DYNAMIC CREDIT

January, 2023

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Dutch Housing Market Update 2022-Q4

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Dynamic Credit originates and manages tailored portfolios of Dutch residential and consumer BTL mortgage loans for institutional investors in an easy, cost-efficient and transparent way. As always, we welcome the opportunity to discuss the housing market or investing in Dutch mortgages.

"The mortgage market was significantly impacted by rising inflation, monetary tightening and an energy crisis in 2022. As interest rates rose, refinancing activity decreased and borrower demand shifted towards shorter fixed rate periods. Despite high inflation and energy costs, mortgage arrears remained at record-low levels due to a tight labor market and generous government support for higher energy prices. House prices decreased in the second half of the year as they started to adjust to the higher interest rate environment. In 2023, we can expect to see a decrease in new construction and house prices, but strong credit performance is expected to remain strong due to further government support to compensate high energy prices, a tight labor market and a growth of purchasing power. "

Jasper Koops,
Head of Portfolio Management

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1. Retrospective

Rising interest rates: A retrospective look at 2022 and a forecast for 2023

As we look back at 2022, it was a year marked by rising inflation, monetary tightening, an energy crisis, and the start of a full-scale war in Ukraine. These developments not only impacted the overall economy, but also had a significant effect on the housing market. In this article we will take a closer look at how the mortgage market was affected by these events, and what we can expect in 2023.

One of the major factors that affected the mortgage market in 2022 was the steep increase in mortgage rates. At the start of the year, the lowest 10-year NHG mortgage rates were at 0.92%, but it peaked at 4.38% in October and ended the year at 3.93%. This sharp increase resulted in a decrease in refinancing activity, as borrowers could no longer financially benefit from lower rates.

Another impact of the higher interest rates was a shift in borrower demand towards shorter fixed rate periods. In 2021-Q4, the market share of new mortgages with a fixed rate period between floating and 10-year fixed was 37%, but it increased to 69% in 2022 Q4 due to the high interest rates.

Despite the high inflation, including steeply increased energy costs, mortgage arrears levels remained at record-low levels in 2022. This was supported by an extremely tight labor market and generous support measures from the government to reduce the impact of high energy prices. Additionally, as Dutch homeowners traditionally fixed their rates for at least 10 years, borrowers that have been faced with an interest rate reset have reset to a similar rate as they already had. For 2023 the Dutch institute for household finances (NIBUD) estimates a growth in purchasing power for most household types, ranging between 1.10% and 3.60% for two earners with one child, where the lower incomes show the highest purchasing power growth, partially offsetting the decline in 2022.

House prices also started to decrease as they are adjusting to the new interest rate environment and affordability came under pressure. Lower mortgage rates had pushed up house prices in the past year, but in the Netherlands, this was not driven by an increase in mortgage debt. The mortgage debt as a percentage of GDP decreased from 106% in 2012 to 89% in 2022-Q2, as a consequence of tighter borrowing limits post GFC.

However, the economics of new construction has deteriorated significantly in 2022. Margins are under pressure due to increasing interest rates and costs of materials and labor. To keep new construction attractive another important cost factor, the cost for land, needs to decline. Major landowners like municipalities, however, tend to be reluctant to sell for lower prices and are able to wait. This will shrink or evaporate profit margins causing levels of new construction to decline.

As we look forward to 2023, it remains to be seen how these factors will continue to impact the housing market. We can expect to see a decrease in new construction and house prices, as well as a slowdown in total mortgage volumes. However, with generous support measures from the government and an extremely tight labor market and a partial recovery of purchasing power, the credit performance of the housing market is expected to remain strong.

2. Dutch Housing Market Update

Consumer confidence

As per usual we examine various indicators that tell more about the current state of consumer confidence in the Netherlands. In this section, the Vereniging Eigen Huis indicator ("VEH"), CBS consumer confidence and CBS consumer consumption indices are discussed.

First of all, the consumer confidence indicator from VEH[1] is based on a questionnaire focused primarily on the housing market, but also includes topics such as the interest rate environment and consumer price developments. Different components such as buying environment, expected mortgage interest rates and price expectations individually contribute to the index total. The VEH market indicator can take values ranging from 0 to 200, with 100 indicating a neutral value. Higher values indicate positive consumer sentiment and lower values indicate the contrary.

Figure 1 below shows the history of the VEH market indicator. The indicator has been declining since its peak value of 121 in 2016-Q3. Consumer confidence towards the housing market declined throughout the first three quarters of 2022 and took an additional substantial dive in the last quarter. In 2022-Q4, the index dropped by a value of 10, starting off from 83 declining to 73 in December which is the largest quarterly decrease since inception of the confidence index in 2004. The numbers themselves only say something about the relative level of consumer confidence and the direction in which it's developing over time.

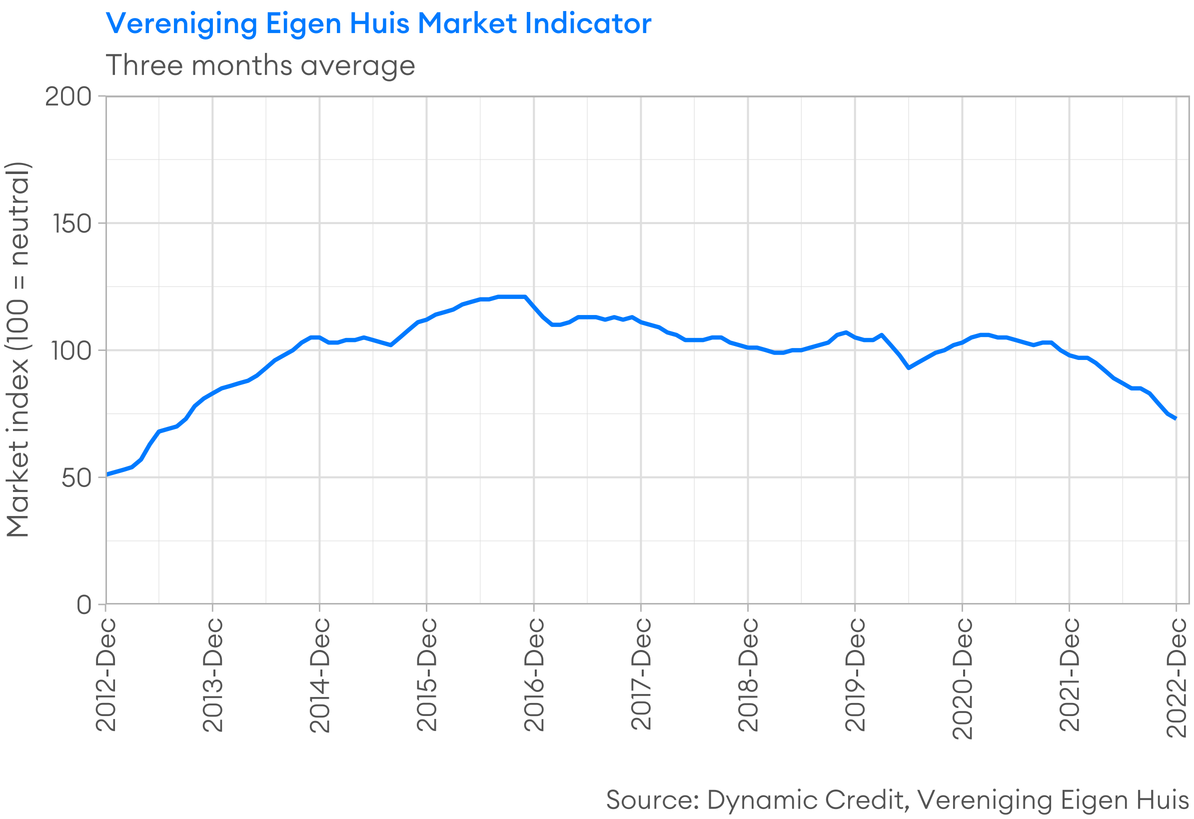


Figure 1: Vereniging Eigen Huis Market Indicator as of December 2022.

1 VEH - Eigen Huis Marktindicator

Statistics Netherlands ("CBS") tracks consumer confidence based on the views and expectations of consumers on topics such as the general economic environment, personal financial situation and willingness to buy in the Netherlands. The indicator is measured as percentage points of negative or positive answering options and can reach values between 100 and −100 where a value of 0 indicates an equal amount of positive and negative responses.

The consumer confidence index of the CBS reached record low levels during 2022. Figure 2 shows the historical series of the index, which currently seems to have bottomed out in October 2022. Whilst still at historically low levels, consumer confidence slightly increased as of December 2022 from −52 to -49. This is far below the long-term average of −9. More interesting are the underlying factors to these changes. According to the CBS[1], in January consumers are less pessimistic about the economic climate in the next twelve months relative to consumer expectations of December. In addition, willingness to buy also slightly improved compared to December. Other factors like the economic situation of the past 12 months and whether now is perceived to be a good time to buy durable consumer goods are still at very low levels of −84 and −60 respectively.

In the VEH market indicator 2022-Q4 report, the underlying factors are examined. According to the report, the expected house prices and interest rate developments are the primary cause for the sharp decrease in consumer housing market confidence. Developments in housing prices were previously perceived as favorable, this sentiment has turned. Other factors remained relatively stable but impacted the total metric negatively, like the share of consumers that perceive the current housing market 'unfavorable'.

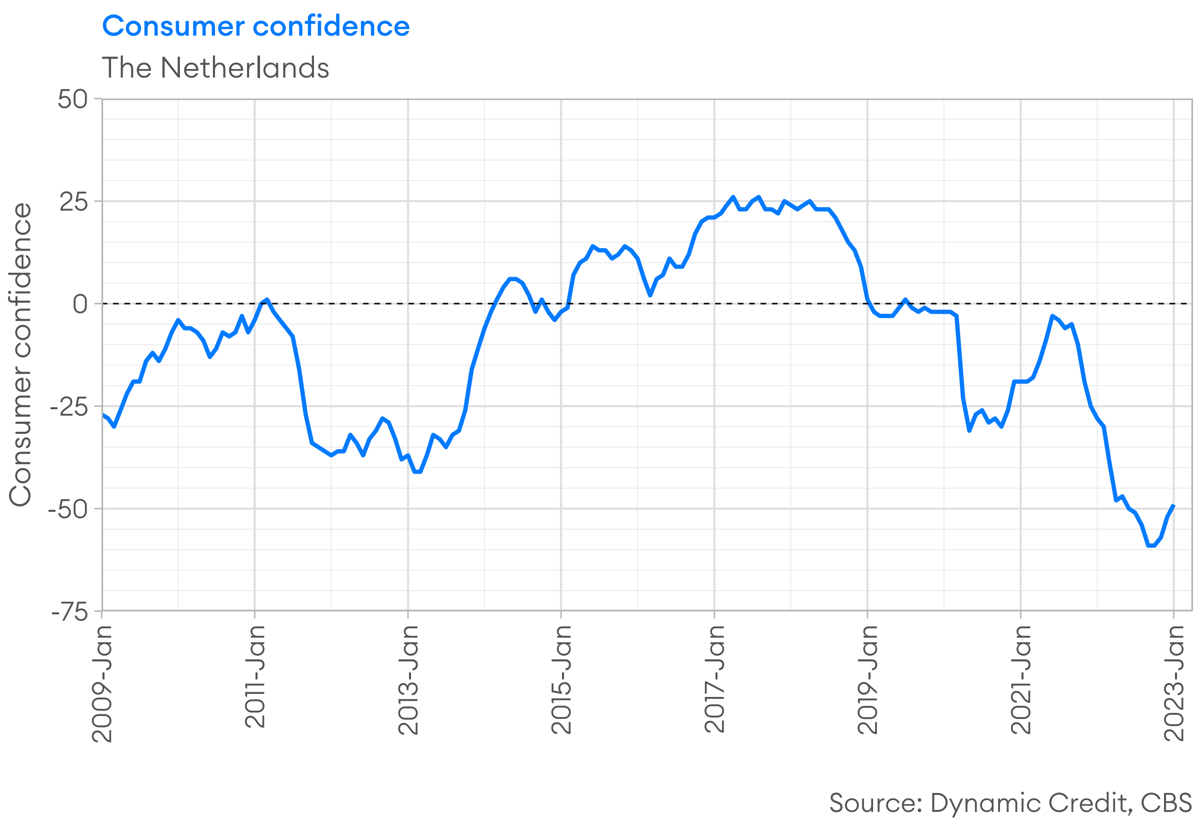


Figure 2: CBS total consumer confidence in the Netherlands as of January 2022.

1 [CBS - Consumers again less gloomy]

When examining consumer confidence, it's important to consider whether the pessimism has materialized in the economy. Over the course of 2022, a steep increase in consumer consumption adjusted for price changes is observed, which can be found in Figure 3 below. In the last quarter of 2022 consumers again spent 2.70% more YoY. In addition, consumers spent relatively more on services compared to what was spent on goods. According to the CBS, circumstances for Dutch consumers have improved since December based on the factors as tracked in their consumer consumption radar[1]. Primarily, employed labor force and expected financial consumer conditions have improved. Lastly, CBS does state that even though household consumption is strongly correlated with the CBS consumption radar factors, an improvement in the circumstances doesn't necessarily result in increased consumer spending.

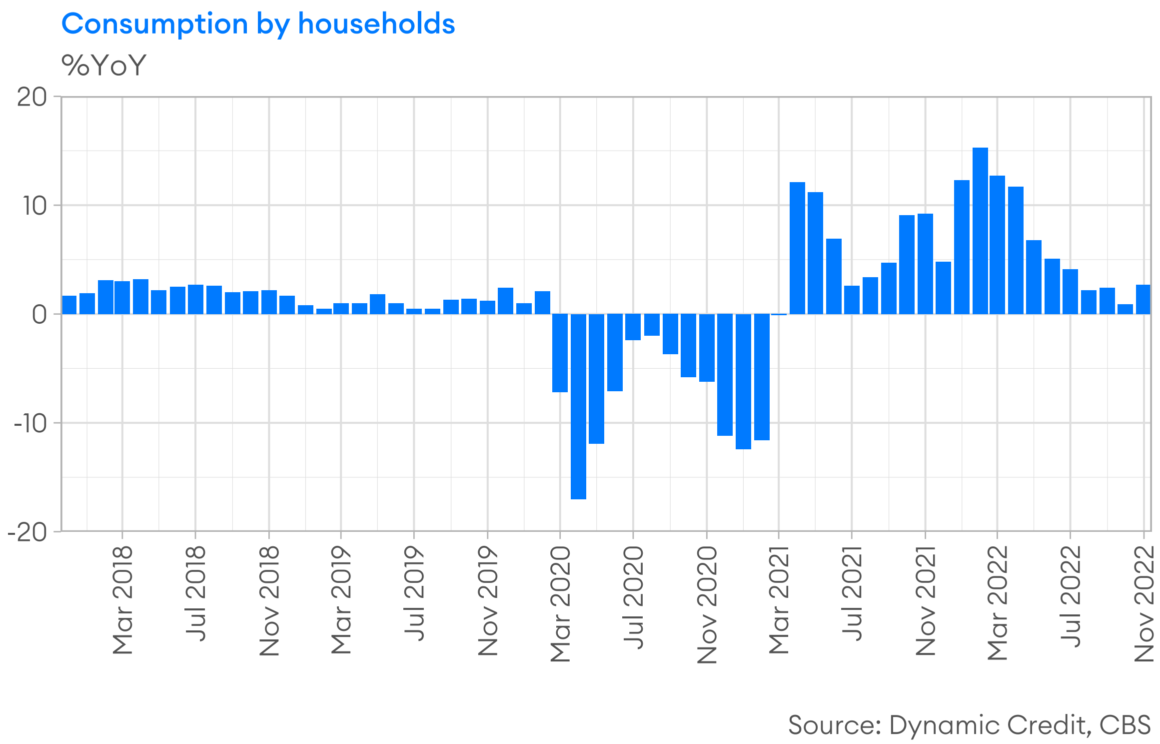


Figure 3: Percentual YoY domestic household consumption in the Netherlands adjusted for price changes up until November 2022.

