action plans.

1. Moving a company in the right direction requires a diverse and independent board with capable members. When voting on a nomination of new board members, NN IP pays strict attention to this topic. With its active voting policy, NN IP also keeps the board of companies focused on environmental and social risks, reduction targets for greenhouse gas emissions and its responsible investing criteria.
2. In the context of glaring income inequality, there are regularly discussions at shareholder meetings about executive pay and the effectiveness and complexity of companies' remuneration policies. Increasingly, this also concerns topics such as sustainability, employee health and safety and the board's ability to manage crises.
3. NN IP supports shareholder proposals on sustainability issues that allow the company to create more value in the long term (see the example below).
4. A growing number of companies put their climate action plans to a shareholder vote, to enhance investor engagement and to better align plans and expectations. However, there is still a lack of standardization. NN IP also advocates similar shareholder involvement on other material sustainability issues.

Active voting example: pressure on Pfizer

NN IP supported a shareholder proposal demanding greater disclosure and transparency on pricing and access to Covid-19 vaccines. NN IP also signed a joint investor statement calling for a fair, equitable global response to the pandemic, initiated by the World Health Organization (WHO). This helped put Pfizer in the spotlight and it committed to provide two billion vaccine doses to low- and middle-income countries and to assist in distribution of the vaccines.

Sustainability impact

The sustainability of an investment fund is determined by several factors. We request data on CO2 emissions, water consumption and waste generation from our (underlying) investment funds and their benchmarks. In the benchmark, sustainability criteria are not considered. Comparing these data provides insight into the savings of CO2 emissions, water consumption and waste production of our sustainable funds compared to the benchmark. Note: these are factors that say something about sustainability, but the impact on sustainability is also determined by other factors such as the exclusion of certain sectors or companies. The overview below shows the savings per million EUR invested in the BeFrank First Class Return Fund, based on figures as of 30/06/2022. Participants can find the savings associated with the value of their investments on their BeFrank personal pension page.

40 tons CO2 emissons	**845** m³ water consumption	**121** tons waste
You can compare that with **366,972** kilometres driven	You can compare that with showering **13,477** times	You can compare that with **12,100** garbage bags

Funds BeFrank Active Lifecycle

BeFrank First Class Return Fund

The fund ended the fourth quarter on a positive note. The quarter was again volatile. In October and Novem-ber, signals that the inflation peak was behind us prevailed. Against this background, investors were hoping for less aggressive comments from central banks. In December, however, this did not appear to be the case for the main central banks. In combination with market liquidity drying up, this caused sentiment to turn around again in the last month of the year.

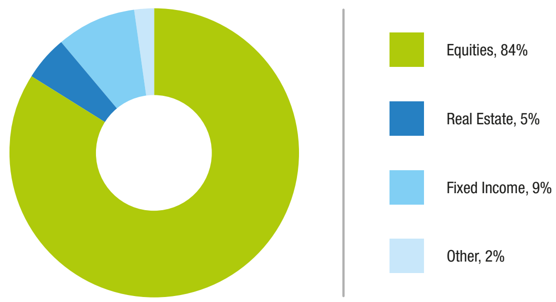
Selection effect
Of the funds in which we invest, the sustainable equity funds managed to beat their benchmarks in the past quarter. This was particularly true for sustainable equity investments in developed countries. Within equities, the US market underperformed (measured in euros). This was due to the sharp decline of the US dollar against the euro since October. European equities, in contrast, benefited from the stronger euro, alongside falling energy prices, and stronger-than-expected corporate results. On average, the fixed income funds lagged their benchmarks. Risky bonds outperformed government bonds as their attractive valuations attracted buyers. All in all, the choices of the various portfolio managers were positive for the total return in the quarter.

Tactical asset allocation (TAA)
In addition, tactical investment decisions made a slight positive contribution to the total return. We make active choices to invest greater or lesser amounts in shares and, within those shares, in regions, for example. But we also decide whether we want to take positions in commodities or positions where we expect, for instance, in-terest rates to rise or fall. Our underweight position in equities and our tactical regional and sector positions were detrimental in the fourth quarter, partly due to rising equity prices. However, this was compensated by our tactical decisions within the fixed income portfolio. This was mainly due to the decision to anticipate higher interest rates on German government bonds.

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
BeFrank First Class Return Fund	2.8	-14.4	-14.4	7.3

Statistics	
ISIN code	NL0013019219
Inception date	January 2019
Ongoing charges	0.20%

Positioning



Source: NN IP, all figures are as of 31/12/2022.

Performance

BeFrank First Class Return Fund*

Return (%) (gross) Equities	3 months	year to date	1 year	3 years (ann.)	5 years (ann.)	weight**
Duurzaam aandelen sleeve (as of April 2022)	3.8	-9.8	-9.8			63.8
MSCI World (NR)	0.8	-10.9	-10.9			
NN Duurzaam Aandelen Fonds (until April 2022)	2.0	-19.4	-19.4	11.3	12.6	
MSCI World (NR)	0.8	-12.8	-12.8	6.7	8.7	
NN Enhanced Index Sustainable Global Small Caps Equity Fund***	2.1	-4.4	-4.4			4.9
MSCI World Small Cap Index (NR)	1.7	-5.6	-5.6			
NN Enhanced Index Sustainable EM Equity Fund	1.0	-14.6	-14.6	-0.3	1.9	15.1
MSCI Emerging Markets (NR)	0.7	-14.9	-14.9	-1.0	1.0	
Real Estate						
NN Global Real Estate	-2.4	-19.7	-19.7	-2.9	2.8	4.8
GPR 250 Global 10/40 (NR)	-2.3	-20.2	-20.2	-2.8	2.4	
Fixed Income						
NN (L) Global High Yield	-0.4	-7.2	-7.2			4.4
Bloomberg Barclays 70% US 30% Pan-European ex Fin Subord 2% Issuer Capped High Yield EUR (unhedged)	-1.7	-6.9	-6.9			
NN (L) Emerging Markets Debt HC	9.7	-19.4	-19.4	-6.3	-3.2	2.5
J.P. Morgan Emerging Market Bond (EMBI) Global Diversified EUR (hedged)	7.1	-20.1	-20.1	-7.0	-3.6	
NN (L) Emerging Markets Debt LB	-0.7	-6.2	-6.2	-4.5	-0.5	2.5
J.P. Morgan Government Bond-Emerging Market (GBI-EM) Global Diversified	-0.4	-5.9	-5.9	-4.5	-0.5	

