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The best is yet to come

A comparison of savings across countries and
generations in the Eurozone

Executive Summary



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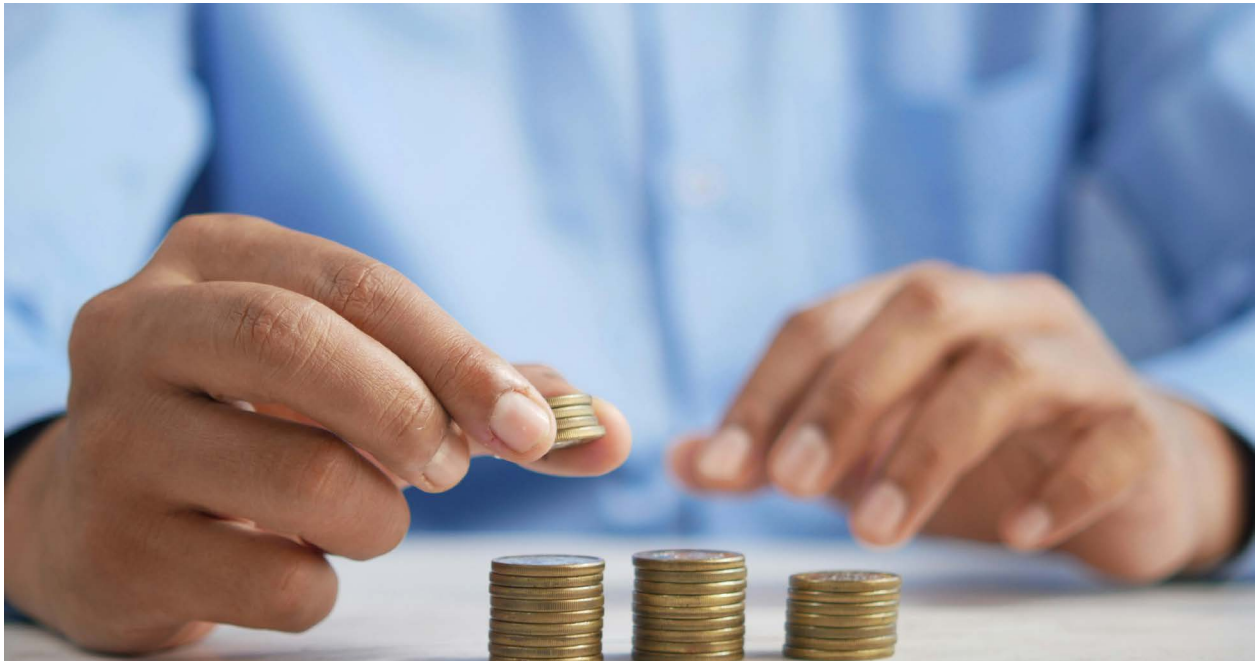


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- **Don't look back in anger:** Despite the crises, private households in the nine Eurozone countries we analyze¹ have managed to almost double their total financial assets over the last two decades. However, the composition of growth differs significantly between countries. The rather risk-averse German savers, for example, increased their financial wealth almost exclusively through high savings efforts, while in Finland and the Netherlands, the lion's share of the increase in wealth was attributable to value gains – accompanied by above-average growth rates.
- **Savings behaviors matter:** The implicit return on savings – i.e. the total sum of gains in value and investment income in relation to portfolios – captures the sizable differences in investment strategies. The average annual rate of (nominal) return over the entire period ranges from 2.1% in Germany to more than 4% in the Netherlands and Finland. France (3.3%) ranks in the midfield. Securities have driven overall returns, accounting for more than half of total returns on average. In the second half of the period, however, returns fell on average by 1pp, “thanks” to the dismal year 2022 when all financial assets tanked.
- **The return of savers' old nemesis:** Over the last ten years, and on average across all countries, inflation has cost households more than 80% of their returns on assets; in Austria and Germany, the real return even turned negative. In the decade before, these inflation-induced losses amounted to “only” 55%.
- **Golden girls (and boys):** Even with the same savings behavior, no generation can match the wealth accumulation enjoyed by the Baby Boomers. We calculate that their savings sum up to just under 614% of disposable income, with an average nominal return of 6.1% per year. The big losers are the Millennials – shortly after they began to accumulate wealth, crisis followed crisis, resulting in an annual return of just 3.1%.
- **The die is not yet cast:** We create four scenarios to see how members from Gen X to Gen Z need to adjust their savings behavior to achieve the same total savings-to-income ratio as the Baby Boomers. For example, in a BAU-scenario, Gen Z savers should increase their savings rate by 3.3pps. However, taken into account the end of the savings glut and the rising demand for capital to drive the green and digital transformations – our so-called “Green and AI boost scenario” – the necessary increase in the savings rate is only +1.3pp for Gen Z. Thus, members of this generation have a good chance to outperform all their predecessors – if they align their savings behavior to the new realities.

¹ Austria, Belgium, Finland, France, Germany, Italy, Netherlands, Portugal and Spain.





Wealth accumulation in turbulent times

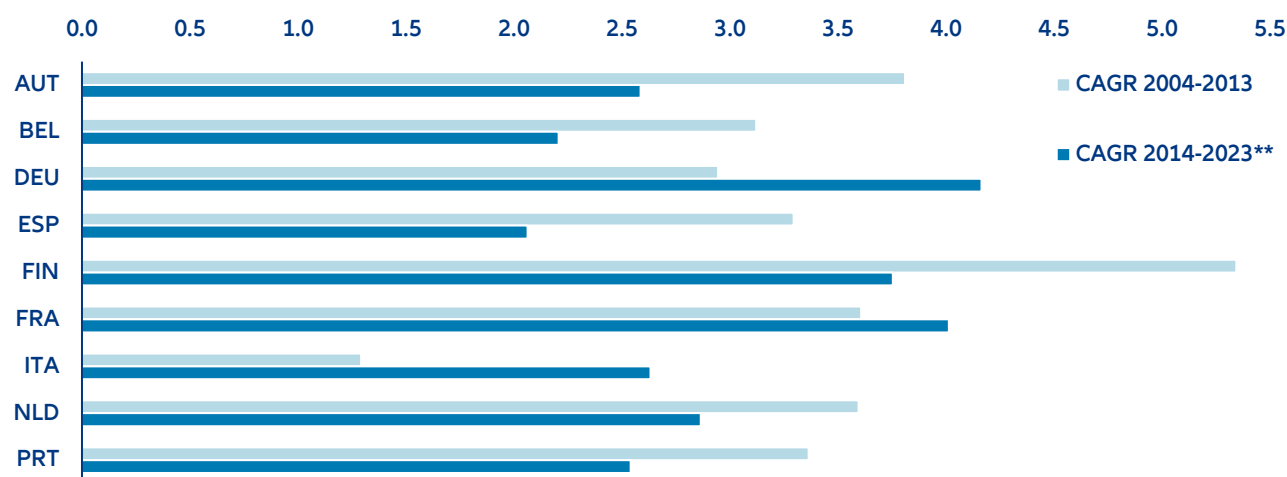
After the crisis was before the crisis. The last 20 years have not been easy ones for savers and their wealth accumulation, to put it mildly. Having just left the dotcom crisis behind, the world was plunged into the global financial crisis (GFC) at the end of 2008. The euro crisis followed in 2012, resulting in the zero or even negative interest rate era, that in turn was to accompany savers until July 2022. At the beginning of 2020, the Covid-19 pandemic turned the world upside down and two years later, Russia's invasion of Ukraine marked a political and economic turning point. With the energy crisis triggered by Russia's war against Ukraine, inflation returned with a vengeance and households had to watch the value of their savings dwindle.