1 CBS - Household consumption radar

Offer volumes

In its 2022 overview[1], Hypotheken Data Netwerk ("HDN", a provider of infrastructure for mortgage loan requests) reported a total of about 521,000 mortgage offers requests, this is about a 7.30% decrease compared to 2021. The average size was about EUR 250,000 in 2022, a YoY decrease of roughly 5.10%. In total, about 257,000 offers were received for purchases, a decrease of 3.20% YoY, and the average size was EUR 344,000. The number of requests for refinances totaled roughly 264,000. Especially during the first half of 2022, the refinancing segment increased substantially due to steep increase in mortgage rates. In the second half of 2022 almost no requests for refinances were made due to the lack of a financial incentive.

House prices and property sales

CBS reports on house price developments in the Netherlands through the House Price Index ("HPI"). This proxy for house prices of existing domestic dwellings is reported on a monthly basis. For the first time since 2013, we observe a QoQ decrease of –2.40% as of 2022-Q4 as CBS reported a 5th consecutive monthly decrease in housing prices of –2.30% for December 2022. Whilst substantial, when examining the aforementioned decreases one should consider the rally in housing prices of the past decade. Despite this downwards trend, YoY we still observe an increase of 5.10% in HPI over the year 2022.

Moreover, the number of properties transferred in 2022-Q4 was just above 51,000, an increase of 1.80% QoQ and a decrease of 2.80% YoY. With 2022 now having ended, the total number of properties transferred was around 193,000. This is 14.60% less compared to the properties transferred in 2022, which totaled a little over 226,000. Please consider Figure 4 for HPI and property sales developments through time. In addition, Figure 5 contains the real housing prices developments in the Netherlands adjusted for inflation.

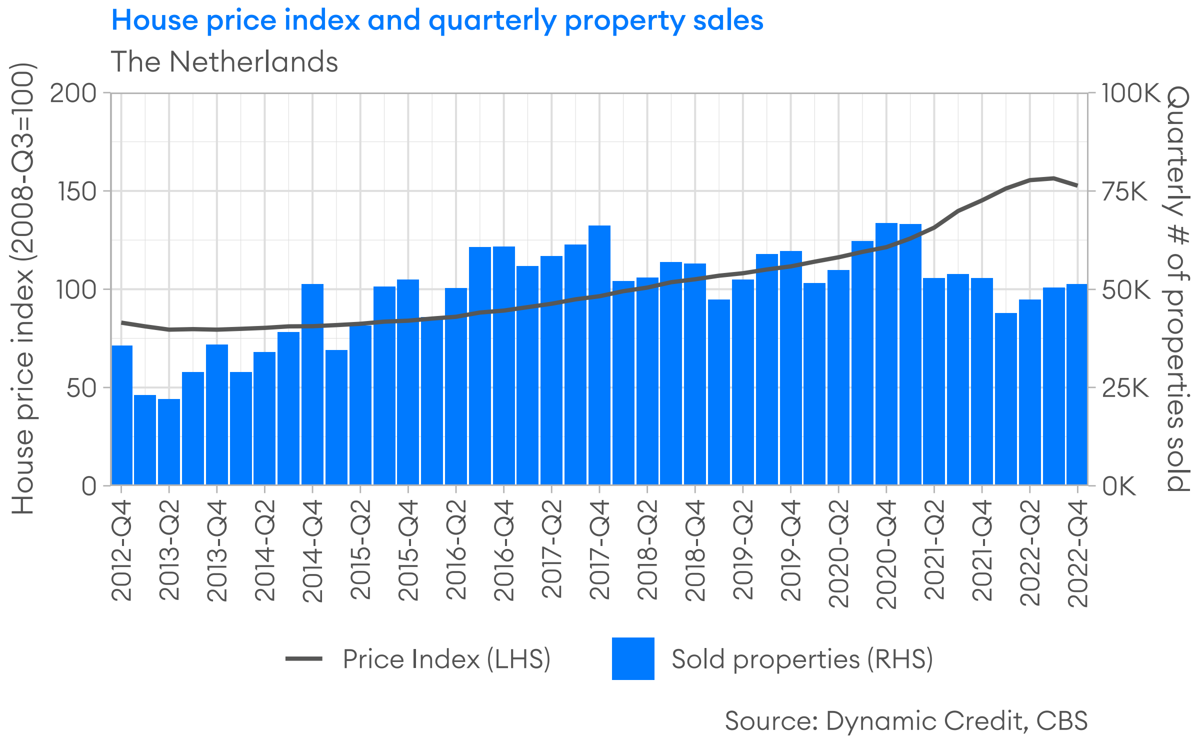


Figure 4: House Price Index of the Netherlands ("HPI") (2008-Q3 = 100) and monthly property sales. HPI until December 2022. Source: CBS, Dynamic Credit.

1 HDN - Jaaroverzicht 2022

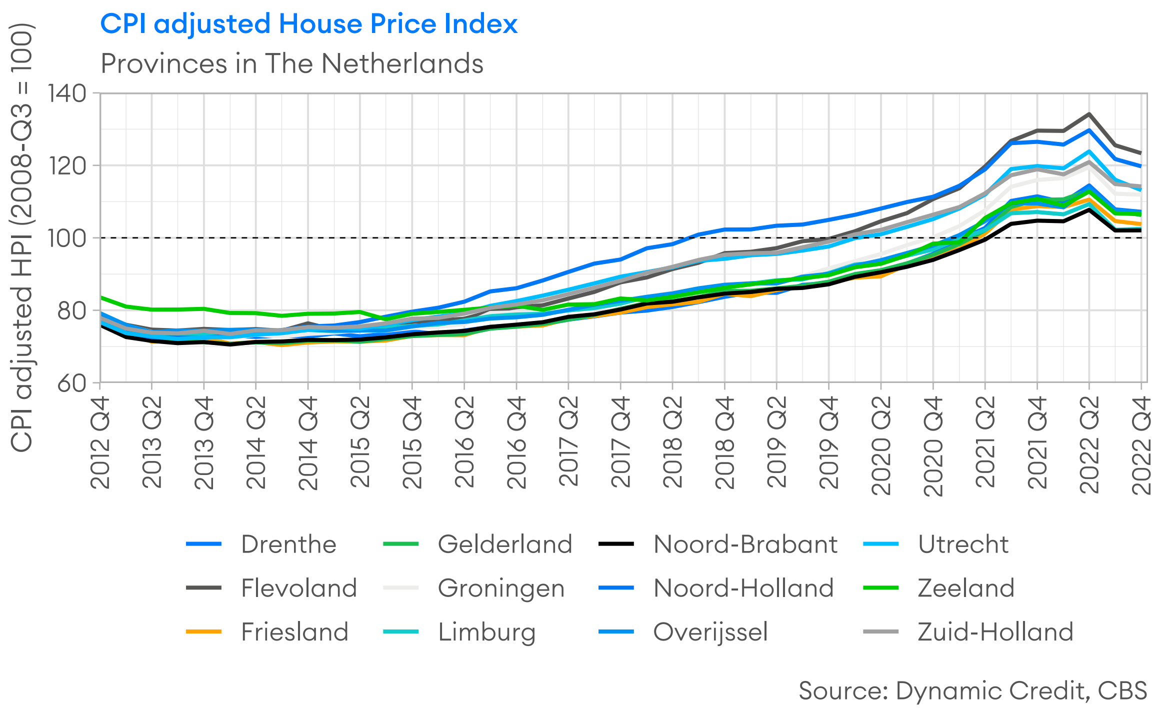


Figure 5: CPI Adjusted House price index per province in the Netherlands (2008-Q3=100). The data is indexed as of 2008-Q3 because this marks the pre-crisis high for the unadjusted House Price Index.

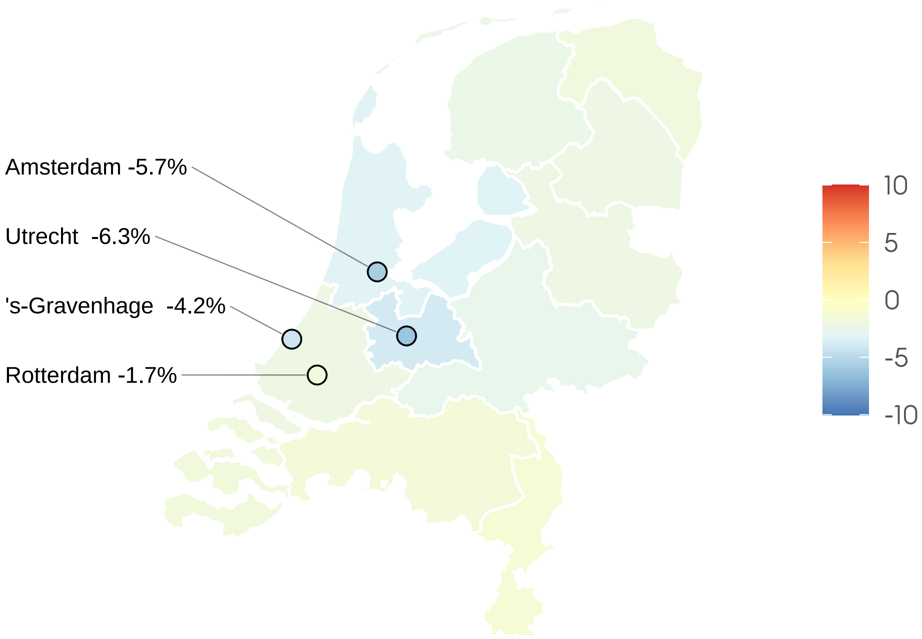
Also, on a province level prices decreased in 2022-Q4 compared to 2022-Q3. The largest YoY increase has been realized in Overijssel, which saw housing prices increase by 7% YoY. The smallest increase occurred in the province of Utrecht, where HPI increased by 3.50% YoY. The number of transactions in Rotterdam decreased 19.70% YoY whilst Gelderland saw the number of properties sold increase by 5.70% YoY.

When looking at municipalities, we see substantial decreases. Over the final quarter of 2022, prices in the municipalities of Amsterdam and Utrecht decreased by 5.70% and 6.30% respectively. The municipality of Utrecht is the only area of those being tracked where a YoY decrease is observed in the fourth quarter, this being a decrease of 1.30%. Table 1 displayed below contains developments of housing prices and property sales for other Dutch provinces and municipalities as of 2022-Q4.

Area	Type	HPI (2008-Q3=100)	YoY Price %	QoQ Price %	Properties Sold in Quarter	QoQ Properties Sold %	YoY Properties Sold %
Nederland	Country	152.7	5.1	-2.4	51345	1.8	-2.8
Amsterdam	Municipality	183.2	1.2	-5.7	2695	1.9	4.3
's-Gravenhage	Municipality	169.2	2.5	-4.2	1597	6.5	-12.1
Rotterdam	Municipality	188.6	4.1	-1.7	1550	-1.9	-19.7
Utrecht	Municipality	182.8	-1.3	-6.3	1157	-3.6	5.1
Groningen	Province	154.9	5.8	-1.8	1824	10.9	0.6
Friesland	Province	143.6	4.6	-2.3	1841	1.2	-4.8
Drenthe	Province	148.3	5.4	-2.1	1519	2.0	-5.1
Overijssel	Province	148.0	7.0	-2.1	3221	1.4	-2.7
Flevoland	Province	170.7	4.3	-3.3	1436	-5.5	-7.5
Gelderland	Province	147.1	5.5	-2.6	6059	5.8	5.7
Utrecht	Province	156.6	3.5	-3.9	4073	-1.0	0.7
Noord-Holland	Province	165.7	3.7	-3.2	8588	0.3	0.9
Zuid-Holland	Province	158.0	5.2	-2.1	10611	1.5	-8.9
Zeeland	Province	147.4	5.5	-1.7	1375	4.1	-1.2
Noord-Brabant	Province	141.3	6.8	-1.5	7532	1.7	-5.1
Limburg	Province	141.8	4.9	-1.2	3266	1.4	-1.6

Table 1: House prices and number of property sales changes in Dutch provinces and major municipalities 2022-Q4 Source: CBS, Dynamic Credit.

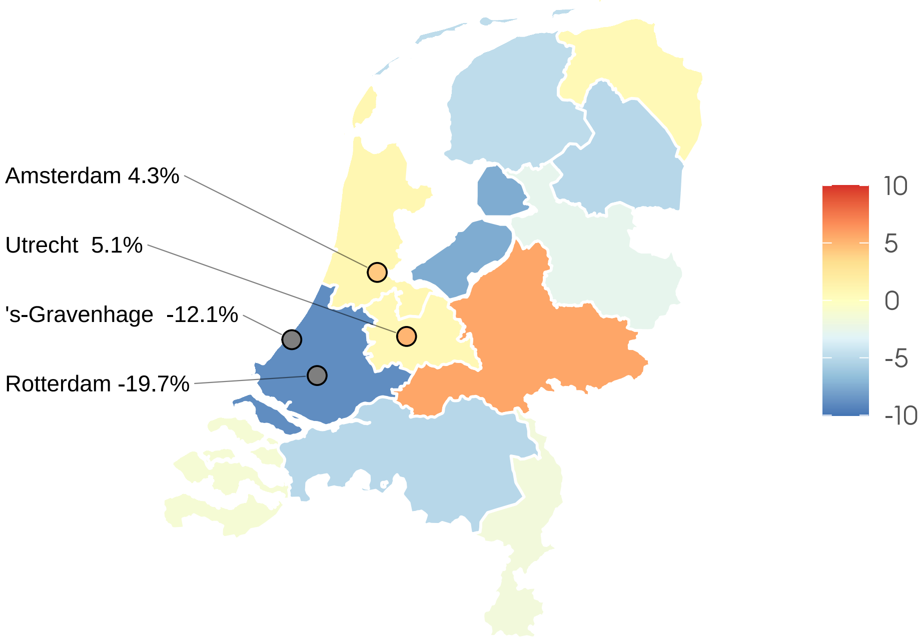
House Price Index QoQ change



Source: Dynamic Credit, CBS (2022 Q4)

Figure 6: Dutch House Price Index QoQ change in percentages. 2022-Q4.

Number of sold properties YoY change



Source: Dynamic Credit, CBS (2022 Q4)

Figure 7: Sold properties YoY change in percentages. 2022-Q4.

Building permits

CBS reports the number of issued building permits on a monthly basis[1]. In 2022-Q3 the number of issued building permits totalled roughly 15,000. This translates into a decrease of 3% with respect to 2021-Q3. However, the revenue in the building sector increased by 9,40% YoY. According to CBS, the amount of issued building permits is an important indicator for the amount of newly built homes in the near future. For every quarter so far in 2022, the total amount of issued building permits per quarter was lower than the same period a year earlier.

