



Asset Management



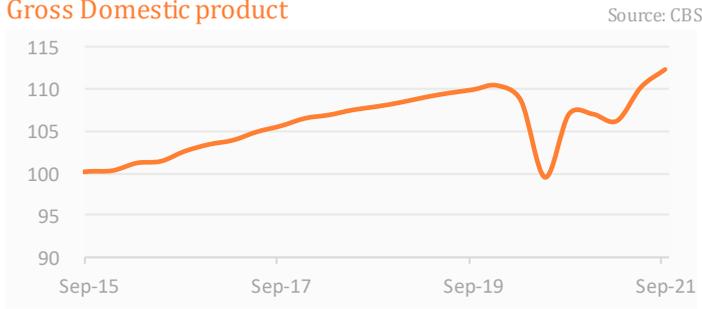
Dutch housing and mortgage market Update Q3 2021



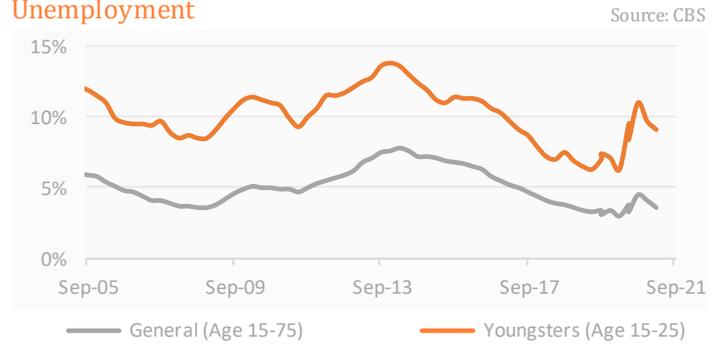
DASHBOARD DUTCH HOUSING AND MORTGAGE MARKET

Economic indicators

Gross Domestic product

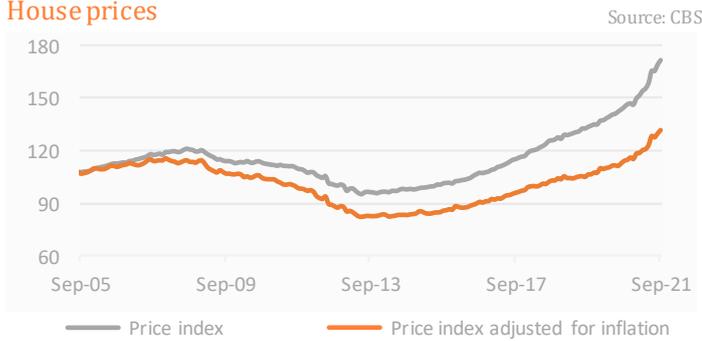


Unemployment



Dutch Housing market

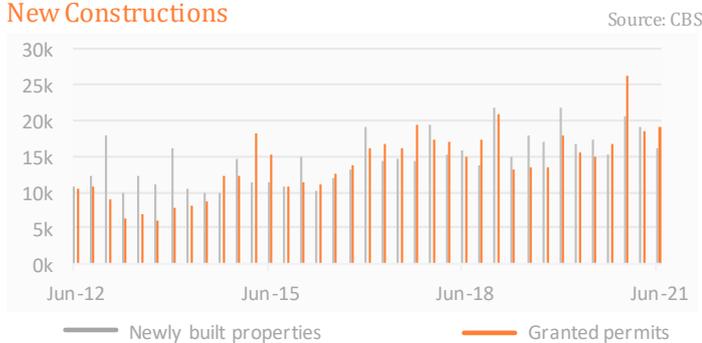
House prices



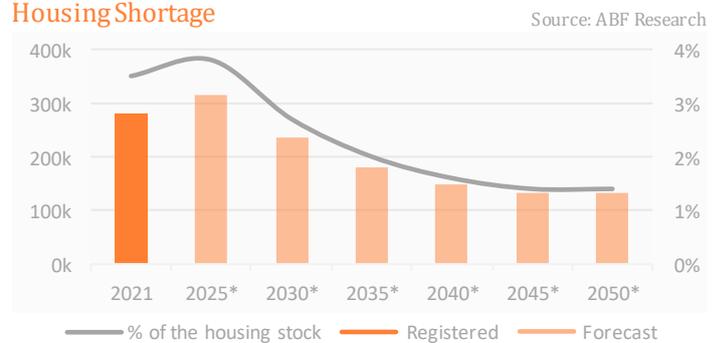
