ARTICLE

Does climate change pose a risk for Dutch mortgages?

Dutch mortgages are an important asset class, they offer an attractive spread pickup compared with traditional, liquid fixed-income instruments with limited credit risk. However, climate change is prompting further investigation into other risks. As a result of climate change, new, climate-related risks can arise such as the potential risk of different forms of flooding. In this article, we take a closer look at climate risks and specifically those relevant to investing in Dutch mortgages with residential property as collateral. The article will primarily focus on different forms of flooding, heat stress and drought.



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Attractive asset class

Returns on Dutch mortgages are attractive and susceptible to change in a relatively limited way. In practice, spreads of between 150 and 200 bps over swaps are typically achievable. Additionally, the consumer exposure offers a positive contribution to a well-diversified portfolio.

Dutch residential mortgages are an attractive investment opportunity because of:

- Very low credit losses throughout economic cycles thanks to a robust social security system (including unemployment benefits) in the Netherlands and extensive possibilities of recourse to borrowers. There is also a partial government guarantee and support for specific mortgages.
- Low arrears as a result of excellent payment morale of Dutch homeowners combined with strict eligibility criteria.
- Strong affordability due to long fixed-rate periods, tax deductibility of interest payments and strong housing market fundamentals.
- Limited risk of prepayment because a penalty is payable when a mortgage is refinanced before the end of the fixed rate period. The maximum penalty-free prepayment is 10% of the original loan amount per annum.
- Favourable capital treatment for insurers as part of Solvency II.





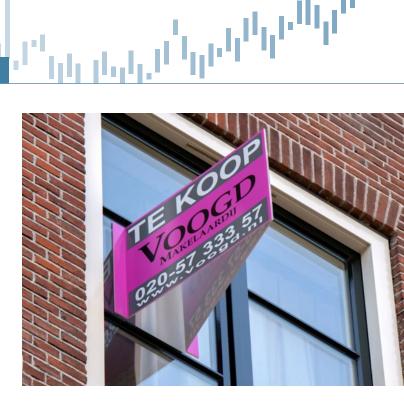
Does climate change potentially lead to other risks?

Climate change and the transition to a climate-neutral economy involves changes for financial institutions. Alternative risks manifest themselves, for example, via exposure to property. The physical impacts of climate change, such as more extreme weather conditions and more stringent sustainability requirements could lead to a decrease (or an increase) in the value of homes. This can translate into a credit risk if a consumer defaults. Additionally, there could be a transition risk due to the transition to a climate-neutral economy.

Some 26% of the Netherlands is below sea level. The IPCC climate panel is expecting a significant risk of rising sea levels over the coming decades. In theory, this could lead to an increase in flood risk. In the event of a storm at sea or extremely high discharge from the major rivers that flow into our delta, 59% of the Netherlands could be at risk of flooding (source: DNB). The question is whether this could lead to an increased credit risk.

Rating agency Moody's believes that it will not come to this. "In spite of the growing threat of rising sea levels and flooding from rivers in the low-lying parts of the Netherlands, the likelihood of flooding from failing dykes is low given the high standard of the Dutch flood defence systems.", is what the rating agency writes in a recent study*. In addition, the financial risks for residential mortgages and SMEs for example are well-covered. The flood risks are small as a result of the many dykes that protect the country against flooding. "If you place these risks in the overall risk context for investment, flood risks will not be very severe because of the good water protection in the Netherlands (source: Change Inc). Climate risks are therefore largely mitigated by policy aimed at protecting the Netherlands.





