BeFrank Active Lifecycle

Q3 2022

BE FRANK

Investing in a lifecycle

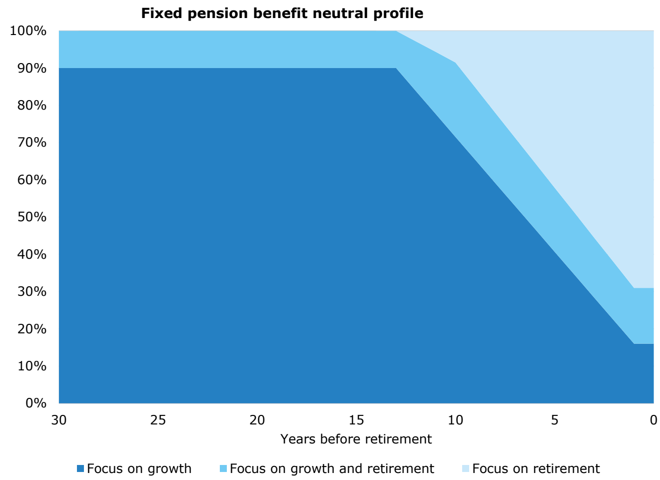
In lifecycle investing, the investment risk is automatically reduced as the retirement date approaches. We do this by gradually reducing the proportion of the pension money that we invest in risky investments (such as equities) and allocating more to low-risk investments such as government bonds.

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?

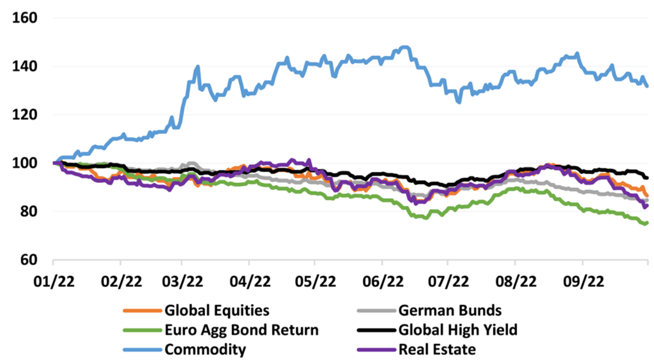
Focus on growth: good start for equities, but rally turned sour

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 started the third quarter in a positive mood, recovering from their mid-June lows. This bear-market rally was partly driven by the better-than-feared earnings season and lasted for two months. But in September, equity prices fell sharply, as worries about persistently high inflation and hawkish central bank policies and fears of recession and a slowdown in growth in the near term prevailed again. On balance, global equities (according to the MSCI World index for all countries) posted a modest quarterly gain of 0.23% in euros. US equities (+1.7% in euros) outperformed because of the rise in the US dollar, which hit parity with the euro in the third quarter. In sector terms, the consumer discretionary and energy sectors performed well, while the communication service sector was among the biggest losers.

- Not only equities were hit hard in the second half of the third quarter; most asset classes were down. Figure 1 shows that Eurobonds (green line), German government bonds (grey line) and especially real estate (purple line) were struggling. This was mainly due to the aggressive interest rate hikes of central banks. Within real estate, housing affordability deteriorated notably on high prices and rising interest rates. Commodities (blue line) were volatile. Recession fears weighed most heavily on cyclical commodities, while the ongoing real estate crisis in China pushed industrial metal prices to lower levels.

Figure 1: year-to-date performance of asset classes (euros)



Sources: Refinitiv Datastream, NN IP

Focus on growth and retirement: turmoil in bond markets

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.

- The third quarter was one in which developed market central banks, except Japan, displayed their determination to fight inflation. They raised their policy rates at a rapid pace, causing turmoil in bond markets. In fact, global bonds recorded the worst quarter in decades. Rates spiked to record highs and credit spreads continued to widen.

- In the third quarter, the Dutch housing market showed signs of cooling. The average selling price for an existing home was 425,000 euros: a decrease of 5.8% compared to the previous quarter. The number of mortgage applications has fallen by about 14% compared to the third quarter of 2021 to almost 103,000. This was due to less refinancing, as the number of applications for the purchase of a home grew by more than 5%.

Focus on retirement: historic interest rate hikes central banks

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).