Market Tightness indicator



New Constructions

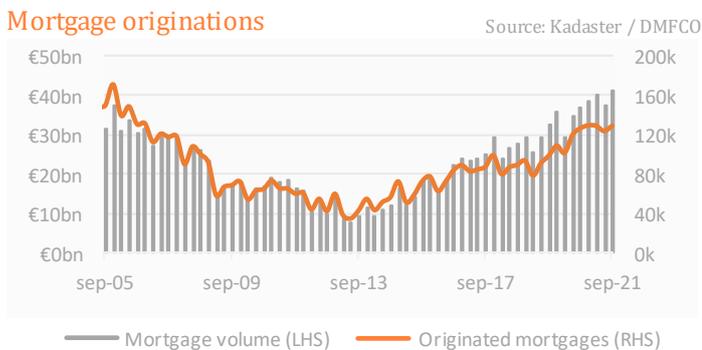


Housing Shortage

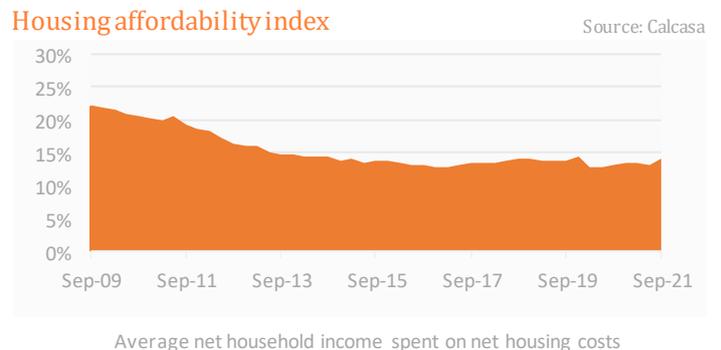


Dutch Mortgage market

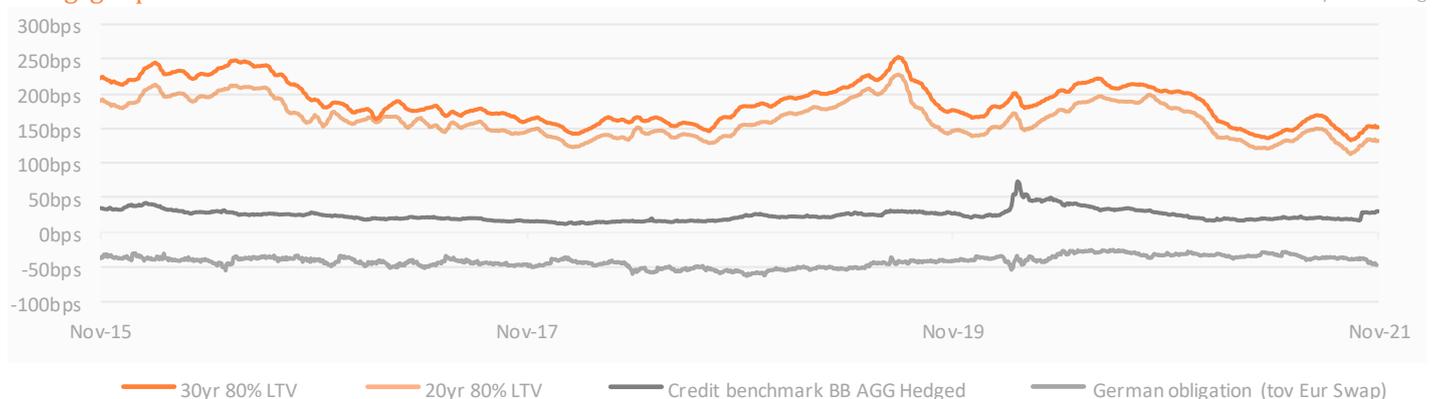
Mortgage originations



Housing affordability index



Mortgage spread



Main developments in Q3 2021

Past quarter was characterized by an acceleration of house price growth (17.5% YoY) and record mortgage volumes.