How have private financial assets developed in these adverse times? The good news is that savings increased in all of the Eurozone countries we analyzed during the period under review. Household financial assets grew particularly strongly from 2019 onwards, propelled by rising equity prices. The pandemic lockdowns drastically reduced consumption opportunities and led to the global phenomenon of "forced savings". Stock markets recovered quickly and caused asset prices to rise. The war in Europe, however, brought the "everything rally" to an abrupt end; asset prices fell across the board in 2022 and left deep scars in the development of private savings. Asset growth recovered somewhat last year, but the losses suffered in the vast majority of countries have not yet been compensated for.

In six out of the nine countries analyzed, average growth of financial assets per capita slowed noticeably in the last decade compared to the previous ten years (Figure 1). The average annual growth rate fell by around 1.5pps in Finland. Austria and Portugal followed with 1.2pp each and Belgium, Portugal and the Netherlands were down 0.9pp, 0.8pp and 0.7pp, respectively.

Finnish households were the growth winners over the decade from 2004 to 2013 (CAGR: +5.3%), with a clear lead over the Austrians in second place (+3.8%). In five other countries (namely France, the Netherlands, Portugal, Spain and Belgium), the average annual growth rate exceeded the +3% threshold. Germany and Italy brought up the rear with +2.9% and +1.3%, respectively. With an average annual increase of +4.2% over the following decade, German households literally saved their way to the top of the growth table, 0.2pp ahead of their French neighbors. The Finns, on the other hand, lost two ranks and ended up in third place with +3.8%. At the same time, average annual asset growth in Italy doubled, allowing savers there to pass the red lantern on to their Spanish counterparts (+2.1%).

Figure 1: Growth of financial assets per capita*, CAGR in %

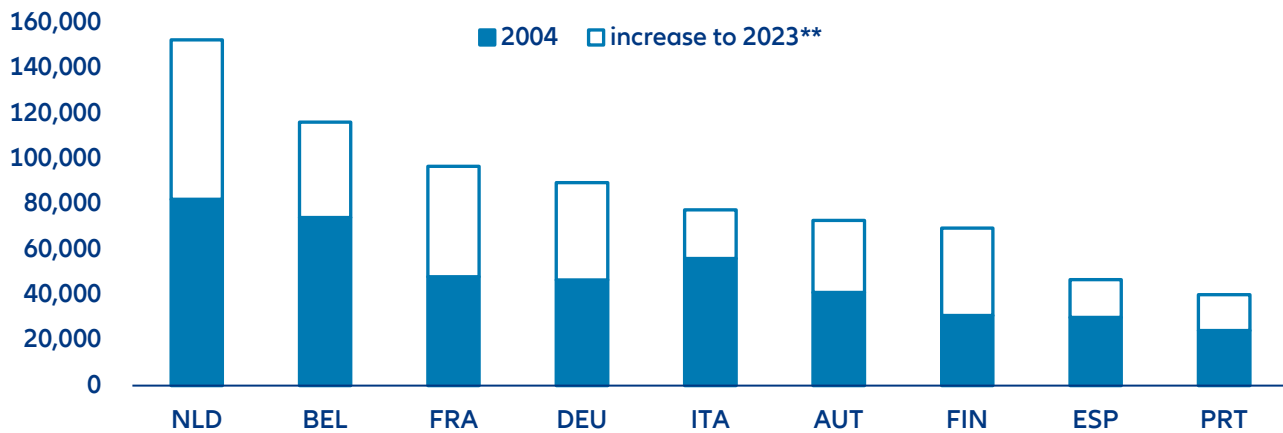


*Excluding other equity. **2023: Extrapolation based on Q3 data.

Sources: Eurostat, Allianz Research.

In terms of absolute wealth levels there are still significant differences within the Eurozone: The total annual average increase in financial assets per capita, i.e. the sum of changes in value, investment income and savings out of earned income, range from only EUR880 in Portugal to a whopping EUR3,590 in the Netherlands over the past two decades. France (EUR2,540), Belgium (EUR2,380), Germany (EUR2,250) and Finland (EUR2,050) follow at a considerable distance but are still above the average of the countries analyzed. In contrast, absolute asset growth in Austria (EUR1,700), Italy (EUR1,240) and Spain (EUR960) has been below average since 2004.

At the end of 2023, average per capita financial assets in the Netherlands came to an estimated EUR152,520, nearly four times the amount of private savings in Portugal (EUR40,080). The wealth gap even widened during the observation period: the same factor came to only 3.4 back in 2004. With an average of EUR89,500, German households are in the upper middle of the rankings. The clear wealth lead enjoyed by households in the Netherlands can be traced back primarily to the strong role of company retirement provision.

Figure 2: Financial assets per capita*, in EUR

*Excluding other equity. **2023: Extrapolation based on Q3 data.
Sources: Eurostat, Allianz Research.

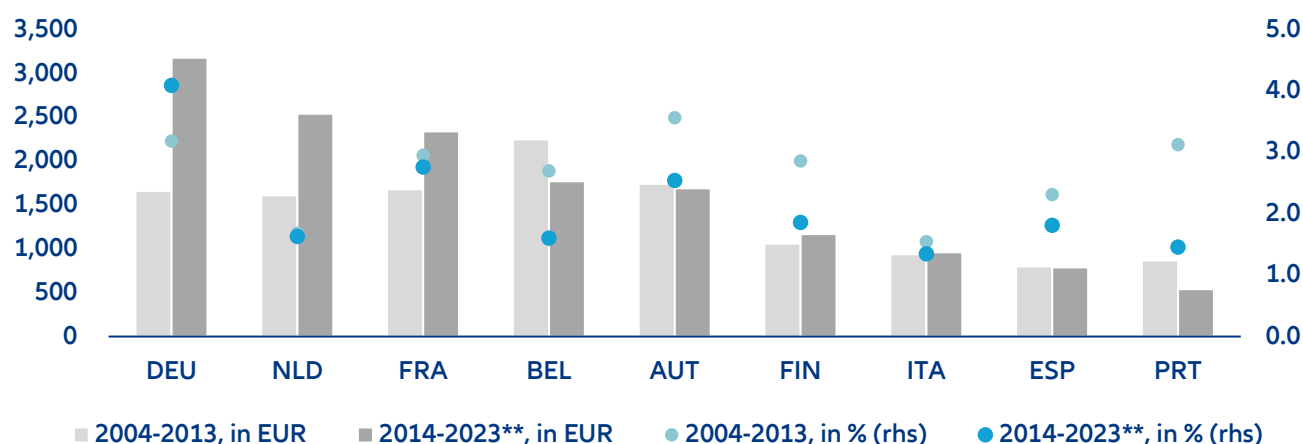
Diverging savings behaviors

Financial accounts statistics confirm the stereotype of Germans being keen savers. At least over the last ten years, German households spent the highest amount for the acquisition of new financial assets ("fresh savings"): on average EUR3,180 per capita and year, a whopping 63% more than the average of all countries analyzed (Figure 3). Households in the Netherlands (EUR2,540) and France (EUR2,340) also put aside an above-average amount. Southern European households are at the bottom of the scale – Italy (EUR960), Spain (EUR790) and Portugal (EUR540) – having been forced to cut back on saving during the euro crisis. With the exception of Belgium and Austria, households in all other countries were even able to increase their savings efforts compared to the previous decade.