According to ABN AMRO these decreases in issued building permits suggest that the supply of realized newly built homes will not be able to meet the demand[2]. This will result in a deterioration of the mobility on the housing market, as in 2020 roughly 60,000 existing homes were freed up by residents moving to newly built homes. According to CBS[3], 50% of the inhabitants of newly-built homes leave existing homes behind, which makes the number of realized newly built homes an important factor for mobility on the housing market. DNB[4] expects investments in newly built homes to decrease by 5.10% and 3,70% in 2023 and 2024 respectively. The reason for this are the rising buildings costs, the declining number of issued building permits, carbon restrictions and uncertainty on the housing market.

Figure 8 below shows the total amount of issued building permits per months and the percentual change in issued building permits with respect to the same period a year earlier.

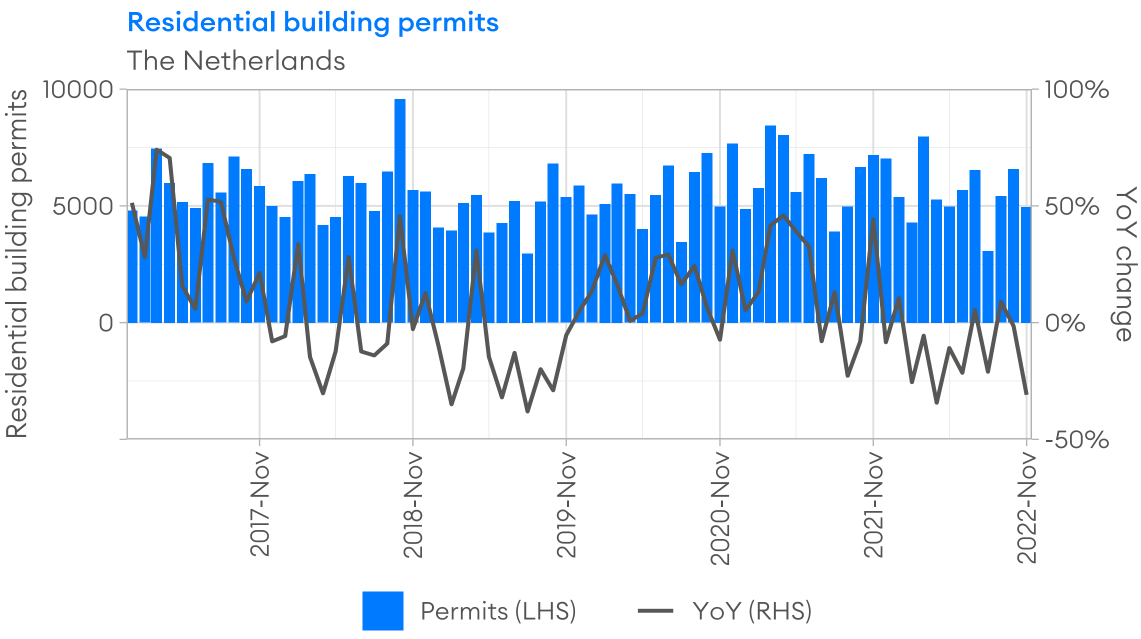


Figure 8: Number of issued building permits as of November 2022 and the percentual YoY change in the number of issued building permits excluding transformations i.e., repurposing office spaces to residential homes. Source: CBS, Dynamic Credit.

1 [CBS - Aantal vergunde nieuwbouwwoningen 3 procent lager in derde kwartaal]
2 [ABN AMRO - Woningmarktmonitor - Scherpe prijscorrectie door hogere hypotheekrente]
3 [CBS - Bijna helft bewoonde nieuwbouw zorgt voor doorstroom op woningmarkt]
4 [DNB - Economische Ontwikkelingen en Vooruitzichten DNB - december 2022]

Expected house property sales developments

Over the past editions of this quarterly report, we have gone over multiple iterations of housing market updates of prominent market participants in the Netherlands. Now that 2022 has ended it is interesting to review how the forecasts of said participants compare to what has been realized. When examining the forecasts published during 2022-Q4, housing prices are expected to decrease by −3.40% and −1.60% over 2023 and 2024 respectively on average. Figure 9 displayed below is a visual representation of forecasts for up until 2024. Next paragraphs contain a detailed description of several included forecasts.

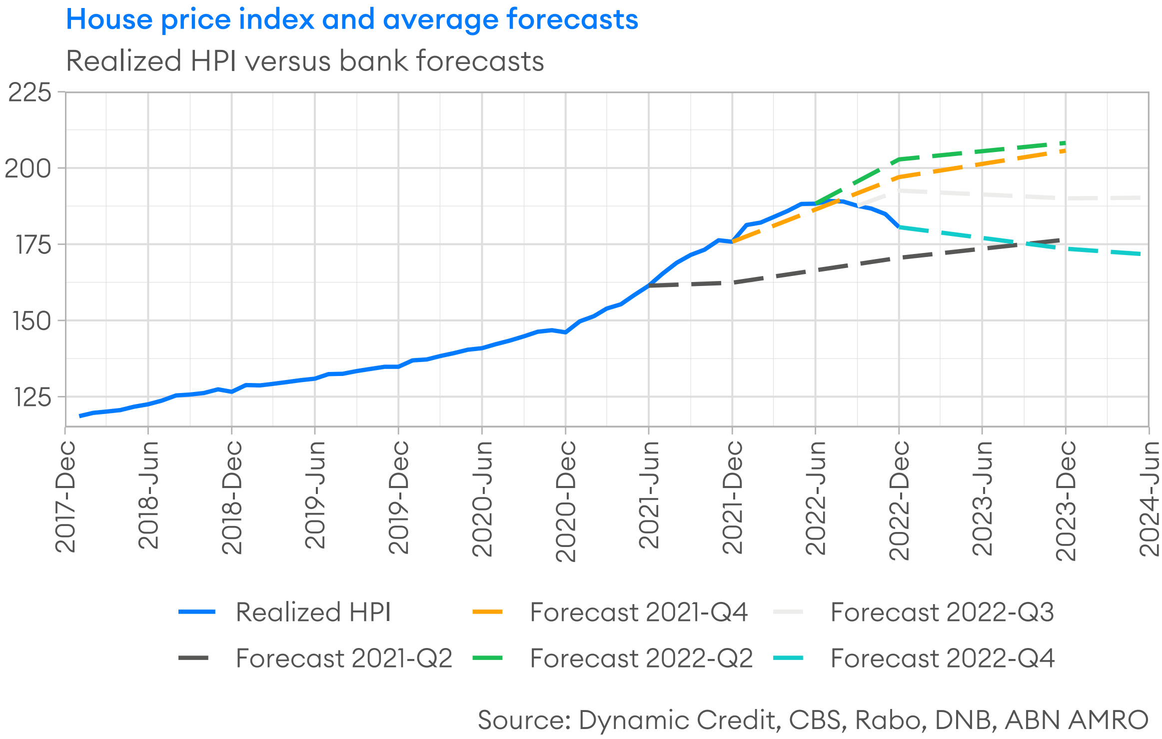


Figure 9: Realized house price index and average house price forecasts made at different points in time. Source: Dynamic Credit, CBS, Rabobank, DNB, ABN AMRO, ING, Fitch.

Beginning with De Nederlandsche Bank ("DNB"), which recently published their economic outlook[1], they predict a drop in housing prices of 3.10% and 3.30% in 2023 and 2024 respectively. According to DNB, the primary factor for the decline in housing prices are interest rate developments. Also, high economic uncertainty will negatively impact the housing market in the time to come. Stronger than expected interest rate increases negatively affected housing affordability, which translates to downwards pressure on housing prices. However, in their forecast they do not expect that interest rate developments will further deteriorate affordability due to strong forecasted growth in household income. Lastly, DNB expects investments in new housing projects to decline due to the downwards trend in housing prices, the low number of property sales and a decreasing number of building permits.

1 DNB - Economische Ontwikkelingen en Vooruitzichten DNB - december 2022

Moreover, Rabobank has published their housing market update in December with a revised outlook[1]. They forecast a decrease in housing prices of 3% and 1.50% for 2023 and 2024 respectively. According to Rabobank, the decrease in housing prices is mostly due to depressed demand for owner-occupied homes caused by interest rate developments deteriorating borrowing purchasing power. In addition, a weakening economy and an expected increase in unemployment are also mentioned as factors contributing to the forecasted decline in housing prices. The pace of decreases in housing prices largely depends on the pace of interest rate increases on the capital market, as they state that a higher pace might result in the forecast becoming outdated. Rabobank expects a limited decline in property sales. Due to strong increases in housing prices over the past decade and a substantial part of mortgages being amortized, sellers can be more flexible in their asking price as they now have sizeable home equity.

Furthermore, ABN AMRO updated their 'Woningmarktmonitor' housing market research piece which contains a detailed substantiation of their forecasts for the coming years[2]. ABN AMRO expects Dutch housing prices to decline by –6% and –4% in 2023 and 2024 respectively. The forecasted housing price decline by ABN AMRO for 2023 in the previous edition was a substantially milder –2.50%. This adjustment is based on the higher-than-expected increase in mortgage rates, which puts negative pressure on housing prices due to a deterioration of mortgage affordability. In addition to a decrease in housing prices ABN AMRO also expects a larger than previously expected decline in property sales for 2023, adjusting the forecast from –1% to –5%. In 2024 they forecast growth in property sales to pick up by 2.50% due to an increase in demand as a result of decreased housing prices. However, ABN AMRO does expect two factors to somewhat mitigate the expected decline in housing prices. Firstly, because of 'hypotheekrenteaftrek' the government will indirectly alleviate the financial strain caused by the increase in mortgage interest rates. Secondly, a tight labor market which provides households with a sense of security with regards to job security.

Finally, Fitch dedicated a section of their global housing outlook[3] to the Netherlands in which they elaborate on their expectation that housing prices will enter a declining trend. For 2023 housing prices are expected to decrease by 4% to 6%. Because they expect stabilizing rates and an improving macroeconomic environment, housing prices are forecasted to remain flat in 2024 according to Fitch. Moreover, Fitch expects housing stock with lower energy labels to decline more than average due to high energy costs in the Netherlands. However, a severe decline in housing prices is expected to be mitigated due to a persisting housing shortage in the Netherlands. In addition, on average Dutch mortgages are characterized by a relatively low loan-to-value ratio, longer fixed rate periods and small share of interest only repayment types, which is expected to prevent a large number of forced sales. does expect an increase in the number of borrowers experiencing payment difficulties. Currently the level of late-stage arrears is historically low, an increase of 0.20% to 0.40% - 0.60% is to be expected in 2023 only for it to decrease again in 2024. Summarizing, the total amount of arrears in the Netherlands even with aforementioned expected increases is still low in absolute terms. It is to be expected that defaults and forced sales are unlikely to substantially increase in the Netherlands due to high levels of personal savings, a large share of longer fixed-rate periods combined with low loan to value mortgages, a strong labor market and strict mortgage underwriting criteria.

1 Rabobank - Despite falling house prices, housing affordability remains an issue

2 ABN AMRO - Woningmarktmonitor - Scherpe prijscorrectie door hogere hypotheekrente

3 Fitch - Global Housing and Mortgage Outlook 2023

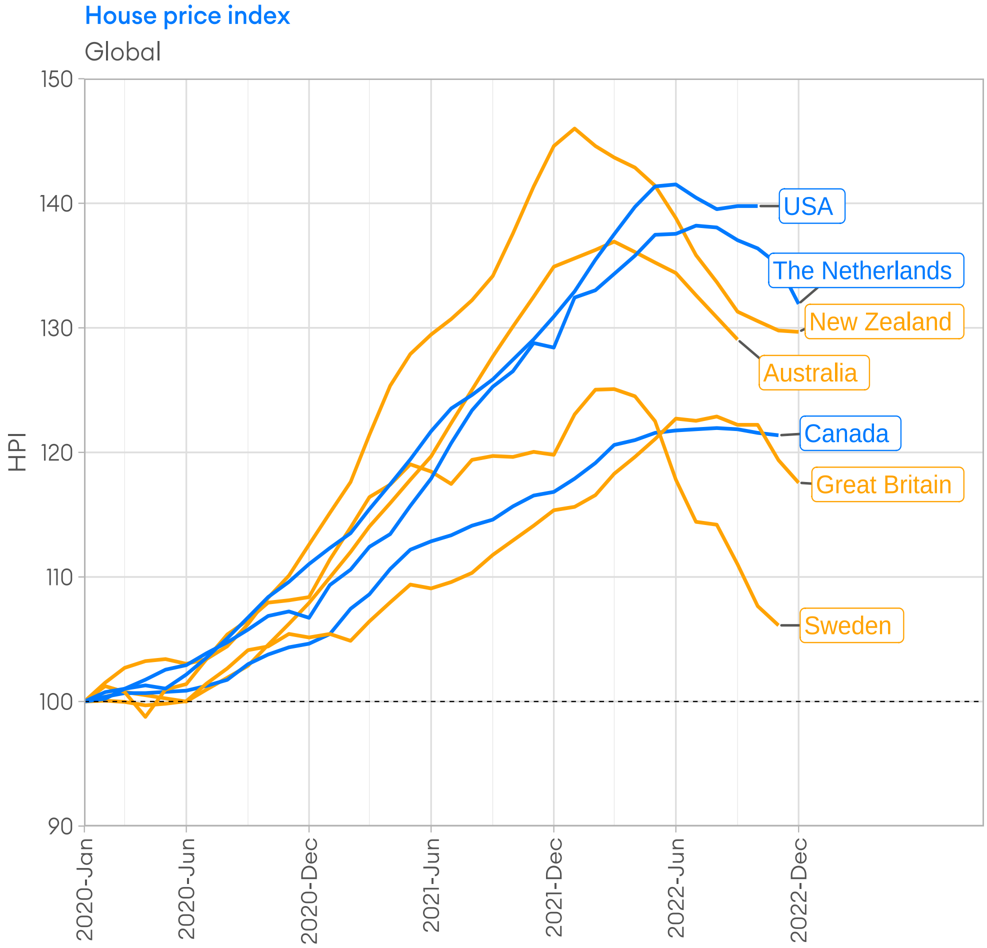
Global Housing Market Development

Rising mortgage rates have already led to substantial house price declines in some developed countries. Sweden has seen house prices fall by as much as 17%[1], while the drop in countries such as Australia and New Zealand is also significant.

Fixed rate periods

Looking at the development of house prices in some developed countries in Figure 10, a distinction can be made based on the most common fixed rate periods for mortgages. We observe that in countries with predominantly longer fixed rate periods, a more limited house price decline is shown so far compared to countries with a relatively large share of short fixed rate period mortgages. For countries with long fixed rate periods (blue lines in the Figure below), the average fall in 2022 was -2.10% from the peak, while the fall for countries with short fixed rate periods (orange lines) was as much as -9.10%.

In countries with shorter fixed rate periods, higher interest rates feed through to households more quickly than in countries where borrowers generally fix their mortgage rates for a longer period. Dominance of short fixed rate periods increases the likelihood of borrowers experiencing or expecting to experience affordability issues due to increasing rates which could lead to more (semi) forced sales at lower prices as a consequence.



Source: Dynamic Credit, ECB, Trading Economics, Quotable Value (QV), Australian Bureau of Statistics, Bloomberg (January 2023)

Figure 10: Indexed housing price developments in developed economies. The blue lines represent countries with longer fixed rate periods (≥10 year), while the orange lines represent countries with shorter fixed rate periods (<10 year). Sources: Dynamic Credit, ECB, Trading Economics, Quotable Value (QV), Australian Bureau of Statistics, Bloomberg, as of January 2023.