The rebound of the economic growth, a continued low interest environment and a strong demand for houses versus a tight supply are the main drivers of the house price growth.

Expectations are that 2021 will be a record year in terms of mortgage loan volume. The record volumes are driven by a continued high number of transactions, increasing mortgage loan amounts due to higher house prices, a large re-mortgaging market and a surge in mortgage loan increases. The mortgage loan increases are a response to the tight housing supply; instead of purchasing people choose to improve their existing house and improve the sustainability profile of their home.

Mortgage spreads decreased in the past quarter to the lower end of the spectrum of the past 7-8 years. This can be explained by the increase in risk free interest rates, continued strong performance of Dutch mortgages - i.e. low arrears and losses- and tight credit spreads in virtually all asset classes (search for yield). In the last few weeks of the quarter spreads started to increase again after several mortgage originators increased their mortgage rates. This increase in spread levels indicates that there seems to be a minimum spread level applicable to the overall Dutch mortgage market. Despite the lower spread levels, the asset class continues to be attractive from a relative value perspective compared to alternative LDI assets such as German government bonds (minus 48bps) and the broad IG bond market (30bps)¹.

Economic indicators

The Netherlands experienced a robust recovery in 2021, following a contraction of 3.8% in real GDP in 2020 which was less severe than the average in the Euro Area (-6.8%). The Dutch economy has been resilient and the strong economic policy response since the start of the pandemic has mitigated the impact of restrictive measures.

Economic growth

According to the Dutch Central Bureau of Statistics (CBS), the gross domestic product (GDP) grew by 1.9% QoQ and 5.0% YoY. The growth was primarily attributable by the loosening of restrictions, after extensive support and recovery programs of the government. These programs provided liquidity to firms, preserved jobs, supported household incomes and ensured continued provision of financial sector services.

In the third quarter, GDP reached the highest level ever demonstrating the strong recovery from the pandemic. This high level of economic growth is realized by, among others, the following indicators:

- Consumers spent 5.0% more in 3Q21 YoY
- The average daily production of Dutch industry was 11.4% in 3Q21 YoY
- The volume of goods exports was 7.9% higher in 3Q21 YoY

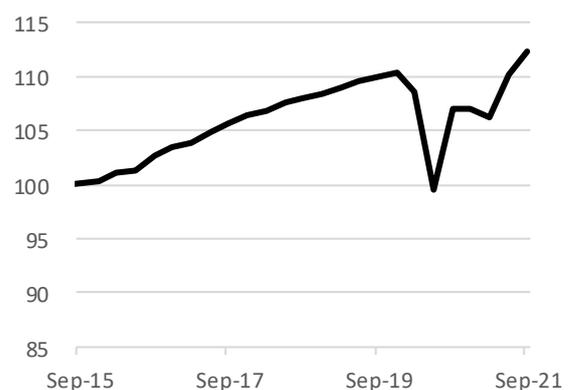


Figure 1: GDP development in the Netherlands, 2015 =100 (Source: CBS)

¹ Please see Appendix II for the explanation of alternative LDI assets.

- The volume of imports was 9.0% higher in 3Q21 YoY
- The number of pronounced bankruptcies is historically low (-39.9% YoY).

When focusing on the economic outlook, the IMF forecasts the Dutch economy to grow by 4.0% in 2021 and 3.3% in 2022. However, certain constraints are expected in 2022. Several reports single out logistics disruptions, shortages of semiconductors, rising energy costs and problems sourcing a range of commodities and raw materials. The last two might lead to an increase in inflation levels.

Confidence indicators

At the start of the pandemic, consumer- and housing market confidence fell significantly. In the past 20 months since the outbreak of the pandemic, both indicators recovered gradually to the pre-pandemic levels.

In the third quarter, confidence among Dutch consumers has hardly changed (-2). Consumers' sentiment about the general economic situation has improved, while the willingness to buy has decreased slightly. Even though there was a slight deterioration, the consumer confidence indicator was positioned well above its long-term average of the past two decades.