- At the beginning of the third quarter, investors were still hoping for an early dovish pivot in central banks' monetary policy. However, the Fed dashed those hopes with rate hikes of 75 basis points in July and September. Chairman Jerome Powell made clear that the fight against inflation is priority number one, even at the cost of economic hardship. The US dollar appreciated against most other major currencies. Subsequently, other central banks in developed countries (except the Bank of Japan) raised their policy rates as well. The ECB ended an era of negative deposit rates, with hikes of 50 basis points in July and 75 basis points in September. The hawkish central banks' policies pushed bond yields to record highs. The European benchmark, the yield on 10-year German government bonds, rose by 77 basis points in the third quarter. The rise in interest rates is also reflected in the negative quarterly returns of the Liability Matching funds.

Outlook

- Inflation remains extremely high and is spreading from energy to other products and services. The inflation spike exerts a drag on both the supply and demand sides of the economy. On the supply side, the rise in input costs makes some production activities unprofitable. On the demand side, the inflation spike reduces real income which will (all else being equal) decrease spending. The question is to what extent fiscal measures can compensate for the loss of income and keep the economy running. In our base case scenario, we assume a recession in Europe.

- Investors need to reassess their playbooks, as it has become clear that the hoped-for pivot will not occur in the next couple of quarters. This means that macro and corporate fundamentals will play a bigger role for financial markets. We fear that a lot of bad news, especially on earnings, is yet to come and is not sufficiently discounted. Investor sentiment remains extremely cautious, which may act as a buffer against any unfavorable developments.

Net return by age group

Fixed pension benefit

Very defensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.5	-16.3	-11.3	5.8
45 years	-1.5	-16.3	-11.3	5.9
55 years	-3.6	-23.0	-19.8	-1.9
67 years	-7.0	-23.7	-24.3	-9.9

Defensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.5	-16.4	-11.1	6.4
45 years	-1.5	-16.4	-11.1	6.5
55 years	-2.3	-19.4	-15.1	2.2
67 years	-6.4	-25.1	-24.9	-9.0

Neutral

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.4	-16.5	-10.9	7.2
45 years	-1.4	-16.5	-10.9	7.2
55 years	-1.4	-16.5	-10.9	6.9
67 years	-6.3	-25.8	-25.3	-8.6

Offensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.4	-16.6	-10.7	7.8
45 years	-1.4	-16.6	-10.7	7.9
55 years	-1.4	-16.6	-10.7	7.9
67 years	-6.3	-26.1	-25.3	-8.3

Very offensive

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.3	-16.8	-10.5	8.5
45 years	-1.3	-16.8	-10.5	8.5
55 years	-1.3	-16.8	-10.5	8.5
67 years	-6.2	-26.3	-25.4	-8.1

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	-1.5	-16.4	-11.1	6.4
45 years	-1.5	-16.4	-11.1	6.5
55 years	-2.1	-18.5	-14.1	3.1
67 years	-6.1	-26.3	-25.4	-8.1

Neutral - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.4	-16.5	-10.9	7.2
45 years	-1.4	-16.5	-10.9	7.2
55 years	-1.4	-16.5	-10.9	7.0
67 years	-6.1	-26.5	-25.5	-8.0

Offensive - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.4	-16.6	-10.7	7.8
45 years	-1.4	-16.6	-10.7	7.9
55 years	-1.4	-16.6	-10.7	7.9
67 years	-6.1	-26.6	-25.6	-7.9

Very offensive - reduced risk to 15%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.3	-16.8	-10.5	8.5
45 years	-1.3	-16.8	-10.5	8.5
55 years	-1.3	-16.8	-10.5	8.5
67 years	-6.1	-26.8	-25.7	-7.8

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	-1.4	-16.5	-10.9	7.2
45 years	-1.4	-16.5	-10.9	7.2
55 years	-1.4	-16.5	-10.9	7.0
67 years	-4.9	-26.2	-24.3	-5.9

Offensive - reduced risk to 30%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.4	-16.6	-10.7	7.8
45 years	-1.4	-16.6	-10.7	7.9
55 years	-1.4	-16.6	-10.7	7.9
67 years	-4.9	-26.2	-24.3	-5.8

Very offensive - reduced risk to 30%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.3	-16.8	-10.5	8.5
45 years	-1.3	-16.8	-10.5	8.5
55 years	-1.3	-16.8	-10.5	8.5
67 years	-4.8	-26.2	-24.2	-5.6

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	-1.4	-16.6	-10.7	7.8
45 years	-1.4	-16.6	-10.7	7.9
55 years	-1.4	-16.6	-10.7	7.9
67 years	-4.7	-27.0	-24.0	-4.1