In the years from 2004 to 2013, however, the differences between the countries were less pronounced. With an average annual savings volume of EUR1,660 per capita, Germany was roughly at the same level as the Netherlands (EUR1,610), France (EUR1,680) and Austria (EUR1,740). The frontrunners at this time were the Belgian households, which saved an average of EUR2,250 per capita per year.

Germany also led the field when it comes to average annual savings in relation to total financial assets – at 4.1% in the period from 2014 to 2023, well above the country average (2.6%) and no less than 1.3pps ahead of France in second place. German savers are also the only ones who increased their savings efforts in the second decade – as interest rates plunged below zero, more money was put aside to compensate for falling returns. In contrast, most savers in the other countries were rather discouraged by negative rates.

Figure 3: Annual flows per capita (in EUR) and as percent of total financial assets (rhs)*, average



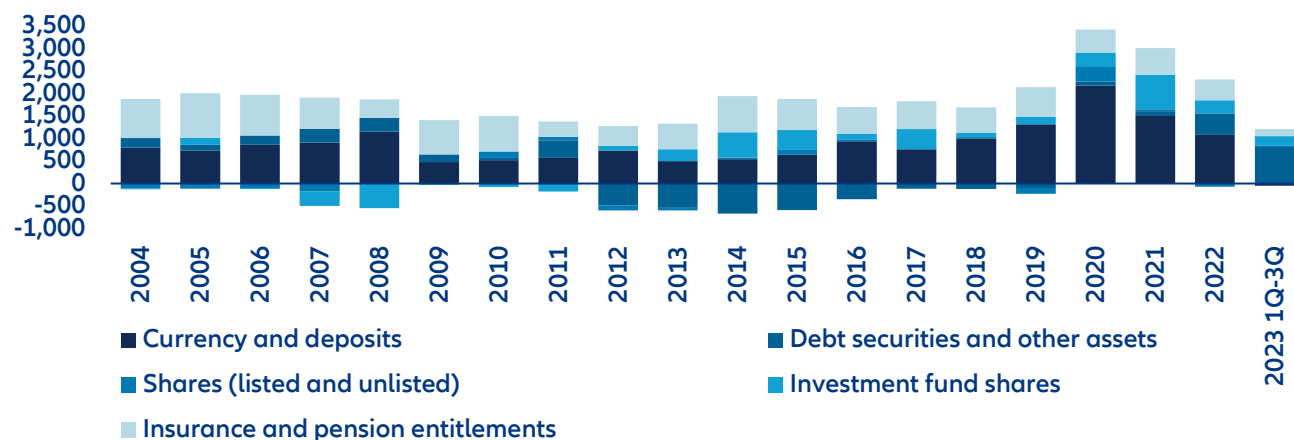
*Excluding other equity. **2023: Extrapolation based on Q3 data.

Sources: Eurostat, Allianz Research.

It is worth mentioning that in all countries fresh savings during the two pandemic years were many times higher than the respective long-term averages, the so called “forced savings phenomenon”. At the top of the list were – for once – Italy (+138%) and Spain (+111%). Across all countries, average flows per capita totaled EUR1,660 in the period from 2004 to 2023; if only the two pandemic years are considered, the average value almost doubles to EUR3,210 (Figure 4). Bank deposits remained the most favored savings vehicle in 2020 and counted for 64% of fresh savings. However, one year later,

flows decreased significantly, namely to around 50%, in favor of investment funds and insurance and pension products, which increased from 9% to 26% and 15% to 20%, respectively. Against the backdrop of the turnaround in interest rates in the summer of 2022, debt securities finally experienced a revival – their share in fresh savings increased six-fold compared to 2021 to 21%. In the first three quarters of last year, households invested even 70% of their savings volume on average in this asset class.

Figure 4: Flows per capita* by asset class, average across all countries, in EUR



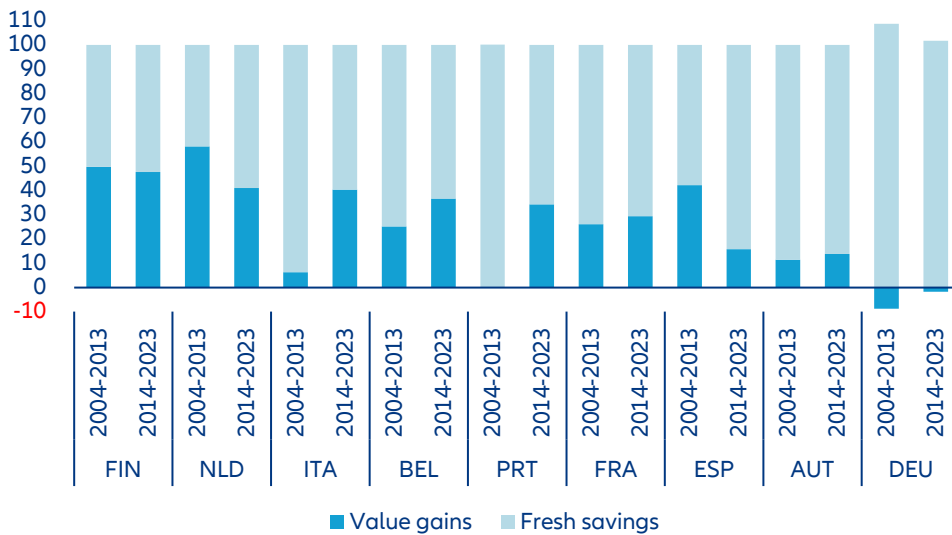
*Excluding other equity. **2023: Extrapolation based on Q3 data.

Sources: Eurostat, Allianz Research.

There are two growth drivers for financial assets: value gains, triggered, for example, by rising equity or bond prices, and fresh savings, i.e., the acquisition of new financial assets. But not all fresh savings are equal. These savings can come either from investment or earned income. Using investment income means that received interest or dividends are earmarked for buying new financial assets, sometimes even automatically (e.g. funds with retained earnings). And if the investment income is bigger than desired savings, part of that income can be used to prop up consumption. On the other hand, if desired savings exceed investment income, part of the earned income must be used to close this “savings gap”. As a consequence, less earned income is available for consumption.

The growth composition differs significantly between countries. In Finland and the Netherlands, for example, the lion’s share of the increase in wealth over both decades was attributable to value gains (Figure 5). Not surprisingly, a high share of value gains corresponds with higher growth rates, and vice versa: the below-average asset per capita growth of households in the Southern European countries over both decades (CAGR: Italy +2.0%, Portugal +3.0%, Spain +2.7%, average +3.1%) must be seen against the backdrop of generally weaker capital market performance. Germany, however, does not fit into this pattern – high share of value gains, high growth rates – as above-average growth (CAGR: +3.6%) coincides with negligibly low or even negative value gains². In other words, in Germany, financial asset growth is almost solely the result of the acquisition of new financial assets.

Figure 5: Growth composition of financial assets*, total, in %



*Excluding other equity. **2023: Extrapolation based on Q3 data.
Sources: Eurostat, Allianz Research.

² However, the fact that since 2022 the technical provisions for private households in the financial accounts statistics have been calculated on the basis of Solvency II reporting data has had a negative impact: Among other things, this change in methodology led to a decline in the valuation of this balance sheet item. If only the years 2014 to 2021 are taken into account, the share of the increase in value in the increase in total assets rises from a meagre 0.4% to just under 23%. For more information please see [CL2009L0138DE0090010.0001.3bi_cp 1..1](#) (europa.eu). In addition, pension and insurance claims lost value due to the turnaround in interest rates.