The same applies to housing market confidence. Confidence fell slightly (-1), but the low mortgage rates, sufficient private savings and strong economic development kept the level of confidence well above the long-term average and far from the record low in 4Q12.

Unemployment

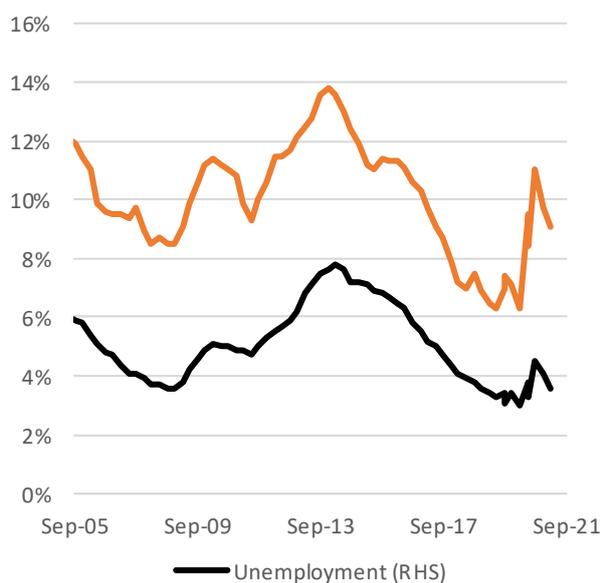


Figure 2: Unemployment rate (Source: CBS)

Various policy programs limited the impact of the pandemic on, among others, the labor market. Notable among these programs was the NOW short work scheme², designed to help keep workers in their jobs and avoid a surge in unemployment, and the TOZO program³ targeted at the self-employed. As a result of these programs, unemployment rates are almost back to pre-pandemic levels.

The programs combined with economic recovery resulted in an unemployment rate of 3.1%, which is only 0.2% less than in March 2020. In the case of youngsters, 7.4% of their labor force is unemployed, which is still 1.1% more than in March 2020. However, since young people seldom own a house, the increased unemployment has only a limited effect on the owner-occupied housing market.

The low unemployment levels together with economy recovery and strong fundamentals in the mortgage markets results in a strong ability for households to consistently fulfill their mortgage payments. This directly effects the level of arrears. At the moment, the market level of arrears (>3 months) is historically low.

² The NOW grants enable employers to continue paying their employees' salaries.

³ The TOZO is an income support and loan scheme for self-employed.

Housing market

The Dutch housing market did not face any downturn from the pandemic because of the strong fundamentals within the market: good affordability, accumulated household savings and continued high demand for housing in combination with a structural housing shortage. The falling supply and continued surge in house prices have resulted in the Dutch Central Bank requesting the government to make changes to the Dutch housing market policy by reducing demand stimuli such as tax reliefs and restricting lending standards for homebuyers.

Transaction volume and housing supply

In line with the second quarter of 2021, slightly fewer transactions took place in Q3 (54.000). While this is somewhat higher than in 2Q21 (+2.1%), the number of transactions is significantly lower than previous year (-13.4%). On a 12-month basis, the number of transactions is still at historical highs.

In the last seven years the number of transactions has increased from 150,000 to 297,000 homes annually, while supply (current number of houses for sale) has fallen from 262,000 to 23,000 homes. The large increase in transactions and the significant fall in supply has increased market tightness. Market tightness can be defined as the ratio between the number of properties for sale and the number of transactions that occur.

In 3Q21, market tightness was 1.5, which implies an extremely tight market. This indicates that prospective buyers, on average, have the choice between 1.5 properties on offer.

The tightness of the market, combined with the limited time properties are on sale (23 days on average) fuels the house price growth.

New construction and housing shortage

The Netherlands faces a substantial housing shortage (279.000). To reduce this shortage, new houses need to be constructed. At the start of the pandemic, the sale of new homes jumped, however, due to a lack of stock, the sales that have been brought forward are causing a decrease in the number of new homes purchased now.