1 Bloomberg - Swedish Housing Market Rout Continues as Drop Extends to 17%

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3. Owner-Occupied Mortgages

Mortgage rate developments

From the start, 2022 has been a volatile year for euro swap rates, mortgage rates and spreads. Across all risk classes and fixed rate periods, the average top six most competitive rates increased by 29 bps in 2022-Q4. In addition, mortgage rates increased by an average of 3 percentage points YoY as of 2022-Q4. Short-term interest rates have increased more than long-term interest rates, ultimately leading to an inverted interest rate curve. When examining the average QtD changes, a minor decrease of 5 bps is observed. In the light of previous quarters, this is modest. However, it would be too early to call for mortgage rates having stabilized as this ultimately depends on central bank policy.

The table below contains an overview of the interest rate developments.

Mortgage rate development for average of top 6 mortgage rates								
Fixed rate period	Risk class	2021-12-31	2022-09-30	2022-12-31	2023-01-26	QoQ	YoY	QtD
5-year	NHG	0.75%	3.57%	3.90%	3.86%	0.34%	3.15%	-0.04%
	60% LTMV (non-NHG)	0.88%	3.62%	4.03%	4.01%	0.41%	3.16%	-0.03%
	80% LTMV (non-NHG)	0.96%	3.78%	4.14%	4.12%	0.35%	3.18%	-0.01%
	100% LTMV (non-NHG)	1.25%	4.00%	4.36%	4.35%	0.36%	3.11%	-0.02%
10-year	NHG	0.92%	3.74%	3.93%	3.88%	0.19%	3.02%	-0.05%
	60% LTMV (non-NHG)	1.00%	3.83%	4.09%	4.03%	0.27%	3.10%	-0.06%
	80% LTMV (non-NHG)	1.11%	3.98%	4.20%	4.18%	0.22%	3.09%	-0.02%
	100% LTMV (non-NHG)	1.39%	4.17%	4.40%	4.37%	0.23%	3.01%	-0.03%
20-year	NHG	1.22%	3.92%	4.10%	4.08%	0.18%	2.88%	-0.03%
	60% LTMV (non-NHG)	1.41%	4.06%	4.33%	4.23%	0.27%	2.92%	-0.10%
	80% LTMV (non-NHG)	1.53%	4.20%	4.46%	4.38%	0.25%	2.93%	-0.08%
	100% LTMV (non-NHG)	1.78%	4.39%	4.69%	4.61%	0.30%	2.91%	-0.08%
30-year	NHG	1.41%	3.98%	4.32%	4.26%	0.35%	2.91%	-0.06%
	60% LTMV (non-NHG)	1.63%	4.13%	4.42%	4.34%	0.29%	2.79%	-0.09%
	80% LTMV (non-NHG)	1.73%	4.26%	4.55%	4.47%	0.29%	2.82%	-0.08%
	100% LTMV (non-NHG)	1.98%	4.48%	4.79%	4.68%	0.31%	2.81%	-0.11%

Table 3: Average top-6 mortgage rates (excluding action rates) for mortgage loans with different fixed rate periods for four risk classes. Source: Dynamic Credit, Hypotheekbond. Reference date is 2023-01-26.

Spread developments[1]

As mortgage rates generally lag swap rate developments, spreads widened by an average of 23 bps across all risk classes and fixed rate periods in 2022-Q4 as swap rates remained relatively stable and mortgage rates were catching up. With respect to YoY changes a slight average increase of 5 bps is observed. Spreads decreased by an average of 8 bps for the fixed rate period of five years, longer fixed rate periods increased by an average of 9 bps. However, QtD spreads expanded by an additional 35 bps across all risk classes and fixed rate periods as swap rates declined.

1 The EUSWxV3 swap is used, which uses quarterly resets and the floating leg is 3-month EURIBOR.

For a full overview of the spread developments, see Table 4 as displayed below. In addition, the information in Table 4 should be interpreted as representative gross spread for newly originated Dutch residential mortgage loans over time.

Spread development for average of top 6 mortgage rates								
Fixed rate period	Risk class	2021-12-31	2022-09-30	2022-12-31	2023-01-26	QoQ	YoY	Qtd
5-year	NHG	0.80%	0.59%	0.72%	1.08%	0.13%	-0.08%	0.36%
	60% LTV (non-NHG)	0.92%	0.65%	0.85%	1.23%	0.21%	-0.07%	0.37%
	80% LTV (non-NHG)	1.01%	0.81%	0.96%	1.34%	0.15%	-0.05%	0.39%
	100% LTV (non-NHG)	1.30%	1.03%	1.18%	1.57%	0.16%	-0.12%	0.39%
10-year	NHG	0.75%	0.63%	0.77%	1.16%	0.14%	0.01%	0.39%
	60% LTV (non-NHG)	0.84%	0.71%	0.93%	1.31%	0.22%	0.09%	0.37%
	80% LTV (non-NHG)	0.95%	0.87%	1.03%	1.46%	0.16%	0.09%	0.42%
	100% LTV (non-NHG)	1.23%	1.06%	1.24%	1.65%	0.18%	0.01%	0.41%
20-year	NHG	0.82%	0.72%	0.91%	1.28%	0.19%	0.09%	0.37%
	60% LTV (non-NHG)	1.01%	0.86%	1.14%	1.43%	0.28%	0.12%	0.30%
	80% LTV (non-NHG)	1.13%	1.00%	1.26%	1.58%	0.26%	0.13%	0.32%
	100% LTV (non-NHG)	1.39%	1.19%	1.50%	1.81%	0.31%	0.11%	0.32%
30-year	NHG	0.95%	0.80%	1.15%	1.46%	0.35%	0.20%	0.32%
	60% LTV (non-NHG)	1.17%	0.95%	1.25%	1.54%	0.30%	0.07%	0.29%
	80% LTV (non-NHG)	1.27%	1.07%	1.37%	1.68%	0.30%	0.10%	0.31%
	100% LTV (non-NHG)	1.54%	1.29%	1.61%	1.88%	0.32%	0.07%	0.28%

Table 4: Spread of the average top-6 mortgage rates (excluding action rates) over duration matched swap rates for four risk classes. Source: Dynamic Credit, Hypotheekbond. Reference date is 2023-01-26.

Affordability negatively impacted

Over the past year, soaring inflation has had a major impact on the Dutch housing and mortgage market. Mortgage interest rates have increased by about 3 percentage points in one year, the fastest increase in the last decades. These higher mortgage interest rates together with the long-standing trend of rising house prices, obviously affects affordability for consumers looking to buy a home. To illustrate, with the lending standards of 2022 for a consumer earning EUR 60,000 a year, an increase in mortgage rates from 1.50% to 4.50% causes a decrease in the maximum loan amount of 13%[1] from EUR 300,000 to EUR 262,000. In addition, house prices are higher at the end of 2022 compared to the end of 2021. Due to high inflation and rising interest rates, NIBUD[2] recalibrated the maximum debt-to-income ratios for 2023. The downward adjustment ultimately turned out to be more limited than expected, due to solid purchasing power support from the government. With the debt-to-income ratios for 2023, the maximum loan amount would be only slightly lower (-2%) in the current interest rate environment.

These developments justify an updated publication of our affordability index, which we published in earlier quarterly updates. The affordability index shows the relative affordability of an average house in the Netherlands for a single borrower, falling under a collective labor agreement ("CAO"), with an income in the highest income tax bracket versus the base year (2008). The borrower is assumed to take out a 100% LTV mortgage loan for the purpose of calculating the debt service payments. Affordability is calculated by dividing the income growth index by the debt service payment index. An increase in the index means that income has increased relative to the debt service payments, resulting in more affordable housing.

Impact existing borrowers

House price

- Nominal house price index: The index bottomed out in 2013 after the previous peak in 2008. In 2022 the average index level was 55% higher than in 2008 and 13.60% higher compared to 2021.

Interest rates

- Average interest rate (10 year fixed / 100% LTV): The average interest rate decreased from 5.50% in 2008 to 1.50% in December 2021, yet it increased to 4.50% in December 2022.

Fiscal treatment

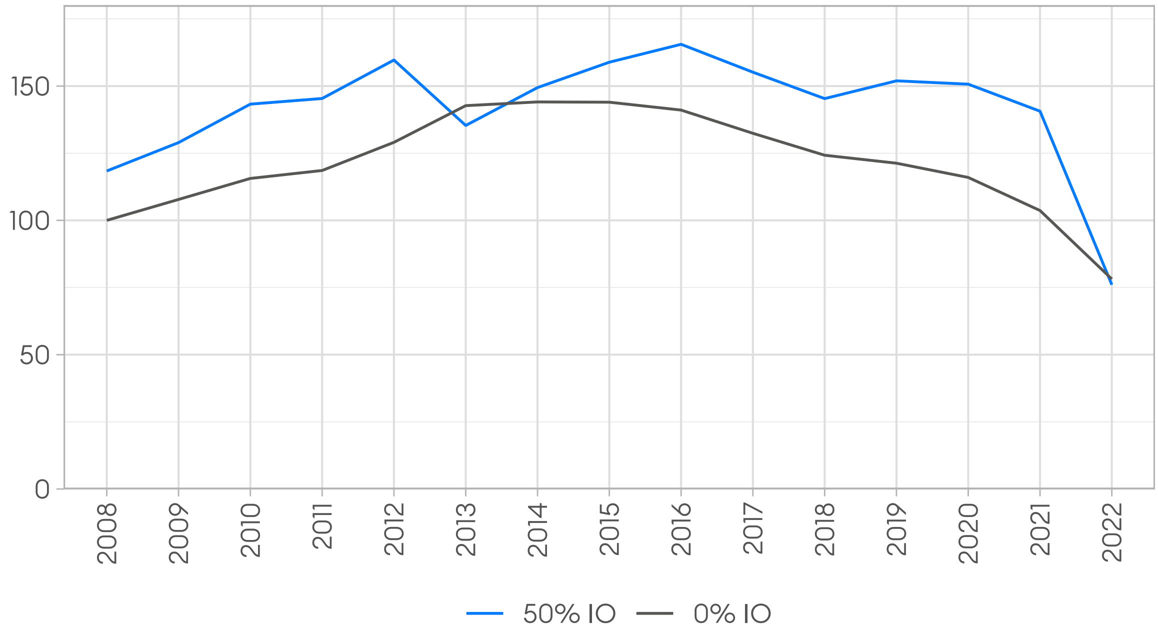
- Marginal tax rate: Highest bracket decreased from 52% in 2008 to 49.50% in 2022.
- Taxable income from imputed rents ("eigenwoningforfait"): Has varied between 0.40% and 0.75% of the value under the Valuation of Immovable Property Act ("WOZ Waarde") and was 0.45% in 2022.
- Interest deductibility: Maximum deductibility of interest decreased from 49.50% in 2018 to 40% in 2022. Before 2018 this percentage was capped at the highest applicable marginal tax rate
- Interest deductibility interest only: For interest paid on new loans up to 2013.

Changes income

- Average change of hourly wages falling under collective labor agreements. Around 4.5 million employees fall under such agreements. In 2022, wages were 3.20% higher compared to 2021.

1 Overheid.nl - Staatscourant van het Koninkrijk der Nederlanden
2 NIBUD - Rapport Advies Financieringslastnormen 2023 (2022)

Affordability Index



Source: Dynamic Credit

Figure 13: The affordability index from 2008 up to 2022 for an annuity loan and a loan with a 50% interest-only loan part. Source: Dynamic Credit.

As of the start of the index in 2008, affordability was increasing for several years until 2014, after which the index started to decrease year on year. In 2021, the index already dropped by more than 10% as house prices were rapidly increasing.

However, with mortgage interest rates rising sharply alongside rising house prices, the drop in 2022 was even more pronounced. Last year, affordability fell further by almost 25%. With this, the index is now at an all-time low and well below the affordability of its previous low in 2008. For mortgages consisting of a 50% interest-only loan part, the drop in affordability is even more drastic. For the first time since 2013, the affordability of a loan consisting of an interest-only loan part is now worse than a fully repayable loan. Reason for this is non-deductible interest for interest-only loan parts which has a lot of impact with the increased interest rates.

The three factors that contributed to the decline are in order of impact: (i) rising mortgage rates, (ii) rising house prices and (iii) decline in mortgage interest deduction. On the other hand, wage growth had a limited dampening factor.

Decline to compensate for affordability loss

The inputs for the affordability index, such as house prices, interest rates and income growth, change every year which makes it hard to directly see at which house prices levels the affordability will restore to old levels. The graph below shows the percentage the house price index needs to decline to arrive at the affordability level of that particular year, while keeping all the other input factors equal to the level of January 1st 2023. The percentage declines are compared to the most recent end of December index level published by the CBS[1]. For affordability to return to 2021 levels, house prices need to fall by 24%. To reach the affordability levels of 2014, near the end of the euro crisis when the house price index was at its most recent low, the current house price index needs to drop by as much as 45%. Despite the magnitude of these declines being very large, it does not imply that these scenarios currently await the Dutch housing market. There are many factors that are different now compared to previous years, one being the growing housing shortage, tighter lending standards and stronger household balance sheets.

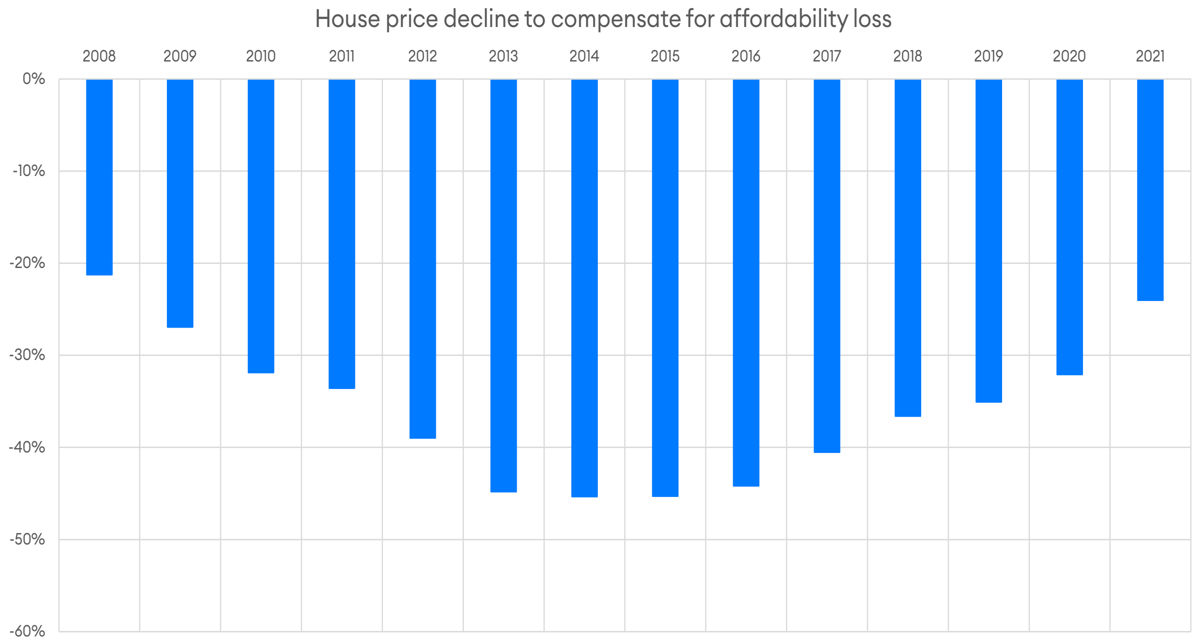


Figure 14: the percentage the house price index needs to decline to arrive at the affordability level of that particular year. Source: Dynamic Credit.