In three countries, households had to use earned income in a sizeable way to close their savings gap, particularly in the second half of the period analyzed: Germany (EUR2,000 on average per capita and year in the period from 2014 to 2023), France (EUR1,040) and Austria (EUR960) (Figure 6). In Germany, the high savings rate (i.e. high desired savings) plays a key role: With around 18% per annum over the last 20 years, Germany was almost 5pps above the Eurozone average. In Austria, however, relatively low investment income is to blame. At around EUR970 per capita per year over the entire period, this amount was more than one-third lower than in Germany. Interestingly, before the euro crisis, French households used earned income to increase savings – like their German neighbors. During the crisis years, it was the other way around. But since 2014, French savers have again returned to the pre-crisis pattern.

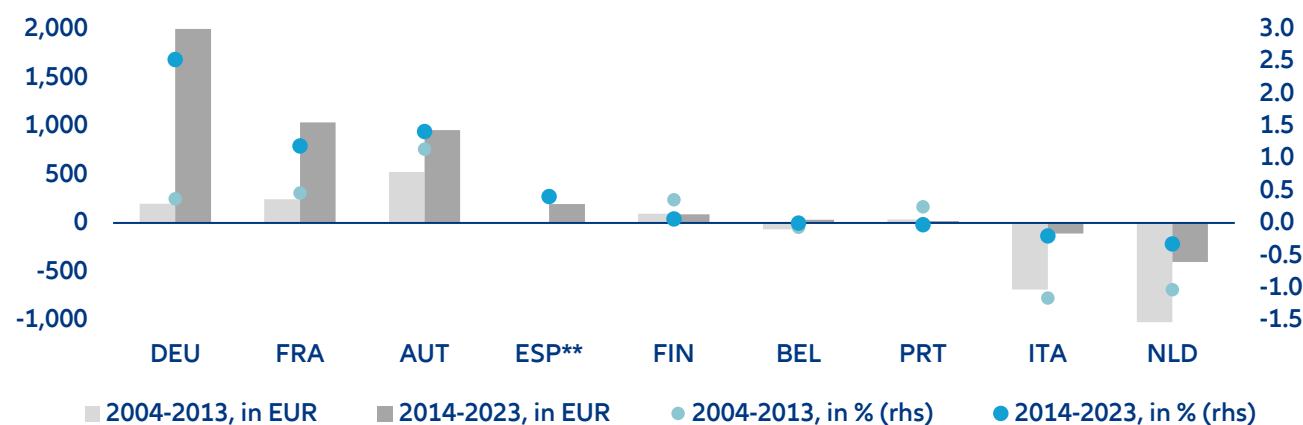
At the other end of the spectrum sits the Netherlands: there is no other country with larger changes in value and income from investments. The total of these two components is even higher than the total increase in assets, producing a “surplus” for private households. This means that households have not needed to use earned income to reach their savings objectives. Rather, the

surplus has boosted their disposable income and could be used for consumption (thus explaining the minus sign). However, this amount has more than halved during the period analyzed, from an average of EUR1,050 per capita and year in the period from 2004 to 2013 to EUR400 since 2014 – primarily due to valuation losses in the insurance and pensions asset class³.

The situation is similar in Italy, albeit at a different level: savings are low (as said before, see Figure 3) but as in the Netherlands, they are entirely sourced from investment income; a significant amount was even left for consumption (EUR640 per capita and year from 2003 to 2014). However, as a result of the zero interest rate policy, average investment income fell drastically, from EUR 1,620 per capita (2004 to 2013) to EUR 1,060 in the last ten years. leaving only EUR110 per capita per year that could be used for additional consumption purposes during this period.

These different savings behaviors are crystallized in one number: the asset yield, i.e. the value increase and income from investments expressed as a percentage of total assets.

Figure 6: Savings out of earned income per capita (in EUR) and as percent of total financial assets* (rhs), annual average



*Excluding other equity; 2023: Extrapolation based on Q3 data.

**2004-2011: data on investment income n/a.

Sources: Eurostat, Allianz Research.

³ In addition to the turnaround in interest rates, the main reason for this is the methodological change in the valuation of technical provisions based on Solvency II reporting data between 2022 and 2023. For more information please see [CL2009L0138DE0090010.0001.3bi_cp 1..1 \(europa.eu\)](#).

How is the total return on the asset portfolio calculated?

The financial accounts published by the European statistics authority, Eurostat, which form part of the national accounts, provide an overview of the financial assets (and liabilities) of households. They provide information not only on the amount and structure of the asset base by asset class, but also on annual fund inflows and outflows.

The (nominal) total return on an investment is calculated based on the value gains, the amount of which can be derived directly from the financial accounts (level at the end of a period minus the level at the start of the period and financial asset formation during this period) and current income, e.g. interest and dividends. These constitute household income, which is also recorded in the national accounts.

In particular, the calculation of the total return used data on the income from investments, i.e. interest and other capital gains. The latter comprise income from insurance policies, receivables from pension systems and from investment fund units. These are allocated to the corresponding items in the asset balance sheet. A weighted annual average interest rate⁴ was calculated for investment income from overnight money deposits, savings and term deposits with banks, while a return of 0% was applied to cash. A residual parameter was calculated for income from investments in bonds and other receivables, i.e. the total investment income from interest (taken from the national accounts) less the income on bank products resulting from the weighted annual average interest rate. Since some countries do not make any distinction between profit distributions and withdrawals in their national accounts, the income on assets held in equities is calculated based on the Euro Stoxx 50 dividend yield.

An average annual portfolio was created for all items in the asset balance sheet (bank deposits, bonds, equities, investment fund units, receivables from provisions relating to insurance companies and pension systems and other receivables) and the average return generated in the current year was calculated in each case. This study has left assets and income from other equity interests out of the equation.

The nominal total return for a given year, less the average annual rate of change in consumer prices, produces the real total return.

In all countries under review, the average nominal return in the years from 2014 to 2023 fell – in some cases significantly – compared to the previous decade (Figure 7). Until 2013, households in the nine Eurozone countries analyzed still achieved an average nominal return of 3.7% per year. Since 2014, however, this has fallen to only 2.7% on average⁵.

The developments of 2022 are primarily to blame for the weak performance over the last ten years – a political and economic turning point and an annus horribilis for savers. After years of the “everything rally”, asset prices fell across the board. In the US, for example, stock prices fell by more than -19%, while the corresponding bond indices suffered setbacks of more than -10%. In most other countries, the development looked similar as the turnaround in interest rates was more or less conducted by all countries – albeit

at different speeds. The old rules of diversification no longer applied in 2022; in the “everything slump” scenario, there was nowhere to hide. As a result, total nominal returns in the countries analyzed plunged deep into negative territory, averaging a dismal -6.3%. If the year 2022 could be removed from the decade, the average return would be 3.7% – exactly as high as in the years up to 2013. The low-yield environment had no effect on the returns of households’ financial assets (but on the sources).