Before the stock of new homes can be replenished, new building permits must be issued. Even though the number of building permits issued is increasing (+5.4%, 12-month rolling) it is still insufficient to meet the growing need for houses. On top, many construction projects have been delayed due to the nitrogen and PFAS crisis. Lastly, the construction sector faces production barriers due to a lack of staff and increased material costs.

In order to reduce the housing shortage, the government has allocated €100 million annually over the next ten years to accelerate the construction of residential properties.

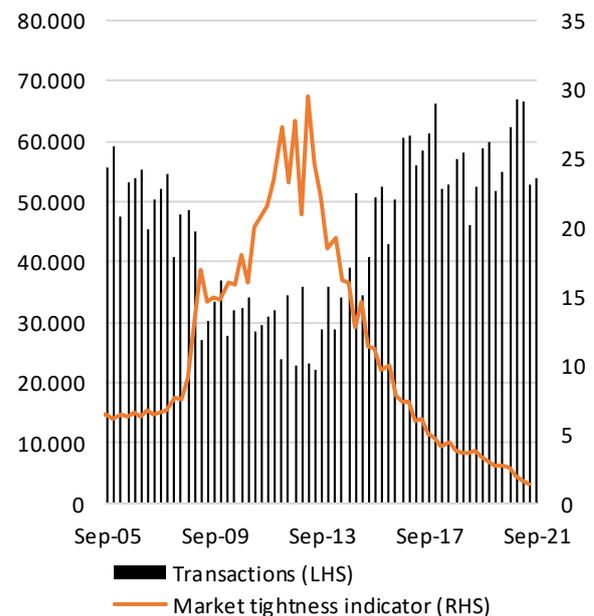


Figure 3: Number of transactions & tightness indicator per quarter (Source: CBS, Kadaster) & (Source: NVM)

House prices

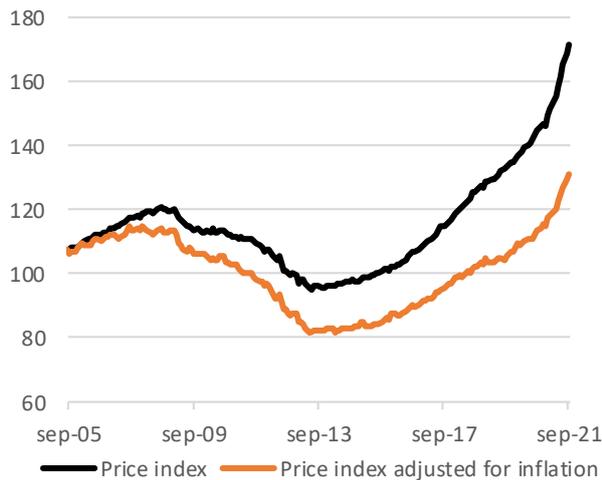


Figure 4: House price development, 2015 =100
(Source: CBS & Kadaster)

In the last five years, house prices accelerated on average 8% annually and experienced record growths. The increase of house price in 3Q21 compared to Q320 was an astonishing 17.6%. When comparing the house price to the previous quarter, house prices have increased by 7.3% resulting in average value of €417,000.

The shortage of properties is often used as a reason for rising house prices, however, according to the DNB, this effect is rather small. As quoted in recent empirical research of the DNB, a reduction by one percent (about 80,000 extra homes, on top of the growth in the number of households) would lead to only one to two percent lower house prices⁴.

Without trivializing the problem of the housing shortage, it is important to test the suggestion that the price increase is due to the housing shortage. According to the DNB⁵, there are potentially other relevant factors, namely:

- The borrowing space of consumers, ample access for cheaper financing
- The lending behavior (high LTV/LTI) by consumers (especially first-time buyers)
- Debt subsidies and credit liberalization
- Low-interest rate environment and central banks' monetary policy

Borrowing by house buyers is therefore seen as an important driver of house price increases. This is also confirmed by financial analysis, which concluded a very strong positive correlation (0.85–0.89) of the growth of lending with the growth of house prices.

The financial analysis can be translated into practice. Stimuli from low-interest rates, tax reliefs, generous lending standards increase homebuyers' purchasing capacity, together with a large number of potential house buyers, force buyers to bid above the asking price leading to higher house prices.