All in all, the affordability index paints a picture of the consequences of the combination of increased house prices and mortgage interest rates and wage growth. It is unlikely that wages will (fully) compensate for the loss in affordability in the near term, however affordability is expected to improve as wage growth is picking up and nominal house prices are decreasing, assuming that interest rates will not materially increase in the remainder of the year.

1 CBS - House price increase levelled off again in December

4. Funding Update

The volatile rate environment and ongoing economic uncertainty have also made its mark on the securitization market. In the full year 2022, the total volume of new issuance in the Netherlands has halved compared to 2021 (EUR 3.6 billion versus EUR 7.5 billion). Throughout the year there has been sizable spread widening in Dutch AAA RMBS from 15 bps at the beginning of the year to a peak of 70 bps in October before tightening again to the high 50s at the end of the year. In comparison, the Dutch covered bond market has exceeded both the 2020 and 2021 levels and totaled at EUR 10.9 billion. Also, this market has shown spread widening from 2 bps at the beginning of the year to the mid-10s by the end of the year.

Owner occupied

In November the Bastion 2022-1 NHG securitization has been issued. The pool consists of EUR 531 million NHG loans with an average seasoning of 18 months. The loans have the benefit of an NHG guarantee. The A1 notes offer were issued at par with a spread of 60 bps over EURIBOR and have been distributed. The other notes have been retained.

BTL

In October the Jubilee Place 5 securitization has been issued. The pool consists of EUR 408 million buy-to-let loans with an average seasoning of only 2.5 months. The average LTV is 72.50% and almost 90% are interest only loans. The B to G notes have been placed externally, the other notes (and most notably the A) have been retained. The B to F notes have discount margins of 325/425/603/880/1518 bps respectively.

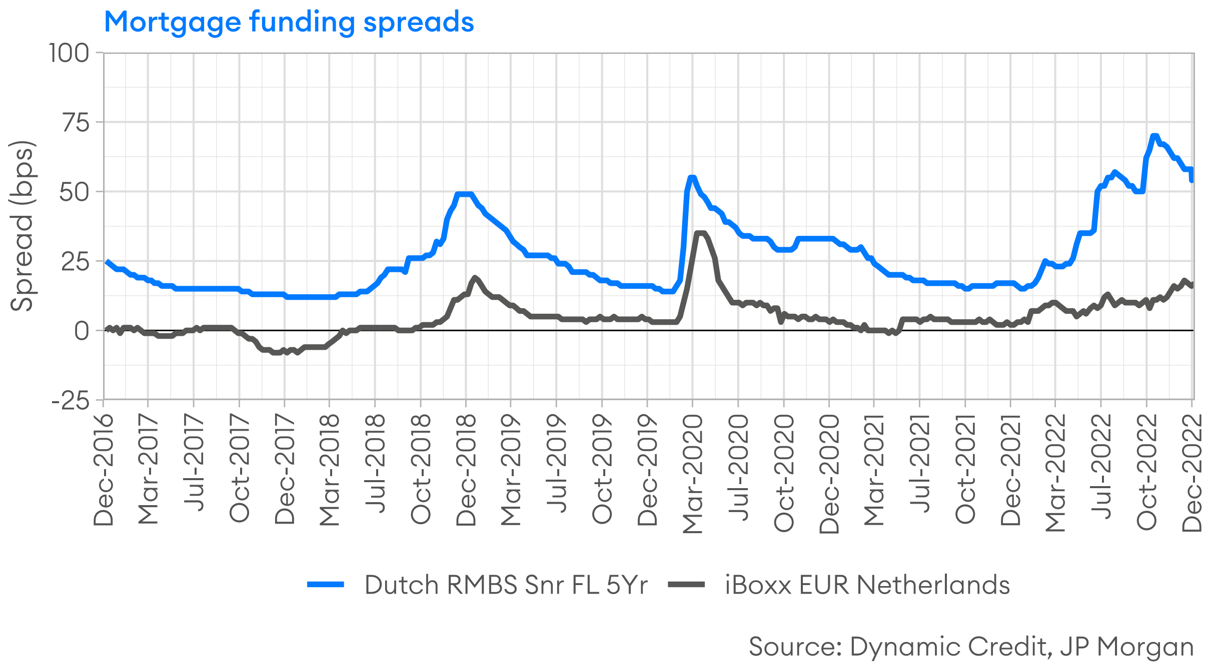


Figure 20: RMBS spread refers to indicative mid spread (DM) for representative generic RMBS bonds. iBoxx EUR Netherlands spread refers to spread versus mid swap rates. The data is as of 2022-Q4.

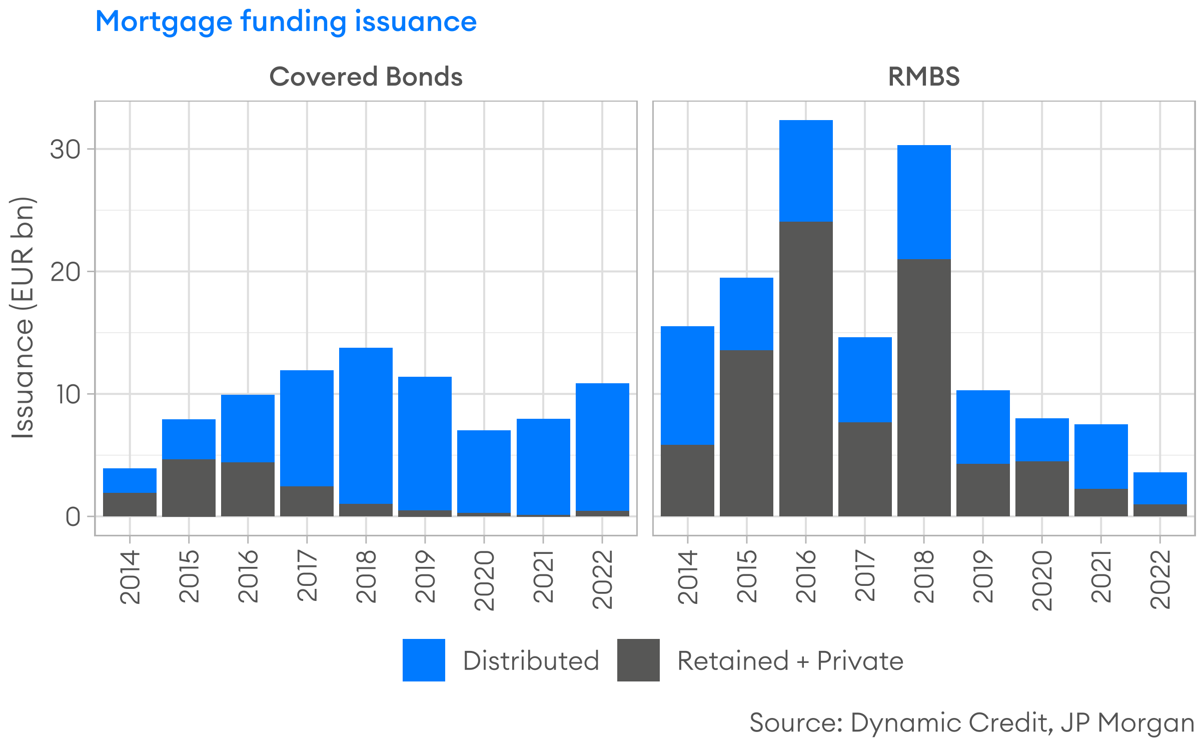


Figure 21: Issuance of Dutch RMBS and covered bonds. The data is as of 2022-Q4.

Dutch RMBS market: Priced Dutch prime RMBS and BTL deals

Date	Issuer	Series	Seller	Class	Euro Amount	Life	FXFL	Spread	DM	Benchmark	M	SP	F	DBR	Retained	Comments
2022-11-25	Bastion BV	2022-1	MeDirect Bank	A1	369	4.1	FL	60	60	3 Mo. Euribor			AAA	AAA	N	EUR 531.8mm; WA CLTV 83.3%; WA Seasoning 18m; Self employed 3.5%; IO Loans 16.7%;
				A2	108		FX						AAA	AAA	Y	
				B	50		FX								Y	
				C	5		FX								Y	
2022-10-20	Jubilee Place BV	5	Multiple Dutch Lenders (Tulp Group, DMS and Casarion)	A loan	327	3.2	FL	90	90	3 Mo. Euribor		AAA		AAA	Y	EUR 408mm; WA CLTV 72.5%; WA Seasoning 2.5m; IO Loans 89.9%;
				B	21	4.3	FL	140	325	3 Mo. Euribor		AA		AA	N	
				C	11	4.3	FL	190	425	3 Mo. Euribor		A		A	N	
				D	6	4.3	FL	250	603	3 Mo. Euribor		BBB+		BBB	N	
				E	4	4.3	FL	275	880	3 Mo. Euribor		BBB-		BB	N	
				F	4	4.3	FL	300	1518	3 Mo. Euribor		BB-		BB	N	
				G	15	4.3	FX								N	
				R	1		FX								Y	
				S1	0		FX								Y	
				S2	0		FX								Y	
2022-09-22	Dutch Property Finance BV	2022-2	RNHB BV	A	212	3.0	FL	90	145	3 Mo. Euribor		AAA		AAA	N	EUR 255mm; WA CLTV 60.8%, WA Seasoning 44.4m, IO loans 37.6%;
				B	15	4.8	FL	140	185	3 Mo. Euribor		AA		AA	N	
				C	8	4.8	FL	190	265	3 Mo. Euribor		A+		A	N	
				D	8	4.8	FL	250	400	3 Mo. Euribor		BBB		BBBH	N	
				E	8	4.8	FL	350		3 Mo. Euribor					Y	
				F	5	4.8	FL	450		3 Mo. Euribor					Y	
				X	6	4.8	FL	450		3 Mo. Euribor					Y	
				R	0	4.8	FX								Y	

Table 5: Priced Dutch RMBS and BTL Deals in 2022-Q4. Source: Dynamic Credit, JP Morgan.

5. Buy-to-let Mortgages

Regulation

In 2022 and 2023 the Dutch government has intensified its efforts to regulate the private rental sector and individual private landlords. The purpose of this article is to provide a comprehensive overview of the implemented and upcoming measures. The content presented may be familiar to regular readers.

Purchase protection

Per the 1st of January 2022 the purchase protection ("opkoopbescherming") has entered into force. This legislation allows municipalities to require a permit for buy-to-let. The prohibition applies up to four years after the transfer date. The intent of the legislation is to reduce the inflow into the rental market of properties that would otherwise be available for starters or middle incomes. The protection does not apply to properties that have been rented out for a period of at least six months prior to the transfer date.

By now all larger municipalities have implemented some sort of purchase protection. These include but are not limited to Amsterdam, Rotterdam, Den Haag, Utrecht, Eindhoven, Haarlem, Amstelveen, Tilburg, Groningen and Almere. In most cases the value threshold is around the NHG costs boundary, only in Amsterdam it is much higher with EUR 533,000. For more background please refer to our 2021-Q4 report[1].

Maximum rent increase[2]

In December 2022, the Dutch Senate has approved a legislative proposal to cap the maximum rent increase at the lower of the annual wage growth + 1% and inflation + 1%. Until 2022, rental increases in the non-regulated rental sector were capped only at inflation +1%. With inflation at the 2022 level a maximum rent increase around 10% would have been expected. In contrast, YoY wage growth was 3.10%. Due to the change in legislation the maximum rent increase is capped at 4.10% in 2023. For more background information please refer to our 2022-Q3 report[3].

Wealth tax[4]

The Supreme Court of the Netherlands has ruled that the way wealth is taxed in the Netherlands is not in line with the European Convention on Human Rights. The taxes[5] were calculated on fictitious returns and did not take into account the actual composition of the wealth mix. This means that the tax system needs to be reformed. For 2023 and 2024 temporary legislation is put in place. From 2025, the goal is to have a system which will tax actual returns. For more background please refer to our 2022-Q1 report[6].

In the meantime, for 2023 and 2024, most notably there are three categories; savings, investments and debt. Each of these three categories with their own fictional return of 0.36%, 6.17% and 2.57% respectively. The costs of debt will reduce the fictitious return on assets, instead of being taxed on net assets. The benefit of having debt on the personal balance sheet is deteriorated significantly. Even more so if an individual earns less than the fictious return on investments and pays more than the fictious rate on debt. This situation reflects most buy-to-let landlords that expanded their portfolios with some external financing in 2022.

Changes also took place on taxes in Box 2 (income from substantial shareholding) and the corporate tax rate. The corporate tax rates have been increased, the low rate is now 19% (from 15%) and the high rate of 25.80% now applies to profits above EUR 200,000 (was EUR 395,000). From 2024 onwards two tax brackets will be introduced in Box 2, a lower rate of 24.50% and a higher rate of 31% with the income threshold at EUR 67,000. The rate is currently 26.50% and the goal is to incentivize entrepreneurs to realize the gains on their personal balance sheet sooner.

1 Dynamic Credit - Dutch Housing Market Update Q4 2021
2 Overheid.nl - Uitvoeringswet huurprijzen woonruimte
3 Dynamic Credit - Dutch Housing Market Update Q3 2022
4 Belastingdienst - Hoe is het box 3-inkomen op mijn voorlopige aanslag 2023 berekend?
5 Belastingdienst - Tarieven voor de vennootschapbelasting
6 Dynamic Credit - Dutch Housing Market Update Q1 2022

Transfer tax[1]

From 2023 onwards the general transfer tax[2] has been increased from 8% to 10.40%. This rate applies to all non-residential and non-owner-occupied real estate. The increase follows government policy that assumes fewer of these purchases improve the owner-occupied market. For that segment the transfer tax remains 2% with an exemption for buyers under 35 years old and under a EUR 440,000 purchase price.

Less notably the gift tax exempt amount that could be used to purchase a property, pay off mortgage debt or improve a property of EUR 107,000 ("jubelton" in Dutch) is scrapped. The amount is decreased to the general gift tax exempt amount of EUR 29,000. The intention is to level the playing field for first time buyers from more and less wealthy families. The gift tax rate is currently 10% (for up to EUR 138,000 above the exempt amount), so determined parents with thick wallets might not be deterred.

WOZ cap

From May 2022 onwards, the property value (WOZ) will only account for 33% of the total points to determine the maximum regulated rental price (the total number of points determines the maximum rental price in case it remains below the regulated rent threshold). The purpose is to prevent a shrinking supply in the regulated sector in areas with high house prices. The legislation could also cause certain properties currently in the private sector to fall under the regulated sector when relet. For more background please refer to our 2022-Q2 report.

Regulated rent

The Minister of Housing has announced plans to regulate the rental sector by increasing the maximum points for regulated rent. The maximum number of points for regulated rent is currently 141 and would be 187 if the plans are adopted into law. If so, most new rental contracts would be capped at EUR 1,000 from 2024 onwards. The intention is to regulate 90% of new rental contracts. In the large municipalities it has been increasingly difficult to maintain a rent that reflects the costs/value of a property, it is expected that this measure will further decrease the supply of rental properties in these areas. For more background please refer to our 2022-Q3 report.