However, 2022 was not the only year in the last decade with negative nominal yields: In 2018, the average return was a disappointing -0.6%. This year was marked by high uncertainty from the escalating trade conflict between the US and China, the drawn-out story of Brexit and mounting geopolitical tensions. In addition, central banks around the world continued their attempts to normalize

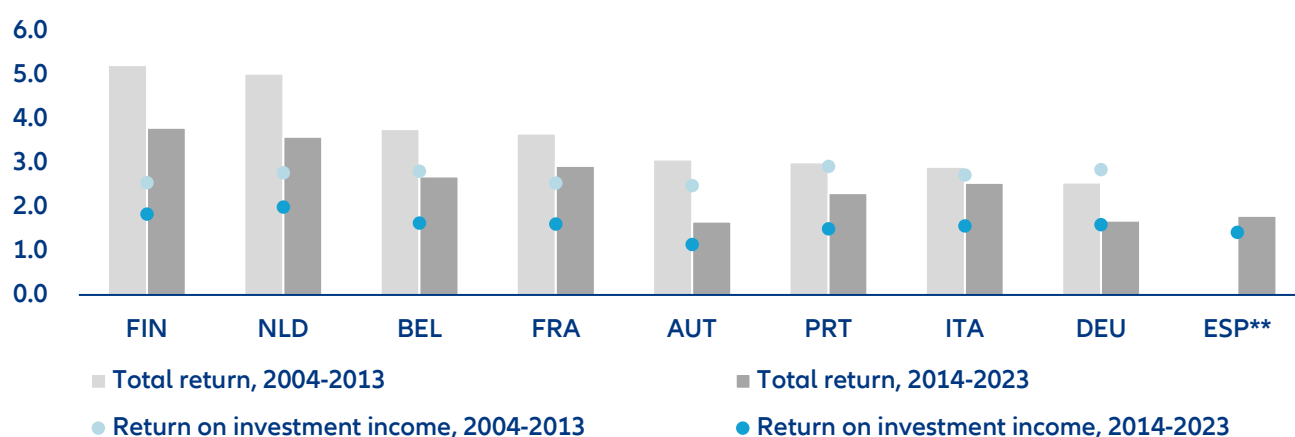
⁴The calculation is based on the bank interest rate statistics published by the European Central Bank.

⁵Excluding Spain for all years, as data on investment income is only available since 2012.

monetary policy: The US Federal Reserve, for example, increased its target rate range four times in that year. The following year (2019) was still marred by escalating trade conflicts, social unrest and an industrial recession, but as central banks reversed course and embarked on broad-based monetary easing, stock markets decoupled from fundamentals and had one of their best years on record – shielding private savers from the repercussions of an unruly world. As a result, total nominal returns jumped to a whopping 7.3% on average.

In the period from 2003 to 2014, negative returns were only recorded in the year of the GFC: households in the countries analyzed suffered an overall loss in wealth of almost 5%, with a nominal return achieved falling to -2.8%.

Figure 7: Average return on investment income and total return*, nominal, in %



*Excluding other equity; 2023: Extrapolation based on 3Q data.

**2004-2011: data on investment income n/a.

Sources: Eurostat, Allianz Research.

In a country comparison, German households generated less from their financial assets than households in almost all other countries, albeit their undoubtedly high savings efforts. Our calculations indicate that the average nominal return during the period from 2014 to 2023 came in at a mere 1.7% per year in Germany – on a par with Austria – with the lion’s share (1.6pps) coming from income from investments; the remaining 0.1pp were attributable to value gains. This is likely due, among other things, to the fact that both German and Austrian households still “invest” a significant part of their savings⁶ in bank deposits that offered hardly any interest (on average 42% and 51%, respectively) – at least until the interest rate turnaround in July 2022.

In recent years, however, capital market products have enjoyed increasing popularity in Germany – securities⁷

accounted for only around 18% of fresh savings in 2019 and climbed to almost 36% three years later. Over the first nine months of 2023, German households even invested half of their savings in this asset class. Against the backdrop of the turnaround in interest rates, 70% of this was again attributable to fixed-interest securities. The new-found love of capital market products seems to be more than just a brief affair so far. Total nominal return jumped from -8.0% in 2022 to an estimated 1.9% last year.

At 3.8% and 3.6% respectively, households in Finland and the Netherlands achieved (by far) the highest average returns over the last ten years, which, in contrast to Germany and Austria, largely consisted of value gains – thanks to the fact that they pursue a different investment strategy: With an average equity share of about one-third of the portfolio over the entire period under review, the

⁶ Excluding other equity.

⁷ Excluding other equity.

Finns participated directly in capital market developments, while the Dutch benefited at least indirectly through the strong position of insurance and pensions in their wealth accumulation (around 60% of savings on average). If the year 2022 could be removed from history, yields would even amount to 4.8% in Finland and 5.5% in the Netherlands.

A high proportion of securities in the portfolio is, however, not always a guarantee of (very) high yields, as the example of Italy shows. Italian households have more of a risk appetite than their German or Austrian counterparts, for example, holding no less than 45% on average of their assets in shares, investment funds and debt securities over the past two decades. In total, these assets suffered heavy losses in 2018 – at more than -11%, the slump was even more severe than in 2022 (-7.6%). This development was primarily driven by much higher value losses in shares due to the fact that the Italian benchmark index suffered an even greater slump in 2018 (-16.1%) than in 2022 (-13.3%). Households in Finland and the Netherlands were far less affected, with declines of “only” -2.4% and -0.4%, respectively. The average total return from 2014 to 2023 came in at 2.5% – this puts Italy in midfield together with Belgium (2.7%) and Portugal (2.3%).

One more word on the returns based on income from investments: parallel to the total return, this also fell noticeably in the second half of the period analyzed, from an average of 2.7% to 1.6%⁸ – keyword zero interest era. A comparison of all countries also shows that the returns on investment income are moving within a relatively narrow range, meaning that there are no major disparities between the individual countries. To a certain extent, this reflects the monetary union: interest rates, for example, move more or less in sync. The bottom line: The biggest differences in returns arise mainly as a result of value gains; the level of the total return depends first and foremost on whether or not the portfolio contains assets that offer the potential for (substantial) value gains, and if so, how much.

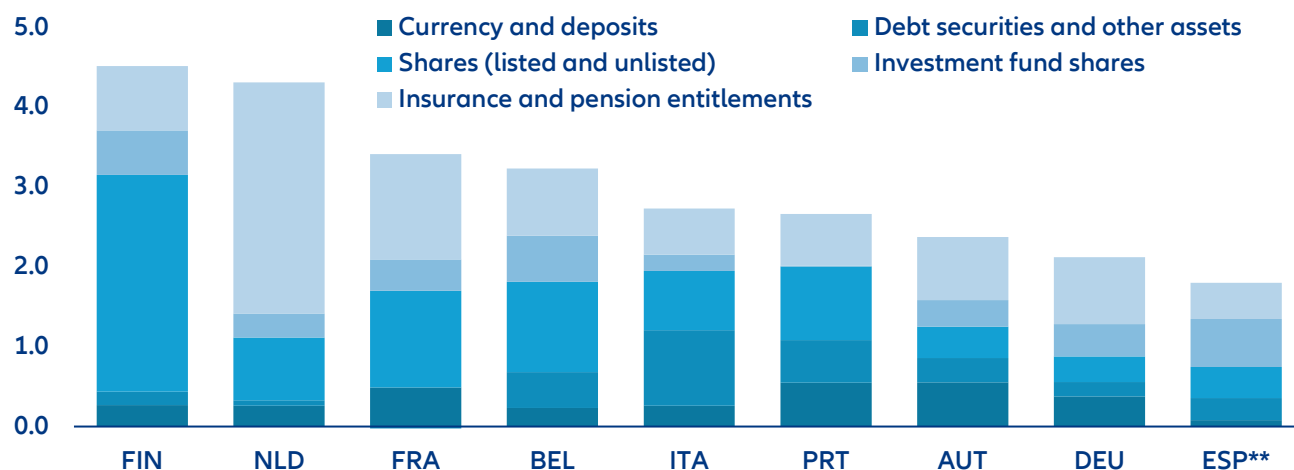
Figure 8 highlights this by demonstrating what contribution the individual asset classes have made to the total nominal return. This also shows that, once again, in the Netherlands, the pension system is the main factor promoting personal asset accumulation (+2.9pps.) – even if households will have to wait until retirement until they can really feel the benefit in their wallets. Elsewhere, on the other hand, receivables from pension and insurance funds make much less of a contribution to the overall return. The contribution ranges from 0.5pp in Spain (2014-2023) to 1.3pps in France, and its share in total savings⁹ from only around 14% in Portugal to nearly one-third in France and even just under 56% in the Netherlands in 2023.