According to the Dutch central bank, a solution could be found in treating the owner-occupied home as an asset in the fiscal system, abolishing the mortgage interest deduction completely and introducing stricter borrowing standards.

Affordability

The foregoing suggests that the development of house prices mainly depends on households' borrowing capacity and to a lesser extent on physical housing shortages. Related to the borrowing capacity, is the affordability of a house. When the affordability, the percentage of net household income needed to pay net housing costs (consisting of net mortgage interest, taxes and maintenance), is relatively good, the perspective of a potential house buyer is positive. From 2008 until now, the affordability of potential house buyers improved significantly to relatively stable levels of 13-15% versus an historical average of 20.3%. The relatively good affordability of houses is primarily driven by the low mortgage interest rates.

⁴ DNB (2020): Huizenprijs hangt meer samen met financieringsruimte koper dan met woningtekort.

⁵ ESB (2021): Strengere hypotheekvoorschriften zullen huizenprijzen remmen, D. Bezemer & D. Schoenmaker.

For 2022 the most relevant factors for affordability are likely to be: inflation, energy prices, health insurance costs and whether or not to include a student loan.

Mortgage market

The Dutch mortgage market is recording record volumes driven by a continued high number of transactions, increasing mortgage loan amounts due to higher house prices, a large re-mortgaging market and a surge in mortgage loan increases more mortgage applications, more originated mortgages and a higher volume than previous quarters.

Origination and volume

In the third quarter of 2021, mortgage volume grew to €41 billion (10% QoQ and 12.2% YoY) and the number of originated mortgages grew to 129,000 (4.5% QoQ and 2.0% YoY). The growth in volume is largely due to a strong increase of the average mortgage sum to €401,000 (9.2% QoQ and 17.0% YoY).

In relation to the mortgage volume and originated mortgages, mortgage applications continued to perform on a structural high level (120,000 applications). This is the highest number ever observed in the third quarter.

The high level of mortgage applications can be attributed to the high level of, amongst others, refinancers. Their share grew from 46,000 applications in 3Q20 to 61,000 applications in 3Q21 (+33%).

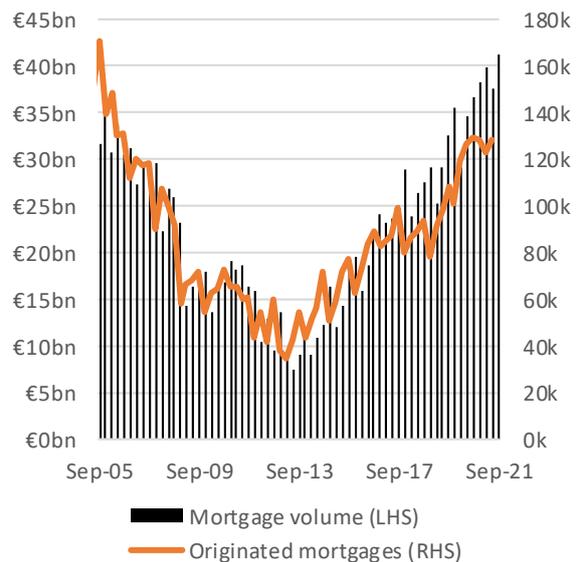


Figure 5: Mortgage market origination and volume per quarter (Source: Kadaster)

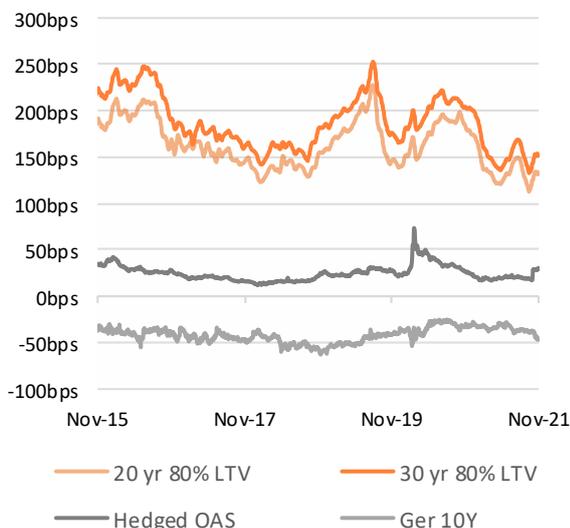


Figure 6: Mortgage spreads versus other LDI asset spreads (Source: DMFCO & Bloomberg)