Vacant value ratio[3]

The Senate has ratified a proposal to update the vacant value ratios ("leegwaarderatio") to 73%-100% with an average of 96% to reflect improved market conditions. This is an increase of the entire range of roughly 50% compared to 2022. The vacant value ratio is a function of the rental yield (based on the WOZ value), and higher rental yield means a higher vacant value ratio (and higher taxable assets). To determine the asset value for wealth tax (box 3) and inheritance tax purposes, the vacant value ratio is multiplied with WOZ value of the property. For more background please refer to our 2022-Q2 report.

Social housing landlords levy [4]

From 2023 onwards, the landlord levy, a tax for landlords in the social housing sector, will be scrapped. The tax rate was 0.332% and the first 50 properties were exempt. Scrapping the tax should free up investment capability of housing corporations. The intention is to increase supply in the social housing and middle rental sectors.

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1 Rijksoverheid - Verbetering koopwoningmarkt voor starters en doorstromers

2 Rijksoverheid - Hoe zit het met belastingvrije schenkingen voor een koopwoning?

3 Rijksoverheid - Percentages leegwaarderatio geactualiseerd

4 Rijksoverheid - Verhuurderheffing

Impact on private landlords

From the above, it is clear that private landlords will be taxed much more heavily than in previous years. The combination of i) the vacant value ratio and ii) the revision of Box 3 will cause more taxes due. Previously, debt could be used to cushion the net assets very effectively and especially for higher loan-to-values. Also, the vacant value ratio helped by means of decreasing the property value for taxation. For the interested readers, we have prepared two examples.

For example a private landlord with:

- A property of EUR 400,000, for example a typical 50m2 apartment in Amsterdam
- Outstanding mortgage debt of EUR 200,000
- Rental income of EUR 9,000 per year or EUR 750 per month (2.25% rental yield), i.e. a property in the regulated sector

The following table gives an overview of the marginal taxes payable in this simplified example.

	2022	2023
Vacant value ratio	56%	84%
Value for taxation	€ 224,000	€ 336,000
Debt for taxation	€ 200,000	€ 200,000
Net assets	€ 24,000	€ 136,000
Fictitious return*	€ 1,048	€ 15,591
Marginal tax payable @32%	€ 335	€ 4,989

For simplicity assuming no thresholds for debt deduction and asset tax. For 2022 assuming the individual falls in the second wealth tax bracket for private persons with net assets of EUR 50,000 – EUR 962,000 (4.366% fictious return).
* 2022: Net assets x fictious return = 24,000 x 4.37% = 1,048
2023: Asset value x fictious return assets – debt x fictious cost debt = 336,000 x 6.17% - 200,000 x 2.57% = 15,591

The example in the table below clearly shows that, in 2023, when earning well below the 6.17% fictious return the tax burden increases significantly. The private person in the example has a marginal tax burden of EUR 4,654. (Note that in individual cases, the total assets are partly "protected" by the asset tax threshold of EUR 114,000.) Taking this and interest costs into account on the profit and loss of the property (simplified and does not yet take into account local taxes, operating expenses and changes in the value of the property) shows that with the interest rate levels from January 2022 (10 year fixed 50% LTV consumer BTL) there is still a modest 2.23% return on equity while in 2023 it is barely negative. Taking into account the January 2023 rate levels, return on equity is -3.10%.

	2022	2023	2023
Rental income	€ 9,000	€ 9,000	€ 9,000
Interest rate	2.10%	2.10%	5.10%
Interest	€ 4,200	€ 4,200	€ 10,200
Tax Box 3	€ 335	€ 4,989	€ 4,989
Net return	€ 4,465	-€ 189	-€ 6,189
Return on equity	2.23%	-0.09%	-3.09%

To further expand the example, taking into account that this investor could charge an annual rent of EUR 18,000 in the private rental sector, the vacant value ratios in 2022 and 2023 would increase to 67% and 95% respectively due to the increased rental yield (see paragraph on vacant value in this publication). That makes the taxes due in box 3 increase further. If the landlord fixed its rate at an attractive level the business case still holds in 2023 with a modest but solid 4%. When the mortgage resets to current rates then the business case further deteriorates and combined with an expansion of the social sector the return on equity could soon reach negative territory. As of now it remains unclear how the revision of box 3 will look from 2025 onwards but in the meantime more rent regulation on new contracts and more taxation on existing properties will probably lead to a smaller middle rental sector in larger cities when leases end.

	2022	2023	2023
Rental income	€ 18,000	€ 18,000	€ 18,000
Interest rate	2.10%	2.10%	5.10%
Interest	€ 4,200	€ 4,200	€ 10,200
Tax Box 3	€ 950	€ 5,858	€ 5,858
Net return	€ 12,850	€ 7,942	€ 1,942
Return on equity	6.42%	3.97%	0.97%

Rent developments

On a national level, Pararius reports[1] that rents decreased by 1.10% YoY in the fourth quarter. In the year 2022, the number of properties that became available for letting decreased with 8.90%, but note that the underlying data shows a clear downwards trend from 28,000 in Q1 to 20,000 in Q4.

The pattern of decreasing supply is also observed on a city level, for example in Amsterdam 5,500 homes became available in 2022 Q1 and this decreased to only 3,350 in 2022 Q4. Pararius reports that investors feel compelled to sell their properties if a rental contract ends because the business case for letting is no longer viable. In Amsterdam the demand side of the market seems to become even stronger with more expats moving to the city. The market is responding to the decrease in supply, prices in Amsterdam are up 10.90% YoY which equals a square meter price of EUR 25.75.

Notably, rents in medium sized cities fell on average but did not in the cities surrounding Amsterdam. Rents increased in Amstelveen (+10.10%), Diemen (20.70%), Heemstede (+12.80%) and Hoofddorp (+24.5%). In Amstelveen the square meter price is now EUR 21.46, in the other cities around EUR 19.50. So prices are up significantly but well below the level in Amsterdam.

DNB

In December, DNB published a research paper[2] on the impact of the 33% cap of the WOZ value in the points system for determining the maximum rental price (the WOZ cap, please refer to the respective article in this publication). Middle market rent (from the current regulated threshold of around EUR 808 to EUR 1000) is a segment that has been under scrutiny for some years for the lack of supply. The Dutch market concentrates in social housing (32%) and owner-occupied properties (60%), only 8% of the housing stock is available via the unregulated rental market.

In the unregulated sector prices generally have been higher than desired by policy makers. The government has intervened with the WOZ cap and there is also the plan for an increased threshold for the regulated rental sector (see Regulated rent in this publication). They reiterated the position that rent restrictions and further regulations will lead to lower rents in the short run, but that it would probably have a deteriorating effect on the supply of middle market rent in the long run. Note that these measures only apply to new rental contracts and not to sitting tenants. Also, they stress that a liquid unregulated rental sector can offer ample economic flexibility compared to social housing and purchasing. DNB elaborates on the loss of investor return caused by the WOZ cap and its implications on the supply of rental housing, especially in the large cities because the share of WOZ value is more likely to exceed the cap.

1 [Pararius - Rent falls nationally in Dutch unregulated housing sector]

2 [DNB - Regulering van het middenhuursegment]

Rate and spread development

Dynamic Credit launched its consumer buy-to-let platform in the Netherlands in 2019. In addition to the unique product feature of offering borrowers a maximum LTV of 90%, the product also sets itself apart by offering a 30-year fixed rate period.

On average, BTL mortgage rates increased by 33 bps QoQ and an additional 5 bps QtD across all risk classes and fixed rate periods in 2022-Q4. Where residential mortgage rate developments were relatively even across fixed rate periods and risk classes, BTL mortgage rate developments were substantially more pronounced in the shorter fixed rate periods opposed to the longer fixed rate periods. For instance, 1-year and 5-year fixed rates saw rates increase by 61 bps and 35 bps respectively. Whereas 10-year and 20-year fixed rate buckets saw rates increase by 21 bps and 13 bps respectively.

In contrast to the previous quarter, during 2022-Q4 spreads slightly increased by an average of 9 bps across all fixed rate periods and risk classes. Then after quarter end, spreads on average expanded by an additional 39 bps making absolute BTL-C spread levels substantially more attractive in comparison to 2022-Q3. Spreads predominantly increased in the mid- to long-term fixed rate periods due to sharp increases in short-term euro swap rates, regardless of the substantial increases in mortgage rates as mentioned in the previous paragraph.

Both BTL mortgage rates and spreads widened substantially

It should be noted that Dynamic Credit is the only active lender in the high LTV (>85%) segment.

Market rate and spread development for consumer buy-to-let rates

		BTL rates					Spreads				
Fixed rate period	LTV	2022-09-30	2022-12-31	2023-01-26	QoQ	QtD	2022-09-30	2022-12-31	2023-01-26	QoQ	QtD
1-year	50%	4.21%	4.94%	5.07%	0.73%	0.13%	1.64%	1.67%	1.90%	0.03%	0.23%
	60%	4.32%	5.04%	5.15%	0.72%	0.11%	1.75%	1.77%	1.98%	0.02%	0.21%
	70%	4.36%	5.08%	5.20%	0.72%	0.12%	1.79%	1.82%	2.02%	0.03%	0.20%
	80%	4.62%	5.23%	5.37%	0.61%	0.14%	2.05%	1.97%	2.19%	-0.08%	0.22%
	90%	4.80%	5.05%	5.25%	0.25%	0.20%	2.23%	1.79%	2.08%	-0.44%	0.29%
5-year	50%	4.57%	5.01%	5.03%	0.44%	0.02%	1.59%	1.83%	2.24%	0.24%	0.41%
	60%	4.71%	5.13%	5.15%	0.42%	0.02%	1.73%	1.95%	2.36%	0.22%	0.41%
	70%	4.76%	5.18%	5.18%	0.42%	0.00%	1.78%	2.00%	2.40%	0.22%	0.40%
	80%	5.07%	5.34%	5.36%	0.27%	0.02%	2.10%	2.16%	2.57%	0.06%	0.41%
	90%	5.05%	5.25%	5.25%	0.20%	0.00%	2.08%	2.07%	2.47%	-0.01%	0.40%
10-year	50%	4.92%	5.20%	5.16%	0.28%	-0.04%	1.82%	2.04%	2.44%	0.22%	0.40%
	60%	5.04%	5.31%	5.27%	0.27%	-0.04%	1.94%	2.15%	2.55%	0.21%	0.40%
	70%	5.09%	5.34%	5.30%	0.25%	-0.04%	1.98%	2.18%	2.58%	0.20%	0.40%
	80%	5.32%	5.48%	5.44%	0.16%	-0.04%	2.22%	2.32%	2.72%	0.10%	0.40%
	90%	5.35%	5.45%	5.45%	0.10%	0.00%	2.25%	2.29%	2.73%	0.04%	0.44%
20-year	50%	5.20%	5.42%	5.54%	0.22%	0.12%	2.00%	2.22%	2.76%	0.22%	0.54%
	60%	5.28%	5.50%	5.64%	0.22%	0.14%	2.08%	2.30%	2.86%	0.22%	0.56%
	70%	5.34%	5.56%	5.69%	0.22%	0.13%	2.14%	2.36%	2.91%	0.22%	0.55%
	80%	5.65%	5.60%	5.61%	-0.05%	0.01%	2.45%	2.40%	2.82%	-0.05%	0.42%
	90%	5.50%	5.55%	5.55%	0.05%	0.00%	2.30%	2.35%	2.76%	0.05%	0.41%

Table 6: Interest rate and spread development for consumer buy-to-let rates in the Netherlands. Source: Dynamic Credit, Hypotheekbond. Reference date is 2023-01-26.

6. News

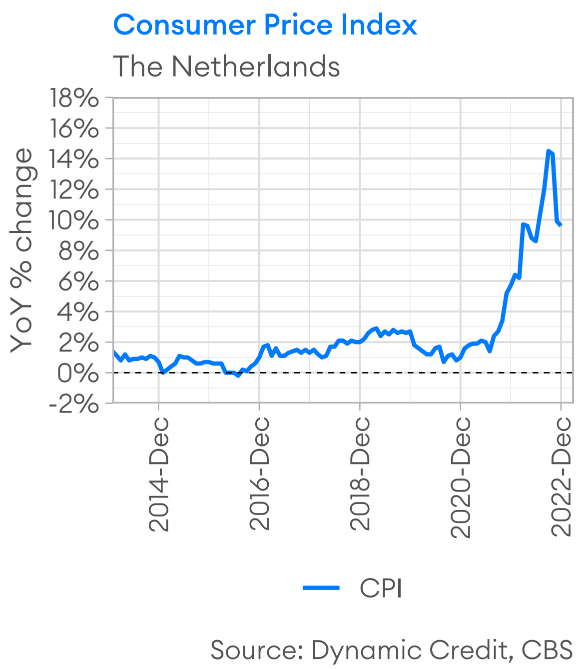
The following sections provide an update on the (macro)economic environment.

Monetary policy

In its December meeting, the European Central Bank announced the decision to raise its three key interest rates by 50 basis points and has stated that it expects to raise rates further due to an upward revision to the inflation outlook. The total rise in rates since July is now 250 basis points. Additionally, the Central Bank will start to move away from quantitative easing to quantitative tightening starting March 2023 onwards by offloading €15 billion of bonds per month until the end of 2023-Q2[1]. The subsequent pace will be determined over time[2]. The total value of the ECB's bond holdings is approximately EUR 5.3 trillion and its total assets EUR 8 trillion[3].

Inflation and Harmonized Index of Consumer Prices

In the Netherlands, consumer goods and services were 9.60% more expensive in December than a year earlier, compared to 14.50% in September according to Statistics Netherlands ("CBS"). The CPI rate of the year 2022 was 10.0%. Core CPI (excluding energy and fuel) was 7.50% compared to 6.50% in September. In the last quarter of 2022, the energy price index decreased by around 25%. The temporary income support from the government did not influence CPI calculations. The price ceiling that is active from January 2023 onwards will. Inflation was mainly driven by clothing and food with a YoY increase of 12.30% and 17% respectively. Food inflation was mostly caused by bread and other grain products and dairy products. The Harmonised Index of Consumer Prices (HICP) showed a YoY increase of 11% in December, slightly higher than the Eurozone average of 9.20%. In September, the difference between the Dutch HICP and the Eurozone average was 7.20 percentage points[4].



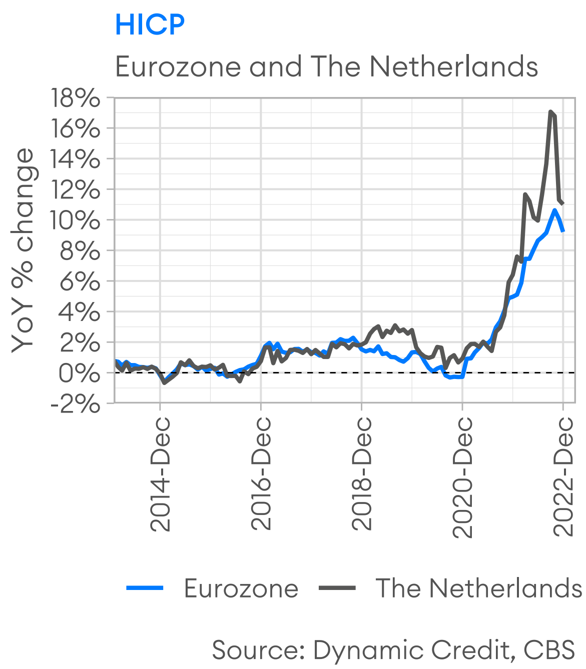


Figure 22: The consumer price Index in the Netherlands (left) and the Harmonized Index of Consumer Prices ("HICP") (right) both as of December-2022.