Climate risks identified

In 2021, Syntrus Achmea worked with CAS (Climate Adaptation Services) on a scan of the mortgage portfolio. CAS specialises in combining and clarifying knowledge about the potential impact of climate change based on scientific research. The scan consisted of an analysis of the potential impact of climate change on the portfolio. The selection of relevant climate risks for a mortgage portfolio is based on four themes: flooding from excessive rainfall, flooding from rising water tables, heat stress and drought. The themes correspond with the themes from the Spatial Adaptation Delta Programme ('Deltaprogramma Ruimtelijke Adaptatie'). The study identifies to what extent a property at a specific location is exposed to a specific climate risk. We identified the following climate risks:

- Heat stress: the risk of an occupant of a property experiencing heat stress. This can lead to a reduction in the price of the property, which eventually can lead to possible credit loss in the event of non-payment.
- 2. **Flooding from excessive rainfall:** this is the risk of damage to the property as a result of flooding from heavy rainfall or rising groundwater.
- 3. **Drought:** the risk of properties being damaged as a result of drought. Drought can lead to pile rot. Pile rot is the damage that can be caused to the foundations of a building. Drought causes the groundwater level to fall. If dried-out wooden foundation piles or other wooden structures that support a building come into contact with oxygen, they develop mould and rot. This can lead to damage to the building and can increase the risk of credit loss. Additionally, drought could cause wildfires that may cause damage to the property as well.
- 4. Flooding from rising water tables: the risk of damage to the property as a result of flooding. Climate change is increasing the risk of flooding as a result of rising water tables. This can lead to damage to the property and a potential credit loss in the event of non-payment.

The most important conclusions of the study are:

- 1. Heat stress and drought have little to no impact on Syntrus Achmea's mortgage portfolio.
- 2. Only 2% of the portfolio is exposed to an increased risk of forest fires.
- 3. The groundwater table (which impacts foundations, for example) is not susceptible to additional rainfall because this is managed at a national and provincial level via a nationwide system of pumping stations, weirs and drainage. Furthermore, the risk of pile rot applies only to houses built before 1975. Since that date, pile foundations have been made of concrete. Hence, only approximately 1% of the portfolio is at risk of pile rot.

Source: CAS (Climate Adaptation Services), Achmea

4. Of the other four risks identified, an increased flood risk from rising water tables is the most prominent in relative terms. Historically, there have been few floods in the Netherlands, but they are a possibility. However this risk is largely mitigated in the Netherlands. The strong flood defences mitigate this risk as much as possible. Although it is not possible to give absolute assurance about flood risk. History has taught us that in the event of flooding, damage to a home (the mortgage collateral) is often insured. In addition, the government often offers compensation to owners if flood damage is excluded under the terms of their policy.

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Case study: recent flooding in 2021

In 2021, the province of South Limburg in the south-eastern part of the Netherlands experienced flooding. Heavy rainfall upstream in Belgium and France, combined with meltwater from the Alps, triggered flooding of the river Meuse and several surrounding small rivers. As a result, embankments and cellars were flooded in several locations and villages. Several thousand families were temporarily evacuated and suffered water damage to their properties. A significant number of local businesses were also impacted. Similar flooding to 2021 happened in the 1990s.

The damage in the south of the Netherlands is and was unquestionably severe for many residents and businesses. But this is not on the same scale as what happened in the same year in north-east Belgium and Germany (the river Ahr), where the sheer volume of water swept away entire villages and nature conservation areas. The reason for the flooding was the location of the areas in Belgium and Germany in a mountainous region. This meant that the force of the water was far more concentrated. At the same time, the damage in the Netherlands with its good drainage system and flat landscape was manageable. Most of the recovery operations in Limburg have now been completed and insurers and national relief funds have provided financial assistance.

The situation in South Limburg is comparable to the rest of the Netherlands in a certain sense. The Netherlands has a tradition of successfully combatting and managing water. This expertise has brought a lot of economic progress.

 Some 26% of the country is below sea level, as are 29% of homes in the Netherlands. In addition, there is lots of economic activity in parts of the Netherlands that are below sea level.



Intense flooding in Limburg in 2021 led to wide-scale upheaval for several thousand families.