Very offensive - reduced risk to 45%

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
35 years	-1.3	-16.8	-10.5	8.5
45 years	-1.3	-16.8	-10.5	8.5
55 years	-1.3	-16.8	-10.5	8.5
67 years	-4.7	-26.9	-23.9	-4.0

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	-1.3	-16.8	-10.5	8.5
45 years	-1.3	-16.8	-10.5	8.5
55 years	-1.3	-16.8	-10.5	8.5
67 years	-4.2	-27.3	-23.3	-2.2

Developments in sustainable investing

Engagement: improving the world and returns

NN Investment Partners (NN IP), the manager of the lifecycle investments, is actively committed to positively influencing the behaviour of companies and governments in which it invests. Regular dialogue allows NN IP to share expertise and to support and motivate them to improve their performance on environmental, social and governance issues. NN IP engages with companies on behalf of its clients, as it ensures that their money is put to work building a better world. NN IP also believes engagement is the best way to maximize the value of their investments, as NN IP believes that sustainable corporate behaviour enhances risk-adjusted returns. Moreover, engagement contributes to NN IP's own sustainability ambitions, such as the net zero target we have set for our portfolios.

Approach and key themes

NN IP focuses its engagement on addressing controversial behavior of companies in the portfolios and themes that have a material impact on society. NN IP's analysts and portfolio managers also reach out regularly on ESG (environmental, social and governance) issues that have a material impact on the value of companies. NN IP's engagement approach starts from the international standards of corporate behaviour developed by the United Nations, the International Corporate Governance Network (ICGN) and the Organisation for Economic Cooperation and Development (OECD).

NN IP's engagement efforts focus on three main themes: strong corporate governance (focus on board composition and responsibility), natural resources and climate change (utilities, deforestation, oil & gas and plastics) and decent work (living wage, child labour, modern slavery). Below, we will discuss the role and results of NN IP's engagement within the oil & gas sub-theme.

In the spotlight: oil & gas

The oil and gas industry is a leading contributor to global warming, yet energy producers are also essential players in meeting the goals of the Paris Agreement. NN IP uses its influence as an investor in these companies to drive progress on tackling climate change. NN IP believes it can have greater impact through engagement with oil and gas companies than it would by divesting. A good example is stimulating emission reduction measures. NN IP expects companies to act now, because the years to 2030 are vital to limit global warming sufficiently to comply with the Paris Agreement.

NN IP's engagement objectives pertain to the oil and gas sector as a whole, but they can also be adjusted or expanded on a case-by-case basis, taking into account the local, cultural, and regulatory context in which a company operates. In 2021, NN IP focused mainly on companies' plans to achieve net zero greenhouse gas emissions. For example, have they already acquired the land needed to plant trees to compensate for their emissions? Or have the emission-reduction technologies they want to use been proven at scale? In the coming year, NN IP will encourage oil and gas companies to continue developing their decarbonization plans with clear short- and medium-term targets and substantiated strategies for a successful transition to renewable energy. NN IP will also focus on the implementation of strong governance frameworks that set out the board's accountability and its oversight of climate-change policy, and it will encourage companies to decarbonize capital expenditures.

Would you like to read more about NN IP's engagement and the result it has achieved? Download NN IP's Responsible Investing Report 2021 at:
https://www.nnip.com/nl-NL/professional/insights/specials/responsible-investing-report-2021

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 third quarter on a negative note. This was mainly due to the combination of high inflation and the aggressive policy responses of central banks. Recession fears resurfaced, the risks to corporate earnings are growing and the rapid rise in bond yields trickled down to other asset classes as well.

Selection effect
On average, the funds in which we invest did not beat their benchmarks. This was mainly due to the sustainable equity funds that are more growth-oriented and the commodity fund. Within equities, only the US showed a positive result (in euros) for the third quarter. Emerging market equities, on the other hand, lost the most, followed by the UK and European equities. The energy sector again showed a positive quarterly result, despite a weakening in September. This sector is underweighted because of the sustainable fund policy and that is one of the reasons why these funds are underperforming. All in all, the choices of the various portfolio managers were negative for the total return in the quarter.

Tactical asset allocation (TAA)
In addition, tactical investment decisions made a positive contribution to the total return, approximately 1% in the third quarter. 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, interest rates to rise or fall. We ended the quarter with an underweight position in equities, with an increased underweight to Europe. In addition, we have a negative position in government bonds (underweight duration), to anticipate an expected further rise in interest rates, and a small position in commodities as a hedge against inflation risks and geopolitical risks.