As expected, bank deposits generated the lowest contribution to total returns – on average across all countries less than 12% of the total return. Even for Austrian, German and Portuguese households, whose investment strategies focus on bank deposits, this asset class only makes a contribution of 23%, 18% and 21%, respectively, to the total return despite accounting for a fairly sizeable share of the investment portfolio as a whole. German households held more than two-fifths of their savings in the form of bank deposits in 2023, while for Austrians and Portuguese it was even more than half.

With other words: the component that is ultimately decisive in terms of determining the overall return achieved is the securities asset class (equities, bonds, investment funds). On average, almost 53% of the total return comes from this asset class – even in the countries with rather risk-averse savers, this share amounts to at least 40% or more.

⁸ Excluding Spain

⁹ Excluding other equity.

Figure 8: Contribution of individual asset classes to total nominal return*, average 2004-2023 in pps.

*Excluding other equity; 2023: Extrapolation based on 3Q data.

**2014-2023.

Sources: Eurostat, Allianz Research.

The return of savers' old nemesis: inflation

The purely nominal view, however, only tells half the story. A not inconsiderable proportion of the return on assets achieved is eaten up by the rate of inflation. But how much is left over for households at the end of the day? Figure 9 shows the extent to which inflation-induced losses have an impact on the nominal yield.

In the years from 2004 to 2013, the (simple) average of inflation-related losses amounted to 55%. For households that were only able to achieve below-average returns during this period, such as Austrian, German or Italian households, the losses amounted to more than 70%. In comparison, Finnish and Dutch households with high returns were in a much better position, but they also suffered losses of 38% and 36%, respectively. The following years were characterized by low inflation rates. In 2021, however, as a result of the supply-chain difficulties caused by the Covid-19 pandemic, inflation rose again noticeably. However, inflation hit with full force one year later with

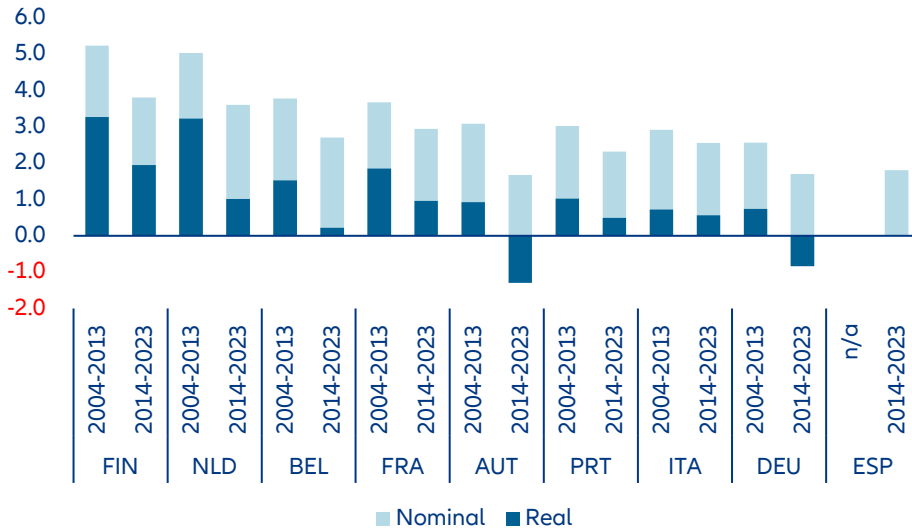
the start of Russia's war against Ukraine. Yields that were already negative across the board plunged even deeper into the red in real terms, ranging from -9.0% in Portugal to as much as -24.7% in the Netherlands. Although we expect a significant recovery in real yields in 2023, our projection estimates based on Q3 data indicate a negative sign in the vast majority of countries; on average we assume a real return of -2.7%. Over the entire last decade and on average across all countries, inflation has cost households more than 80% of their returns on assets.

In central banks' fight against inflation, savers are at least benefiting from a significant rise in interest rates. With regard to new business, the interest rate on deposits with agreed maturity amounted to 3.2% on average in the Eurozone in January 2024; the (weighted) average interest rates on total outstanding amounts rose from 0.3% to 0.8% over the course of last year – still by far not enough to compensate for inflation.

In the coming years, the market environment will be more challenging than in the past. A return to the happy years of accommodative monetary policy and ample liquidity is not on the cards. However, this will not devalue the lessons of the last decade. A more capital market-oriented savings behavior will generate the highest returns in the long term – albeit at the price of higher volatility. In fact, Finland

and the Netherlands – the two countries with the highest average returns – also have the highest volatility: there are nearly 2,600bps between the highest and lowest annual returns in the Netherlands and almost 2,200bps in Finland; in Germany, the figure is “only” just under 1,400bps.

Figure 9: Total return* – nominal vs real, average in %



*Excluding other equity; 2023: Extrapolation based on Q3 data. Sources: Eurostat, Allianz Research.

This shows once again that security and supposed stability do not come for free. German savers should not allow themselves to be diverted from the course they have taken during the Covid-19 years towards the capital markets; a bad year for stocks is no reason for savers to despair. Despite the resolute (albeit belated) countermeasures taken by central banks, the low inflation rates of the past ten years are unlikely to return for the time being. Three long-term trends set the stage for persistent higher prices¹⁰: the transition from market-driven hyper-globalization to a more politicized and fragmented global economy; the demographic shift toward shrinking workforces and finally the green transition with – at least during the transition phase – higher energy prices. This context is just one more reason for changing savings behavior to focus on long-term value creation rather than short-term liquidity holding.

¹⁰ See: [2023-02-21-Inflation-drivers.pdf \(allianz.com\)](#)



Savings performance across generations

Having explored private households' returns on assets over the past two decades, we now shift our focus to an even longer-term, cross-generational perspective, using Germany as an example: How did the life savings of the Baby Boomers develop and what can be expected for the following generations?

In our analysis, we compare the development of an exemplary portfolio for the Baby Boomers (1946 - 1964) with that of the Generation X (1965 - 1980), Millennials (1981 - 1996) and Generation Z (1997 - 2012). Each generation is represented by an exemplary saver: Sabine (born in 1960), Michael (born in 1973), Stefanie (born in 1983) and Maximilian (born in 2004).

For our analysis we make the following assumptions:

- The savings phase starts at the age of 20 and ends after 40 years; the total period under consideration across all generations is therefore the years from 1980 to 2063.
- The annual savings rate is 10% of average disposable income.
- 10% of the annual savings volume is held in cash over the entire saving period to cover unforeseeable costs.
- For reasons of simplicity, we only include listed shares and (German government) bonds in our sample

portfolio; total annual savings are invested at the beginning of each year.