1 [Reuters - ECB to start offloading bond holdings in March]
2 [ECB - Monetary policy decisions]
3 [Reuters - ECB to start offloading bond holdings in March]
4 [CBS - Inflatie 9,6 procent in december]

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Real GDP

In the third quarter of 2022, real GDP contracted by 0.20% compared to 2022-Q2. This decrease is mainly caused by fewer investments, especially in housing and infrastructure. Compared to the third quarter of 2021, the economy grew by approximately 3.10%. In particular, the trade balance, household consumption and investments contributed to this growth[1].

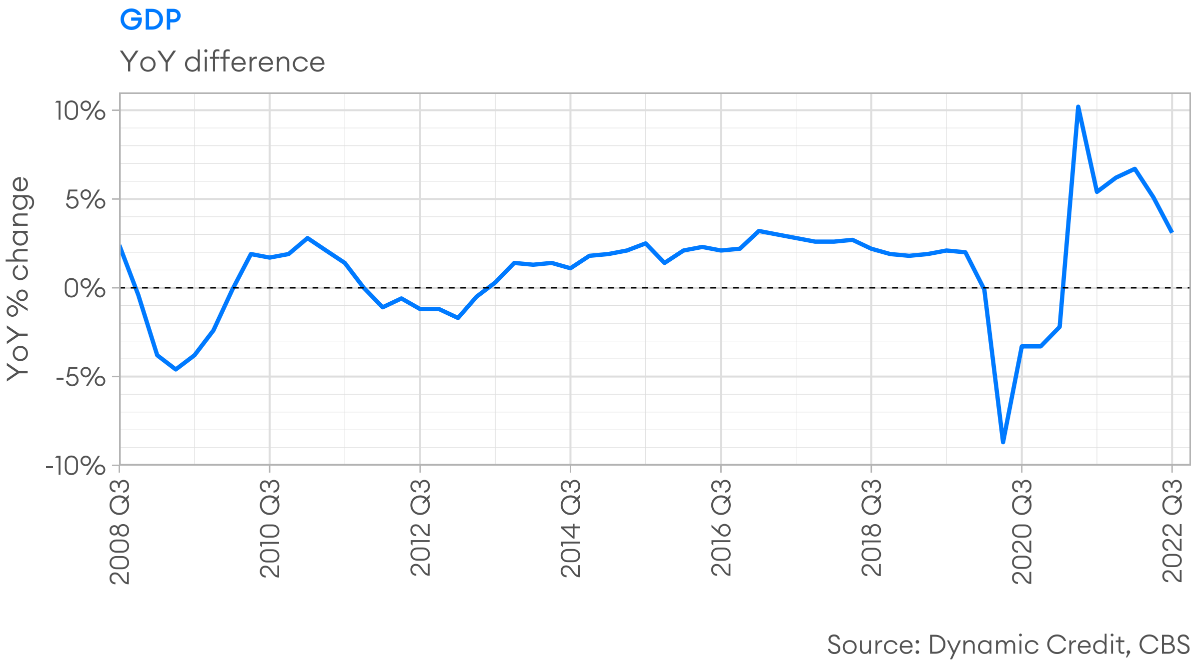

Figure 23: YoY GDP growth in The Netherlands as of 2022-Q3.

Unemployment

In December, the unemployment rate was 3.50% as measured by the unemployment indicator from the International Labour Organization ("ILO"). According to this indicator, people are unemployed if they do not have paid work but have recently looked for it and are readily available. This figure refers to the population aged 15 to 75. Last April, unemployment dropped to the lowest level since inception in 2003 with a starting value of 3.20% after which it started climbing again to 3.80% in September. In the final quarter of last year, unemployment started decreasing again. Since October, the flow from employment to unemployment fell, and the flow from unemployment to employment increased. Overall, 352,000 people were unemployed in December, 30,000 fewer than 3 months ago. Unemployment benefits grew especially in seasonal sectors, such as agriculture, construction, and temping agencies[2].

1 CBS - Economie krimpt met 0,2 procent in derde kwartaal 2022.
2 CBS - Werkloosheid in december verder gedaald

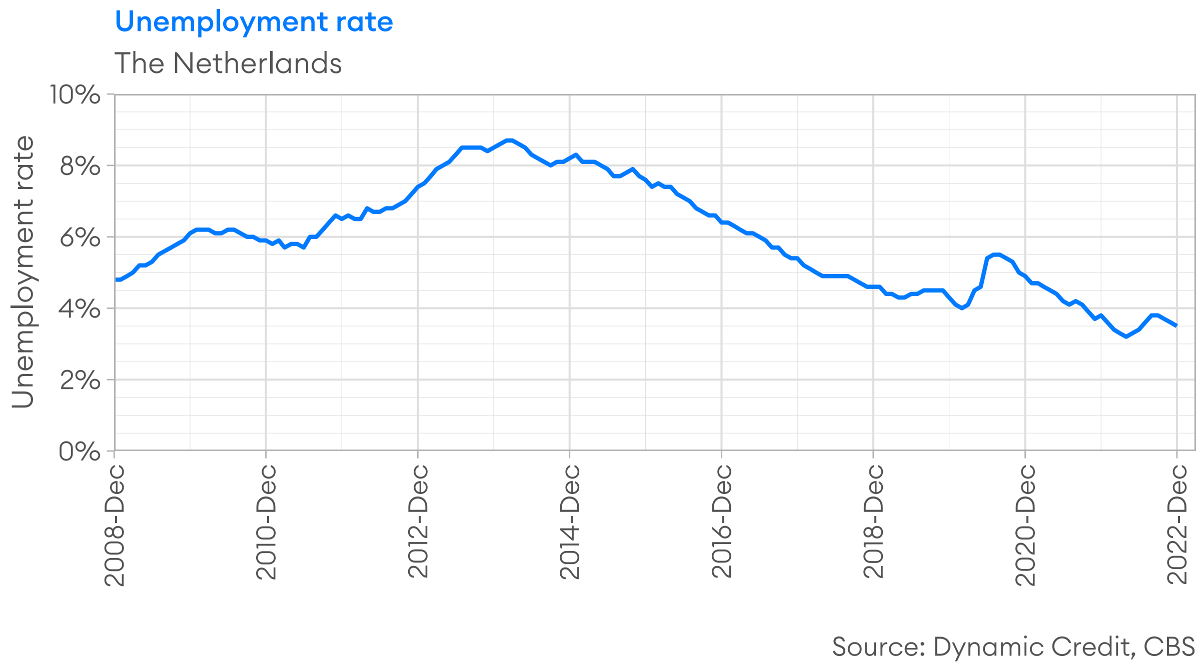

Figure 24: Unemployment rate in The Netherlands as of December 2022.

Bankruptcies

The number of bankruptcies has increased to 261 in December (89 higher than in September). The preliminary number of bankruptcies over the year 2022 is 2,144, a record low except for 2021. However, the number has been rising for 4 months in a row now. Most bankruptcies occurred in the trade and construction sector, which are also the largest sectors based on number of companies. In relative terms, almost all sectors saw an increase in bankruptcies[1].

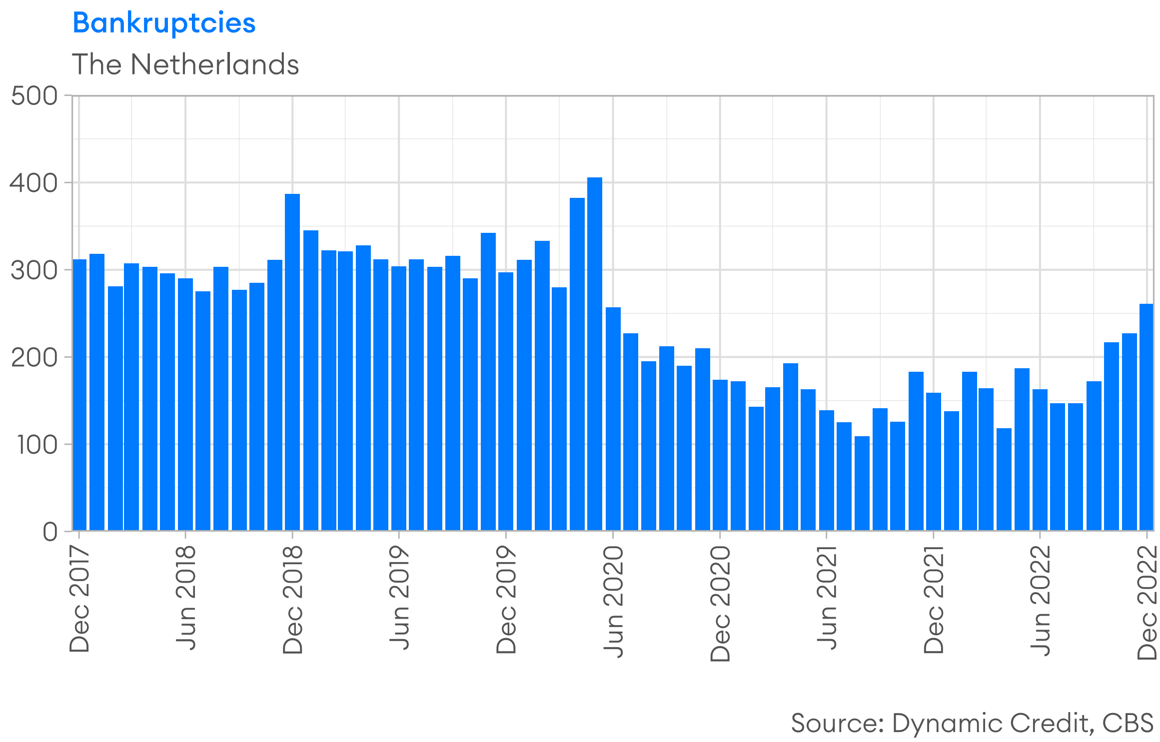

Figure 25: Monthly bankruptcies in The Netherlands as of December 2022.

1 CBS - Ook in 2022 een historisch laag aantal faillissementen

7. Sustainability Update

Quality of energy labels[1]

In the beginning of December 2022 the Minister of Housing Hugo de Jonge shared a letter with the House of Representatives of the Netherlands regarding the quality of the energy labels. He explained that energy labels were introduced with two main purposes: i) informing about the energy performance of a building and ii) promote energy saving measures. Recent research shows that homeowners find the energy labels informative, as it tells something about the maintenance condition, the required improvements and the energy bill costs of a house. The interest in the energy label however seems mostly driven by increasing energy bills and the necessity to transfer from gas energy to other energy sources. The energy label does not lead to homeowners taking energy saving measures. These are mostly driven by the financial resources available and the cost reduction of the energy bill for homeowners.

Indirectly, the energy label does have a bigger influence on transaction prices. Depending on the research, home buyers are willing to pay EUR 30,000 to EUR 50,000 more for a home with an energy label A or B opposed to a similar home with an energy label F or G. Energy saving measures, and with that having a better energy label, therefore contributes to a higher value of a house, a lower energy bill, a quicker selling process and (with increasingly more mortgage loan providers) an interest rate discount on your mortgage loan. Measurements made by ING[2] show that in case of structural high gas prices, the expected cost benefit of a home with an energy label A adds up to EUR 34,000 (compared to a home with an energy label G). This cost benefit reduces to EUR 23,000 when using the gas prices applicable before the Russian invasion in Ukraine. In theory, this cost difference would be the amount that homeowners are willing to pay extra for such a home. In practice, the difference can however be higher due to home buyers also taking into account the comfort of a well-isolated home.

As homeowners are not always aware of the added value and reliability of an energy label, the Minister is going to take several steps to increase the familiarity and reliability of the energy label. This is done by giving concrete information to advisors to give targeted advice on the energy label. Furthermore they want to stimulate advisors to provide insight in the checks they perform when determining the energy label of a home.

The letter of the Minister also provides information regarding the quality monitoring of the issued energy labels in 2021. The monitoring results show that in 15.70% of the energy label reports relating to homes there were critical deviations (for non-residential construction this percentage is 12.50%). Due to these deviations, the energy label given to a home is incorrect in 7% of the cases (8% for non-residential construction). The reason given for this high percentage of critical deviations is the new measurement system for energy labels which was introduced per 1 January 2021. Advisors probably had to get adjusted to this new measurement system. Despite this, measures will be taken to improve the quality of the energy labels. Even though conversations are still ongoing, the measures are mostly focused on extensive monitoring of advisors. The impact these measures may have on the costs of the energy label will be taken into account. The improvement aim to reduce the critical deviations to a maximum of 10% and with that reduce the issuing of wrong energy labels to a maximum of 5%.

VAT on solar panels[3]

As of 1 January 2023 the Value Added Tax (“VAT”) on solar panels for residential homeowners is reduced to 0%. The goal of this measure is to eliminate the operational hassle of reclaiming the VAT paid with the tax authorities (saving time for both the homeowners and the tax authorities) and stimulate residential homeowners to purchase and install solar panels. The VAT reduction does not apply to integrated solar panels (solar panels which also serve as roof covering) in newly build properties.

1 Rijksoverheid - Verzamelbrief energielabel
2 FD - Hoge gasprijs stuwt waarde energiezuinige woning
3 Rijksoverheid - Btw op zonnepanelen afgeschaft

Climate risk reporting: an insight on risks for Dutch mortgages

The assessment of climate risks in portfolios is becoming more important as scientists increasingly warn about the physical consequences of climate change. The potential disruption and financial implications, as well as regulatory and external pressure, are moving financial institutions to incorporate climate risks into their financial decision-making. Physical climate risks are especially relevant for real asset valuations, and by extension, for the mortgage market, as the value of real estate is tightly linked to the location of the land it is built on. Increased flooding risks, wildfire exposure and other consequences affect the value of this location and can impact the payment capability of households through restoration and implementation of mitigating measures. This article mentions some of the climate risks that are applicable to a Dutch mortgage portfolio and shows the results of an analysis giving insight into climate risk exposures of the Dutch housing stock performed by Dynamic Credit.

Relevant risks for a Dutch mortgage portfolio

As a low-lying country, the Netherlands has long been associated with flood risks caused by rising sea levels or extreme precipitation. As recently as the summer of 2021, parts of Limburg flooded due to extreme rainfall. To face these risks, research firm Deltares[1] recently identified measures to maintain water safety in the face of rising sea levels, including avoiding housing development in high-risk locations. This should ensure that houses do not flood in the coming decades and even centuries.

Two other related risks are foundation risk and subsidence risk, both mainly caused by increasing drought. Falling groundwater levels due to drought expose wooden foundations, which can cause the foundation to rot. Another risk is that the soil can subside due to drought, which can cause houses to subside, resulting in damage. The cost of foundation repair of a house can quickly run from EUR 50,000 to EUR 100,000 or more, according to The Knowledge Centre Foundation Problems ("KCAF")[2]. They estimate that the total damage amounts could reach as much as EUR 60 billion by 2050.

Another less common risk is wildfire risk. A recently published study[3] (by knowledge institutes NIPV, KNMI, Wageningen University & Research (WUR), Vrije Universiteit Amsterdam (VU) and Deltares) on the impact of wildfires concludes that the number of fire-prone days will increase and these fires may also become more intense. Increasing periods of drought accompanied by the densification of the Netherlands will more often lead to damage for people living in or around natural areas.

Analysis Dutch housing market

To estimate the impact of physical climate risks on the Dutch housing market, data from the Climate Effect Atlas (''Klimaateffectatlas'')[4] is used. The atlas is developed on behalf of the Dutch Ministry of Infrastructure and Water Management in cooperation with various other knowledge institutions and consulting firms. The atlas contains data about the physical consequences in several climate risk categories and incorporates future scenarios developed by the Royal Netherlands Meteorological Institute (""KNMI"").