Return (%) (net)	3 months	year to date	1 year	3 years (ann.)
BeFrank First Class Return Fund	-1.3	-16.8	-10.5	8.5

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

Positioning

Source: NN IP, all figures are as of 30/09/2022.

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)	-1.4	-13.2				63.2
MSCI World (NR)	0.1	-11.5				
NN Duurzaam Aandelen Fonds (until April 2022)	-1.4	-21.0	-11.8	13.7	12.9	63.2
MSCI World (NR)	0.1	-13.4	-4.9	8.4	9.3	
NN Enhanced Index Sustainable Global Small Caps Equity Fund***		-7.1				4.9
MSCI World Small Cap Index (NR)		-7.2				
NN Enhanced Index Sustainable EM Equity Fund	-5.8	-15.4	-15.3	2.2	3.0	14.9
MSCI Emerging Markets (NR)	-5.6	-15.4	-15.0	1.5	2.0	
Real Estate						
NN Global Real Estate	-5.3	-17.7	-8.0	-2.2	3.5	4.7
GPR 250 Global 10/40 (NR)	-5.4	-18.3	-8.3	-2.7	3.3	
Fixed Income						
NN (L) Global High Yield	3.8	-6.8				4.4
Bloomberg Barclays 70% US 30% Pan-European ex Fin Subord 2% Issuer Capped High Yield EUR (unhedged)	3.9	-5.3				
NN (L) Emerging Markets Debt HC	-6.4	-26.5	-27.8	-8.7	-4.9	2.3
J.P. Morgan Emerging Market Bond (EMBI) Global Diversified EUR (hedged)	-5.3	-25.4	-26.0	-8.8	-4.8	
NN (L) Emerging Markets Debt LB	1.8	-5.5	-5.8	-3.4	-0.6	2.7
J.P. Morgan Government Bond-Emerging Market (GBI-EM) Global Diversified	1.7	-5.5	-6.1	-3.7	-0.2	

* 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 30/09/2022.

*** The new fund started in September 2022.

Hybrid Fund

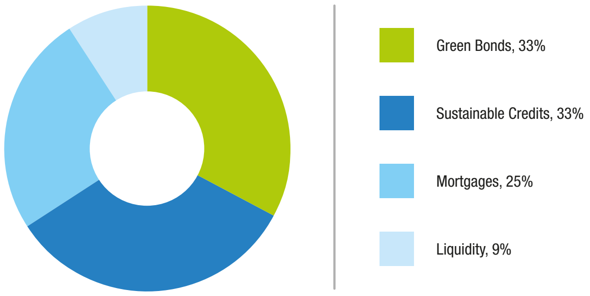
The fund ended the quarter negatively. Most central banks are raising interest rates faster than expected to fight high inflation. At the same time, governments are trying to ease the pain of the energy crisis and supply chain disruptions for households and businesses. This combination of factors has led to a sharp rise in nominal and real bond yields.

Selection effect
As a result of rising interest rates, the sustainable corporate bond portfolio, the green bond portfolio, and the mortgage portfolio showed negative returns this quarter. However, the managers of both the sustainable corporate bond portfolio and the green bond portfolio performed in line with their benchmarks.

Return (%) (net)	3 months	year to date	1 year
Hybrid Fund	-2.3	-14.7	-15.1

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

Positioning



Source: NN IP, all figures are as of 30/09/2022.

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 rate do?
The high level of uncertainty in the financial markets and the expected further interest rate hikes by the central banks have resulted in higher long-term interest rates. For example, the 10-year German Bund yield rose in the third quarter to well above 2%. This is 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 a strong negative return over the past quarter. 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	-4.7	-11.8	-12.5	-4.8
Bloomberg Barclays Euro Treasury AAA 1-3 Yr Downgrade Maturity Tolerant, incl derivatives to increase duration (M)	-4.5	-11.7	-12.4	-5.0

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	-10.6	-37.7	-38.1	-16.4
Bloomberg Barclays Euro Treasury AAA 1-3 Yr Downgrade Maturity Tolerant, incl derivatives to increase duration (L)	-10.4	-37.6	-38.1	-16.8

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	-11.7	-49.4	-49.0	-22.8
Bloomberg Barclays Euro Treasury AAA 1-3 Yr Downgrade Maturity Tolerant, incl derivatives to increase duration (XL)	-11.4	-49.2	-48.8	-23.1

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

Source: NN IP, all figures are as of 30/09/2022.

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.