Mortgage spreads

Mortgage spread levels touched a lowpoint at the end of the third quarter, after which it quickly recovered to 153 bps (30y 80% at the end of November). The lowpoint was reached due to a quick increase in risk free interest rates.

The displayed spread levels at the end of the quarter seem to be the lower bound in spread levels as is also observable in the last 7-8 years. When the lower bound was reached mortgage originators across the market increased interest rates.

The minimum spread level therewith seems to be applicable to the overall Dutch mortgage market, which is driven by investor appetite but also by minimum required returns of banks which have a

relatively expensive infrastructure and significant capital charges. Dutch mortgages remain attractive from a relative value perspective when compare to alternative LDI assets such as German government bonds at minus 48bps and the broader IG bonds market at 30bps.

Market share

Since 2014, the mortgage portfolios of both banks and institutional investors have grown by €94 billion. Banks were responsible for €12 billion versus €82 billion for institutional investors, which equals 87% of the total increase.

The introduction of the new Financial Assessment Framework (FTK) in 2015 is seen as the reason behind the growth of mortgage investments at pension funds. Since then, mortgage investments of pension funds grew every quarter from €40 million to €1.6 billion⁶. Surprisingly, research found that the low-interest rates and the search for yield played a much less important role. Besides that, mortgages are a good match for pension funds that were looking for investments that yielded more than safe government bonds.

In addition, banks in the Eurozone became more cautious with their mortgage lending in the third quarter. They make stricter demands on the people who report to the housing counter, reject more applications and expect to continue with this in the last months of the year⁷.

In line with this, last quarter's decline in the market share of the banks and specifically the three major banks continued into the third quarter of 2021. The market share of the top 3 bank holding companies decreased by 3.1 percentage points to 43.3%. Banks see their share fall by 1.1 percentage points to 52.6%. Parties on behalf of institutional investors on the other hand were able to expand their share (+0.6 percentage points).

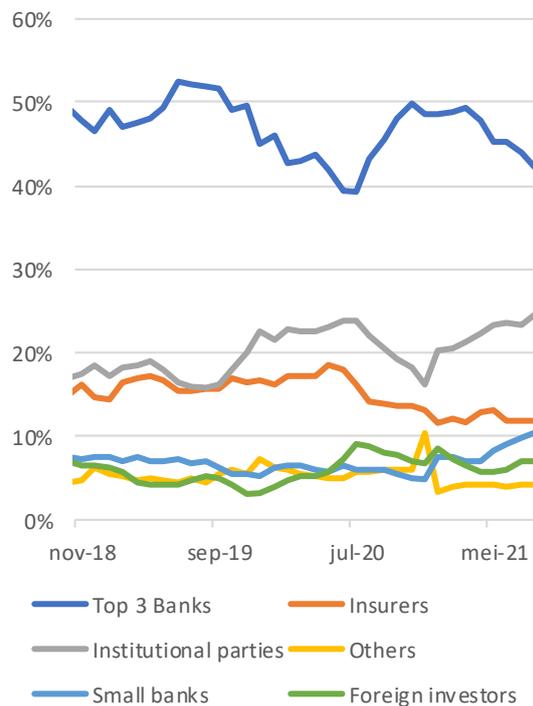


Figure 7: Development of market share per lender (Source: Kadaster & DMFCO)

⁶ Netspar design paper 189 (2021): Het effect van het Financieel Toetsingskader (FTK) op de hypotheekbeleggingen van pensioenfondsen.

⁷ European central bank (2021): Bank lending survey.