* These are the gross returns of the underlying strategies of the BeFrank First Class Return Fund. The fund costs (ongoing charges) are only charged in the BeFrank First Class Return Fund.

** The figures shown in the weighting column are based on the model weighting. This means that the returns shown cannot be traced back to this report.
Source: NN IP, all figures are as of 31/12/2022.

*** The new fund started in September 2022.

Hybrid Fund

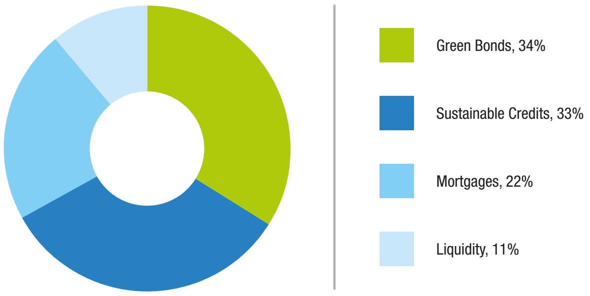
The fund ended the quarter slightly negative. Fixed income markets were again very volatile. For example, the 10-year U.S. Treasury yield continued its upward trend in October, peaked in early November, then fell due to moderating inflation, and ended the quarter virtually unchanged. Euro government bonds had a more difficult time after the aggressive tone at the last ECB meeting and better-than-expected growth figures in the region. The 10-year Bund yield rose from 2.1% to 2.6% during the quarter.

Selection effect
The sustainable corporate bond portfolio and the green bond portfolio showed positive quarterly returns. The mortgage portfolio achieved a negative return. The managers of the sustainable corporate bond portfolio performed in line with the benchmark, while the managers of the green bond portfolio slightly outperformed the benchmark.

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
Hybrid Fund	-0.5	-15.1	-15.1	-4.5

Statistics	
ISIN code	NL0013696354
Inception date	November 2019
Ongoing charges	0.21%

Positioning



Source: NN IP, all figures are as of 31/12/2022.

NN Liability Matching funds

The three Liability Matching funds have different interest rate sensitivity profiles (NN Liability Matching Fund M, L and XL). They invest in a combination of euro-denominated interest rate swaps, high-quality money market funds, high-quality government bonds and cash. The interest rate sensitivity of the funds can be increased using interest rate swaps and bond futures. The NN Liability Matching Fund M strives for an interest rate sensitivity of approximately 4 years and L and XL of approximately 20 and 40 years, respectively.

The three NN Liability Matching funds have different interest rate profiles that are composed in such a way that, used in combination, they can offer the best possible match in the period leading up to retirement.

What did the interest rates do?
In December, there was a sharp rise in interest rates in the eurozone. The main reason for this was the last ECB meeting of the year. As expected, the ECB raised its interest rate by 0.5 percentage points, but it surprised with a negative outlook for inflation. According to the new ECB estimates, it will take another three years before inflation reaches the 2% target, so several substantial interest rate hikes are expected in the first months of 2023. In December, the 10-year German Bund yield rose by 64 basis points to 2.57%, the highest level since 2011. The longer the duration of a fund, the greater the effect on a fund. As a result, the XL fund showed the most negative return over the past quarter, although this was considerably less negative than in previous quarters of 2022. Because these funds are set up to cover the risk of an interest rate rise or fall on the pension to be purchased in retirement, a negative return for a 67-year-old is not necessarily disadvantageous because the pension to be purchased has also become cheaper.

Performance

NN Liability Matching Fonds M-T

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
NN Liability Matching Fund M - T	-0.7	-12.5	-12.5	-4.6
Bloomberg Barclays Euro Treasury AAA 1-3 Yr Downgrade Maturity Tolerant, incl derivatives to increase duration (M)	-1.2	-12.7	-12.7	-4.9

Statistics	
ISIN code	NL0013040348
Inception date	November 2018
Ongoing charges	0.15%

NN Liability Matching Fonds L-T

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
NN Liability Matching Fund L - T	-0.6	-38.0	-38.0	-14.3
Bloomberg Barclays Euro Treasury AAA 1-3 Yr Downgrade Maturity Tolerant, incl derivatives to increase duration (L)	-1.0	-38.3	-38.3	-14.8

Statistics	
ISIN code	NL0013040355
Inception date	November 2018
Ongoing charges	0.15%

NN Liability Matching Fonds XL-T

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
NN Liability Matching Fund XL - T	-2.5	-50.7	-50.7	-19.4
Bloomberg Barclays Euro Treasury AAA 1-3 Yr Downgrade Maturity Tolerant, incl derivatives to increase duration (XL)	-2.6	-50.6	-50.6	-19.7

Statistics	
ISIN code	NL0013040363
Inception date	November 2018
Ongoing charges	0.15%

Source: NN IP, all figures are as of 31/12/2022.

Disclaimer

The purpose of this report is to provide insight into the investments within the lifecycle of BeFrank and is not an investment advice. The performance overview has been compiled with care by BeFrank. No rights can be derived from this information. The returns in the report are after deduction of the fund costs but exclude the management costs charged by BeFrank.