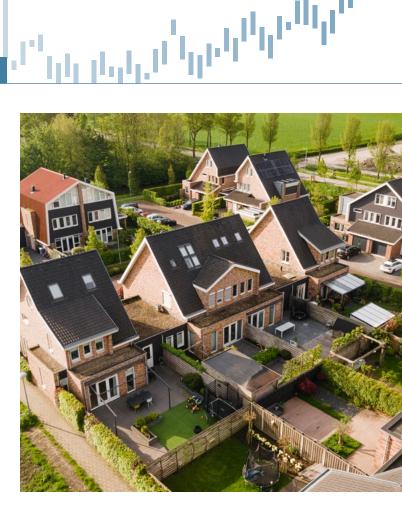
- The Netherlands is a flat country where the water is distributed and drained via ingenious drainage areas and systems, pumping stations, pumps and river dykes. It is true that flooding still occurred in spite of this, but in practice it is a very rare event. And the flooding in South Limburg in 2021 was also very localised.
- Seawalls and the Delta Works protect the Netherlands from the threat of flooding from the north sea. This defence is also extensively monitored and strengthened where necessary.
- The damage that occurred is compensated by insurers. Where insurers did not pay up, the government stepped in. In the Netherlands, the Disasters Compensation Act ('Wet Tegemoetkoming schade bij rampen') enables the government to compensate citizens affected by a natural disaster for damage suffered as a result.

Sustainability: risks and opportunities

An important climate change-related development concerns sustainability of mortgage portfolios. Every house sold in the Netherlands must have an energy label indicating how energy efficient it is. There are various subsidy schemes available to encourage sustainability, from a climate and a financial perspective. The war in Ukraine and the rising gas prices have ensured that this has suddenly become very prominent and relevant.

Syntrus Achmea Mortgages believes it is very important to have a sustainable mortgage portfolio. The policy is set up to encourage and incentivise consumers to make their home more sustainable. As a result, this can combat climate change and mitigate climate risks. For example, the following initiatives have been taken to encourage consumers to further improve sustainability.

- A customised portal to give consumers an insight into the sustainability profile of their homes and to offer a financial contribution to delivering investment in energysaving measures.
- A customised platform to implement energy-saving measures, making it easier for the consumer to implement these measures.
- Training mortgage advisers in sustainability so they are better equipped to inform consumers about their options.
- Ensuring that sustainability is always part of the mortgage consultation. The mortgage offer contains a separate chapter on sustainability.
- An energy-saving budget is a standard feature of the mortgage so that additional funds can be borrowed to make homes more sustainable.
- A green loan part has been introduced so that consumers can receive a discount on their mortgage rate if part of the mortgage is used to fund the implementation of energysaving measures.
- Consumers can claim an interest rate discount if their home is already sustainable. This provides a financial incentive to take sustainability measures.



Conclusions

- Dutch residential mortgages are an attractive asset class.
 Strong housing market fundamentals combined with strict regulation ensure a strong risk-return profile.
- Returns are stable and the financial risks are transparent.
 There is a limited credit risk, strict underwriting criteria, high payment morale and clear loan to value caps (no overfinancing).
- Limited additional risk as a result of climate change: an additional credit risk arises only if the debtor stops paying the mortgage and the value of the property were to fall significantly.
- Although the likelihood of flooding is increasing, it is very localised and there is minimum damage as a result of the flat landscape and sophisticated water management systems.
- The Delta Works are the Netherlands' largest defence system
 against rising sea levels. These flood defences are an ingenious
 system of storm flood defences. The Netherlands has a strong
 tradition when it comes managing water.
- Until 2031, €7.9 billion is available to strengthen 1,500 km of dykes at 300 locations to avoid potential flooding.
- Hence flood risks are largely mitigated by flood defences.
- If damage occurs, it can be recovered from insurers and the
 government is likely to step in. The recent past has taught us
 that the government provides a backstop to compensate for
 any damage from natural disasters in case it is not covered
 by insurance.



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