Appendix I: Glossary

Sources	Definition
ABF research	Research agency in the Netherlands focusing on people, areas and organisations.
AFM	Dutch Authority for Financial Markets
Calcasa	Calcasa is an independent technology company specializing in real estate valuation.
CBS	Dutch Central Bureau of Statistics
CPB	Dutch Bureau for Economic Policy Analysis
DNB	Dutch Central Bank
ESB	Dutch economic journal (Economisch Statistische Berichten)
HDN	Hypotheek Data Netwerk: This is a cooperative association consisting of almost all mortgage providers, which covers ~80% of all mortgage applications in The Netherlands.
IG&H	IG&H is a leading consulting and technology firm specialising in the retail, financial and healthcare sectors.
Kadaster	Land Registry and Mapping Agency - collects and registers administrative and spatial data on property and the rights involved.
Netspar	Network for Studies on Pensions, Aging and Retirement
NHG	National Mortgage Guarantee
NVM	NVM is the largest association of real estate agents and appraisers in the Netherlands. Almost 75% of Dutch houses are sold by NVM real estate agents.
Primos	The Primos model provides a forecast of the number of inhabitants, the number of households, the housing stock and the quantitative housing requirement. Primos is part of ABF research.
Rijksoverheid	The Government of The Netherlands
VEH	An independent association helping households to buy/sell and to live in their homes sustainably and affordably.

Appendix II: Explanation of the indicators

Indicator	Source	Definition
Affordability	Calcasa	The percentage of the net monthly income spent on net housing costs.
Building plots	Kadaster	The number of pieces of land on which the zoning plan, as documented in the housing act, is housing or commercial property
Business Cycle Tracer	CBS	The Business Cycle Tracer offers a reliable representation of the current state of the economy by tracking the cyclical development of a selected set of lagging, coincident and leading economic indicators: GDP, consumer confidence, export, hours worked, manufacturing, house prices, unemployment, investments, consumption, bankruptcies, producers confidence, turnover of temporary job agencies and vacancies. Click here for more information.
Consumer confidence	CBS	Consumers' sentiment about the general economic situation, the financial situation and whether now is the right time to make large purchases
GDP	CBS	GDP is a quantity that expresses the size of an economy by taking the sum of final uses of goods and services (final consumption/gross capital formation) plus exports and minus imports
House prices	CBS /Kadaster	The house price index for existing owner-occupier homes is based on all sales transactions recorded by Kadaster as well as municipal valuation of all homes in the Netherlands.
Housing shortage	ABF research	The housing shortage is the difference between the housing requirement that is not met (demand side) and the available supply.
LDI Assets	Bloomberg	LDI assets are Liability Driven Investments which in practice usually means a range of assets, such as swaps and bonds, to construct an investment strategy that closely matches the behaviour of the pension liabilities. In our market update we use German government bonds (10-year swap spread per end of November) and credits (Spread over swap Bloomberg Barclays Global Aggregate EUR hedged per end of November)
Market share	Kadaster / DMFCO	Based on mortgage registrations provided by Kadaster, the market shares of different lenders are determined.

Market tightness indicator	NVM	<p>The NVM Shortage indicator gives an approximation for the number of options that a potential buyer has on the housing market. The indicator is normally calculated as the offer at the beginning of the month divided by the number of transactions in that month.</p> <p>The NVM covers approximately 75% of the market.</p>
Mortgage spreads	DMFCO	The difference between the mortgage interest rate and the interest rate on a 10-year swap.
Mortgage volume	Kadaster	The total annual mortgage turnover together with the total number of mortgages provided annually.
Newly built properties / granted permits	CBS	<p>The number of granted <i>building permits</i> ('building environment permits with activity') as documented in the Housing Act.</p> <p>The number of homes created by <i>transforming</i> existing buildings, such as offices, schools and shops</p> <p>The number of <i>new constructions</i> added to the existing stock. The data comes from the Key Register of Addresses and Buildings (BAG).</p>
Transactions	Kadaster	Number of home sales registered by the Kadaster and carried out by a notary
Unemployment	CBS	The number of people who are between 15 and 75 years old who are not in work but are both actively searching for paid work and are directly available to work.
VEH indicator	VEH	Indicator for confidence in the Dutch owner-occupied housing market/willingness to buy a house.



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