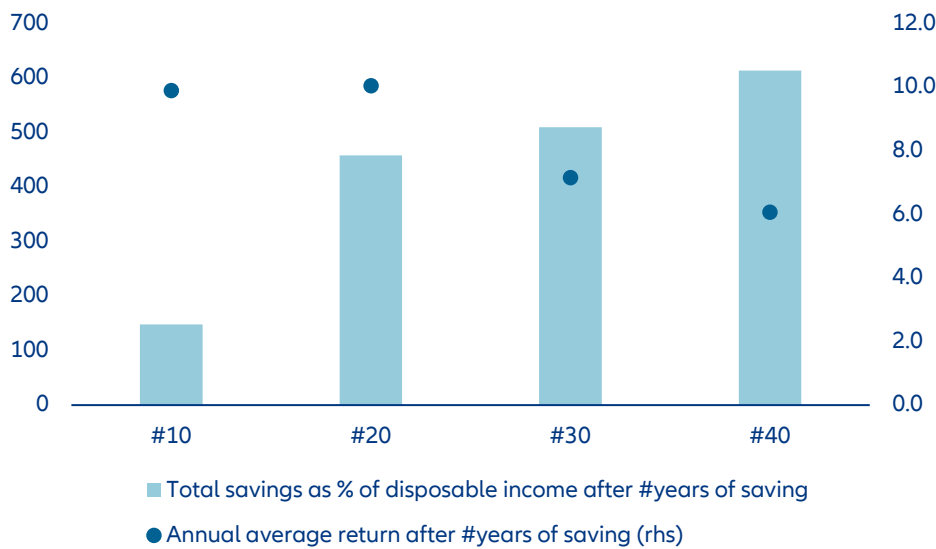
- Savers adjust their portfolio structure according to their age, i.e. at a younger age, a larger proportion of assets is saved in the form of shares, which decreases with increasing age. In our base case, 60% of the fresh savings are invested in shares over the first 10 years of the savings phase. After each decade, this share decreases by 10pps, so that in the last ten years of the savings cycle, the share of equities falls to 30% of the annual savings volume. Furthermore, savers adjust their accumulated savings each year to reflect the desired risk appetite.
- The remainder of the annual savings is invested in German government bonds held until maturity; changes in value are therefore not taken into account.
- Investment income is reinvested. Taxes are not considered.

As the savings phase of our example saver from the generation of Baby Boomers, Sabine, ended in 2019, we can calculate the total return actually achieved. To do so, we calculate the return on both shares and bond assets and weight these rates with the above-mentioned portfolio split. To calculate the return on shares, we take into account both the change in value and current income, i.e. dividends. The former can be derived directly from the financial accounts statistics for private households (level at the end of a period minus the level at the start of the period and minus purchases of shares during this period) published by the Deutsche Bundesbank. We calculate the latter based on the DAX 40 dividend yield. With regard to the return on bonds we use the average annual current yield on German government bonds (all maturities) published by the Deutsche Bundesbank.

How Baby Boomer Sabine fared

At first glance, the performance of Sabine's portfolio is quite impressive. In our base case scenario, her total savings amount to just under EUR242,000 – in addition to the almost EUR102,000 in direct savings from disposable income, she managed to earn a total of around EUR140,000 from value gains and investment income. Putting total savings in relation to her disposable income in 2019, the ratio is almost 614% (Figure 10).

The nominal total return that Sabine achieved after forty years averaged 6.1% – compared to 2.1% of inflation during that period. However, Sabine's savings also suffered heavily from the turbulence of the 2000s. In the first 20 years of her wealth accumulation, from 1980 to 1999, the average annual total return stood at 10%; if we include the following ten years, the return drops by almost 3pps – due to the upheavals of the GFC and the low yields on bonds in the aftermath, which accounted for 50% of fresh savings during this decade; as a result, the return in the 2000s fell to a meagre 1.4%. In the fourth decade, the return recovered to 2.8% but did not reach the high levels of the first two decades by far. Over the entire savings period, therefore, it dropped further, albeit by only 1pp. Fortunately for her, she benefited above all from the strong 1990s – the stock market flourished, and the current yield was (still) high, averaging around 6.4% per annum. In addition, her disposable income grew well above average right at the beginning of her wealth accumulation – it increased by almost 3.2% per year in the 1980s; for Sabine's entire savings phase, the average stood "only" at 2.7%.

Figure 10: Baby Boomer Sabine: Total savings as % of disposable income and nominal return, average in %

Sources: Deutsche Bundesbank, Destatis, LSEG Datastream, Allianz Research.

What's in store for the following generations?

All savers of the following generations are still in the phase of building up assets or have just started, like Maximilian from Gen Z. To calculate Michael's (Gen X) and Stefanie's (Millennials) portfolio performance, we can use hard figures for at least 30 and 20 years, respectively. In our base case, we make the following assumptions for the period from 2024 to 2063:

- Average annual yields on 10y German government bonds amount to around 2%.
- With regard to disposable income (per capita), we assume that the average annual growth rate of 2.7% since German reunification will continue from 2024 onwards.
- According to our calculations as mentioned above, private households in Germany achieved an average nominal return on listed shares of 8.3% in the period from 1980 to 2023, while the average annual current yield on German government bonds amounted to 4.4%. Therefore, the so-called risk premium, i.e. the rate of return one can expect to earn from riskier assets like stocks, instead of investing in risk-free assets like government bonds, amounted to 3.9pps¹¹. We extrapolate this long-term average for all future years. This results in an average annual return on shares of 5.9% until 2063.
- We expect an average inflation rate of around 2%.

- Average savings rates and the savers' risk appetite remain stable as mentioned above.

In order to compare the (relative) investment performance between generations, we again look at both the ratio of total savings to disposable income in the last year of the savings phase and the total nominal return achieved. Above all, the former is of particular interest to savers: how many years can I live on my savings after retirement?

Based on the assumptions mentioned above, none of the following generations is able to keep up with the performance of Baby Boomer Sabine (Figure 11). The worst performer is Michael, a child of Gen X: after 40 years of saving, his assets sum up to around 417% of his last disposable income – almost 200pps less than in Sabine's case; the nominal return on his assets averages 3.8% per year over the entire period, 2.2pps below Sabine's. Average inflation amounts to just under 2%. His wealth accumulation only started in the mid-1990s, when incomes began to grow much more slowly. Fortunately for him, high returns (still) counteracted this trend, otherwise he would be in a much worse position.

Stefanie, a Millennial, had a doubly difficult start. Her average disposable income grew at a disappointing 1.8% per annum over the first decade of her savings phase. This was compounded by the weak equity performance due to the GFC. With the beginning of the second decade, she slipped into the phase of low or zero interest rates. Thanks to the rise in equity returns, she managed to achieve an average nominal return of 3.1% after 20 years of saving.