The Climate Effect Atlas uses three scenarios for most risks; the current state, a worst-case scenario for 2050 and a best-case scenario for 2050. The worst-case scenario assumes a 2°C global temperature increase relative to the period 1981-2010, plus a considerable change in air circulation patterns that, for example, lead to drier summers. In this analysis the worst-case scenario is used when evaluating expectations for 2050. A rise of 2°C might have been considered a worst-case scenario in 2014 (the moment the scenarios were determined), but is more in line with a realistic or even optimistic scenario according to the most recent IPCC publications[5].

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1 Deltares - Mogelijke maatregelen voor de zeespiegelstijging van de toekomst.

2 KCAF - Funderingsschade door droogte

3 NIPV - Natuurbrandsignaal '23

4 Klimaateffectatlas - Kaartverhalen

5 IPCC - Reports

Results

Figure 26 shows the percentage of the Dutch housing stock that Dynamic Credit classified as ‘at risk’ to the relevant climate risks. Properties are defined as ‘at risk’ when the probability of damage occurring is plausible. The Figure shows that more than 10% of the housing stock has an exposure to risks due to extreme weather, including heavy precipitation occurring once every 100 years or a high probability of groundwater flooding until 2050. The second main risk is medium (once every 300 years) to high (once every 30 years) probability of river and sea flooding with more than 8% of the housing stock exposed. About 6% of the housing stock faces a high to very high subsidence risk and the same percentage also applies to houses with a high to very high foundation risk. The least risky of the climate risks is wildfire risk, with slightly more than 1% of the housing stock having high sensitivity to wildfires. With the very limited size of natural areas in the Netherlands, this percentage is expected to be low.

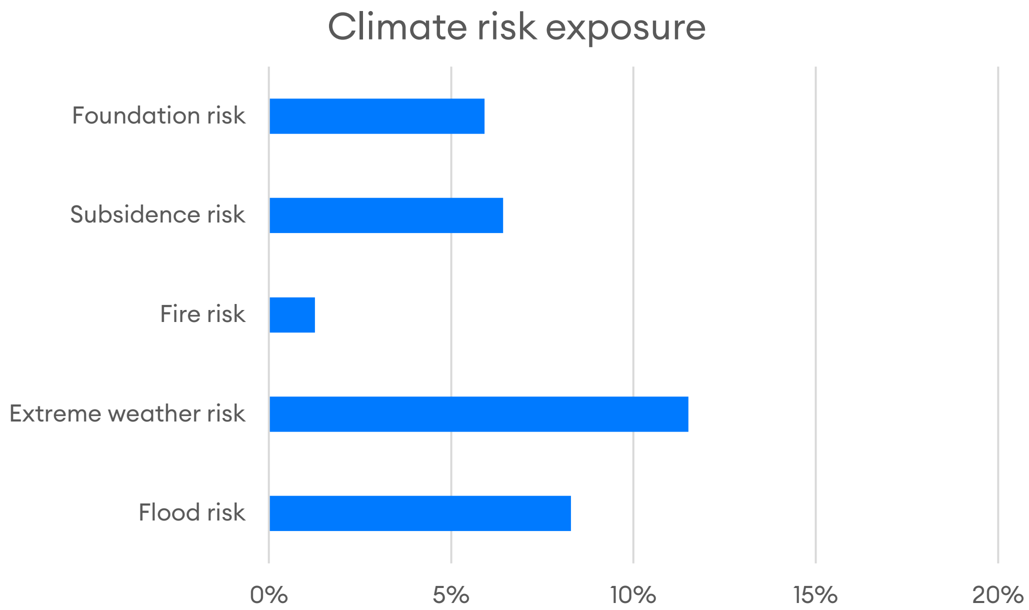
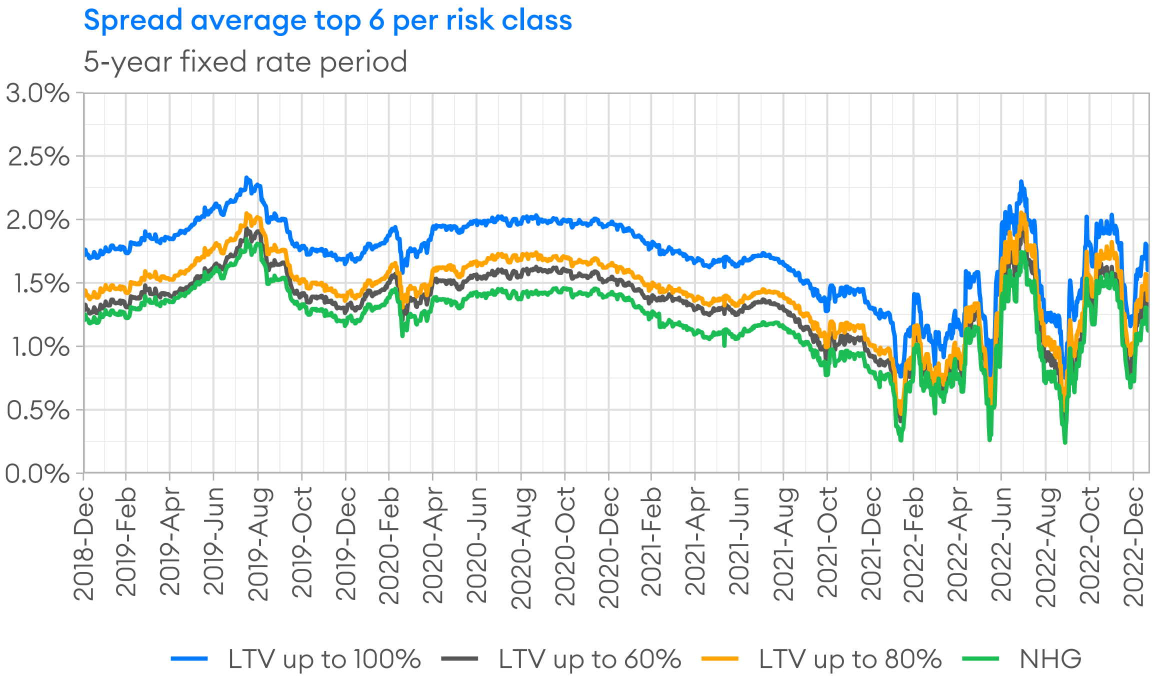


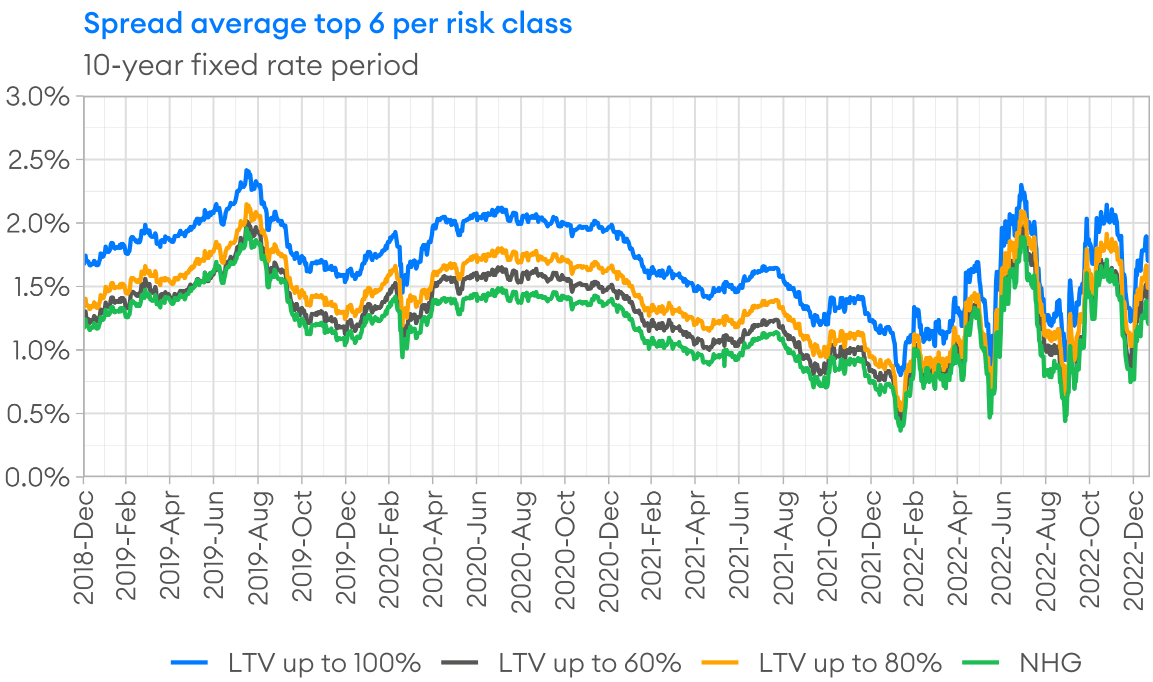
Figure 26: Source: Dynamic Credit (2023), Klimaateffectatlas

Appendix



Source: Dynamic Credit, Hypotheekbond (2023-01-23)

Figure A1: Spread of the average top-6 price leader mortgage rates (excluding action rates) for mortgage loans with a 5-year fixed rate period for four risk classes. Up to and including December 2022.



Source: Dynamic Credit, Hypotheekbond (2023-01-23)

Figure A2: Spread of the average top-6 price leader mortgage rates (excluding action rates) for mortgage loans with a 10-year fixed rate period for four risk classes. Up to and including December 2022.

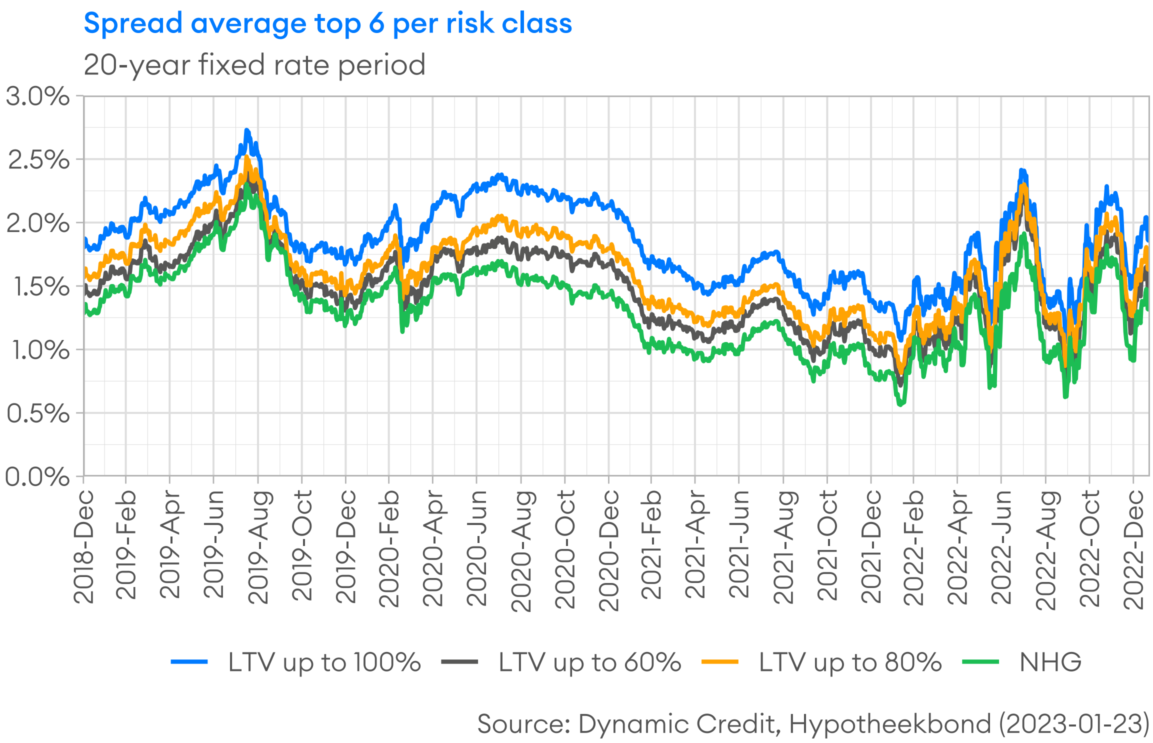


Figure A3: Spread of the average top-6 price leader mortgage rates (excluding action rates) for mortgage loans with a 20-year fixed rate period for four risk classes. Up to and including December 2022.

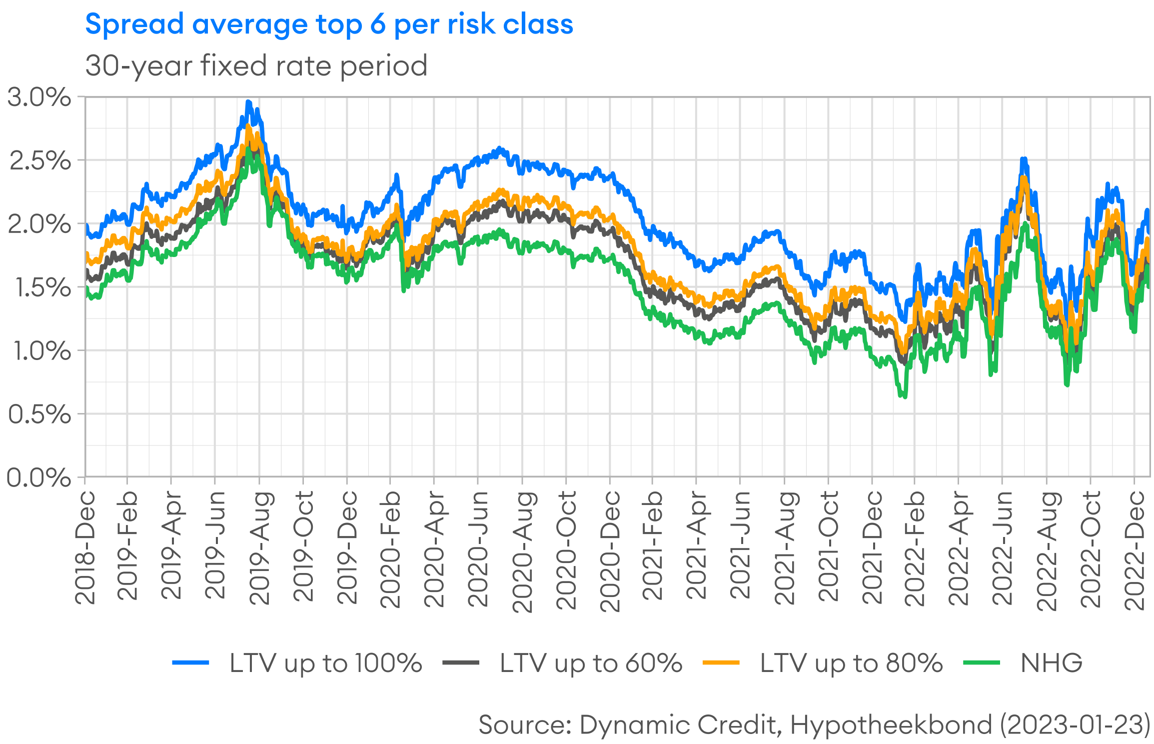


Figure A4: Spread of the average top-6 price leader mortgage rates (excluding action rates) for mortgage loans with a 30-year fixed rate period for four risk classes. Up to and including December 2022.

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