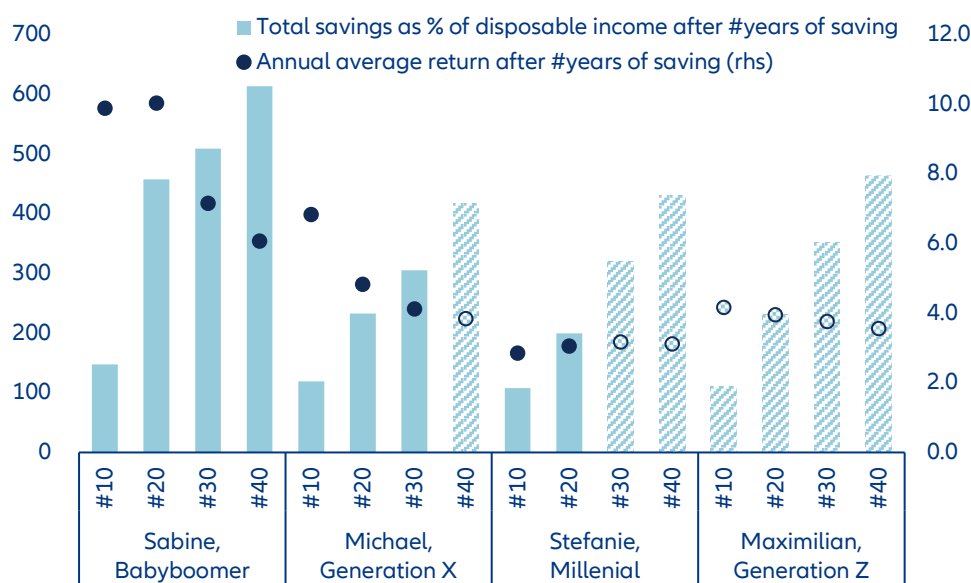
¹¹ Over the last 10 years, however, the risk premium amounted to even 5.6%.

Measured in terms of her disposable income in 2043, she reaches 431% at the end of her savings phase, which puts her well below the Baby Boomers (-183pps) but slightly above the Gen X (+14pps). She ultimately achieves a total nominal return of 3.1% against 2.1% of average annual inflation.

Maximilian, a member of Gen Z, achieves total savings of 464% of his disposable income in 2063. This result is better than Michael's (+47pps) and Stefanie's (+33pps), but significantly worse than Sabine's (-150pps). In terms

of average total return, at 3.6% per year Maximilian ends up between Michael (3.8%) and Stefanie (3.1%), but also well below Sabine (6.1%). Average annual inflation rate amounts to 2%. The fact that the savings-to-income ratio is higher for both Stefanie and Maximilian than for Michael is primarily due to the fact that their incomes are growing (slightly) faster than Michael's over the entire savings phase. In other words: they can afford a lower return in order to achieve the same outcome.

Figure 11: Total savings as % of disposable income and nominal return, average in %



Sources: Deutsche Bundesbank, Destatis, LSEG Datastream, Allianz Research.

The die is not yet cast

All three example savers, Michael, Stefanie and Maximilian, are still in the process of building up their assets, and, to a certain extent, savers are able to maximize their life savings. On the one hand, they can increase their savings effort, i.e. their annual savings rate, and on the other hand, they can invest a larger proportion of their assets in riskier but higher-yielding asset classes. Of course, macroeconomic factors such as the interest rate environment or the level of the risk premium are beyond

their control. Nor can they fully determine the level or growth of their income.

We look at four different scenarios to see how they can adapt their savings behaviour and react to changing framework conditions. The aim is to achieve the savings-to-income ratio of our Baby Boomer Sabine at the end of the savings period.

Scenario #1: Higher savings efforts

- Underlying assumptions unchanged
- Savers adjust their savings rate

Scenario #2: Higher risk appetite

- Underlying assumptions unchanged
- Savers adjust their risk profile towards riskier assets and their savings rate

Scenario #3: Green and AI boost

- 10y German government bond yields increase to 2.2% on average per year
- The risk premium increases to 6.0%
- Average annual growth of disposable income per capita increases by +0.3pp
- Savers adjust their savings rate

Scenario #4: Permanent poly crisis

- 10y German government bond yields decrease to 1.6% on average per year
- The risk premium shrinks to 2.0%
- Average annual growth of disposable income per capita decreases by -0.3pp
- Savers adjust their savings rate

Results**Scenario #1: Higher savings efforts**

Michael, who already has three decades of savings behind him, has to increase his savings rate to 28.9% over his last decade of wealth accumulation in order to reach the same savings-to-income ratio as Sabine (Table 1). However, such a high level is rather unrealistic, at least for the broad mass of savers. Stefanie, who still has two decades of wealth accumulation ahead, needs to increase her annual savings rate to an average of 18.6% to keep up with Sabine. Maximilian, our Gen Z saver who has only just started saving, still has the greatest flexibility of all. He can spread the necessary higher savings efforts over four decades, so that on average he has to put away 13.3% of his disposable income – by German standards, this is quite

a comfortable rate. As the economic framework conditions and the portfolio structure remain stable in this scenario, there are no changes in the nominal returns achieved for all generations.

Scenario #2: Higher risk appetite

Savers additionally have the opportunity to adjust their risk profile in this scenario. As a restriction, however, we assume that (like in our base case) a maximum of 30% of assets are invested in equities over the last decade of asset accumulation. For Michael, who has already started the last decade of saving, nothing will change – his equity ratio is 30% anyway. The only adjustment he can make is, as in scenario #1, to increase his savings rate to 28.9%. His total return therefore corresponds to that of scenario #1. Stefanie could, for example, keep the proportion she invests in shares constant at 50% in decade three instead of reducing it to 40%. This asset shift gives her more room to manoeuvre in terms of her savings ratio: with a rate of 18.1%, she has to save half a percentage point less of her disposable income than in scenario #1. In addition, her nominal total return increases by 10bps compared to scenario #1. For Maximilian, for example, it is conceivable to increase the share of equities to 80% (instead of 60%) at the beginning of the wealth accumulation and reduce it to 65%, 50% and 30% in the following decades. This riskier investment strategy reduces the necessary average savings rate by 0.8pp¹² compared to scenario #1, namely to 12.4%. Moreover, he can look forward to a 44bps higher total return.

Scenario #3: Green and AI boost

While maintaining the risk appetite as in our base case, Michael does not have to save 28.9% of his annual disposable income anymore, like in scenario #1, but “only” 26.2%. At the same time his total return increases by 23bps. Stefanie has to increase her average savings rate to 16.1% for the rest of her savings phase – 2.5pps less compared to scenario #1. Her total return is 49bps higher than in scenario #1. In this optimistic scenario, the savings efforts Maximilian has to make is no longer dramatically higher than in Sabine’s case: his savings rate has to rise to 11.3% – “only” 1.3pps higher than Sabine’s and even 2pps lower than in scenario #1. Under these circumstances, his total return increases by a whopping 116bps.

¹² Differences due to rounding.

Scenario #4: Permanent poly crisis

This worst-case scenario results in a dramatic increase in the savings rates. Michael has to more than triple his savings rate to 32.6%, while his total return shrinks by 29bps. For Stefanie, this scenario means that her average savings rate more than doubles to 21.5%. By contrast, her total return falls by as much as 55bps. Even Maximilian has to put away 15.4% of his disposable income per year, a good 50% more than Sabine. In this scenario, his total return shrinks by no less than 120bps compared with scenario #1.

Table 1: Keeping up with the Baby Boomers – change in...

	#1	#2	#3	#4
...average annual savings rate (in pps) over the base case...	Higher savings efforts	Higher risk appetite	Green and AI boost	Permanent poly crisis
Michael, Gen X	+18.9	+18.9	+16.2	+22.6
Stefanie, Millennial	+8.6	+8.1	+6.1	+11.5
Maximilian, Gen Z	+3.3	+2.4	+1.3	+5.4
...and achieved total nominal return (in bps) over the base case				
Michael, Gen X	--	--	+23	-29
Stefanie, Millennial	--	+10	+49	-55
Maximilian, Gen Z	--	+44	+116	-120

Sources: Deutsche Bundesbank, Destatis, LSEG Datastream, Allianz Research.



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