Investing in Dutch Mortgages

For institutional and professional investors only
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Aegon Asset Management in the Netherlands is a leading provider of Dutch mortgages. The Aegon Asset Management Dutch Mortgage strategy is available to institutional investors, including banks, pension funds and insurance companies.

The aim of this document is to introduce the strategy to institutional investors who seek diversification into loans. All figures are as at end of June 2017 unless stated otherwise.

Why invest in Dutch mortgages?

• Since the crisis, reduced competition in the Dutch mortgage market and increased bank regulation have resulted in high mortgage spread levels.
• Dutch residential mortgages have been a safe asset and offer an attractive yield relative to government bonds and corporate debt.
• The majority of Dutch residential mortgages benefit from a government guarantee through the National Mortgage Guarantee Scheme (NHG). Losses on Dutch mortgage portfolios have therefore always been very low.
• For institutional investors residential mortgages are an effective risk-diversifier: they offer direct credit exposure to consumers, as opposed to corporates and governments.
• Most Dutch residential mortgages have a long fixed-rate term. The long duration of mortgages provides a strong fit with the liabilities of pension plans and insurance companies.
• Residential mortgages have a low capital charge under Solvency II. They are covered by the “Default Risk Module” as opposed to the “Spread Risk Module”. Moreover, due to diversification benefits between different risk modules, the marginal capital charge can become negative under standard Solvency II rules.

Strategy characteristics

• The strategy currently offers a yield of Euro mid-swaps + 160 bps.
• Currently, 59% of mortgages benefit from the NHG guarantee. The minimum percentage of NHG mortgages is set at 50%.
• No official rating, but the implied rating is “AA”.
• Cumulative losses since inception are less than 1 bps.
• Focus is on long fixed-term mortgages. The weighted average fixed-term is approximately 18 years. The effective duration is about 7.5 years
• Only newly originated mortgages by Aegon.
• The monthly new Aegon mortgage production is split between external clients and Aegon’s own balance sheet. This co-origination governance structure ensures alignment of interest. Both receive the same yield and the same mortgage risk characteristics (such as loan-to-value distribution).
• Some liquidity via mortgage (p)repayment, and via matching of subscriptions and redemptions.
• Launched in August 2013, the investment vehicle targeting third-party institutional clients stands at €10.5 billion, with more than 60 institutional clients.

About Aegon Asset Management

• Aegon Asset Management manages assets of €326 billion on behalf of investors in Europe, North America and Asia (end of March 2017).
• Aegon Asset Management is part of Aegon Group, one of the world’s leading financial services organizations, providing insurance, pension and asset management services.
• Aegon Asset Management has managed Dutch mortgage vehicles since 1997.
• Aegon has a 7.3% (end of 2016) share of the mortgage lending market in the Netherlands and is the market leader for long fixed-rate mortgages.
An attractive yield with underlying guarantees

Dutch residential mortgages offer an attractive spread over the swap rate, compared to traditional asset classes such as government bonds and corporate bonds. Yet they come with a significant underlying guarantee. Residential mortgages are also an attractive risk diversifier within multi-asset portfolios and their long duration ensures a strong fit within the asset-liability framework of pension plans and insurers.

### Asset class

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Typical rating</th>
<th>Spread over swaps</th>
<th>Liquidity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAA government bonds</td>
<td>AAA</td>
<td>-45 bps</td>
<td>Very high</td>
</tr>
<tr>
<td>European investment grade credits</td>
<td>BBB / A</td>
<td>100 bps</td>
<td>Moderate to high</td>
</tr>
<tr>
<td><strong>Higher risk</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European high yield credits</td>
<td>BB / B</td>
<td>370 bps</td>
<td>Moderate</td>
</tr>
<tr>
<td>Emerging market credits</td>
<td>BB / B</td>
<td>375 bps</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Less liquid or more complex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment grade ABS</td>
<td>BBB to AAA</td>
<td>120 bps</td>
<td>Moderate</td>
</tr>
<tr>
<td>Dutch mortgages</td>
<td>AA</td>
<td>160 bps</td>
<td>Lower</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Barclays, Aegon Asset Management.

### Spread over swap

![Graph showing spread over swap from 2004 to 2016](source: Bloomberg, Aegon Asset Management)
Short overview of the Dutch mortgage market

Mortgage origination is governed by the Code of Conduct for mortgage lenders. The Code is written by the Dutch Banking Association and the Dutch Association of Insurers. In 2013, the government incorporated the Code into law. The Code sets, for example, the maximum Loan-to-Value and Debt-to-Income ratio. Hence, the Code ensures risk limits in underwriting. Therefore mortgage lenders essentially only compete in the mortgage market on the basis of mortgage rates and client service.

The Dutch mortgage market is characterized by the following:

• Outstanding market size of Dutch mortgage debt is about €650 billion. Annual volume is around €80 billion. The fixed-rate term of a mortgage can be up to 30 years. Banks focus mostly on mortgages with a fixed term of up to 10 years, whereas insurance companies and pension funds focus on mortgages with a longer fixed-rate term.
• Predominantly prime, owner occupied. Virtually no buy-to-let, non-conforming or sub-prime mortgages.
• “Full-doc” underwriting and no self-certification of income. There is an industry-wide credit database (BKR) and Fraud Register (SFH).
• Strong legal position for lenders. Full recourse to the borrower. Lenders can repossess and sell properties by public auction without a court order. Further recourse to other wealth including salary. Any remaining debt remains enforceable until discharged in full. Moody’s (2013) ranks the Netherlands high in terms of the legal right of recourse and in the practice of enforcement in comparison to other countries.
• The Netherlands has a generous tax regime for homeowners. Interest paid on mortgage loans is fully deductible from pre-tax income.
• From 2013, new mortgages need to be an annuity or linear mortgage to be tax deductible. Existing Interest-Only mortgages are grandfathered and will remain tax-deductible.
• Mortgage loans are provided predominantly on the basis of income. LTV’s are less of an issue in the Netherlands due to tax incentives that make Dutch mortgages much more affordable than in other countries. The Code prescribes an affordability calculation assuming a 30 year amortizing loan regardless of product and mortgage rate.
• The average LTV at origination has come down from 96% in 2010 to 89% in 2013. The average debt service-to-income ratio of the mortgages in the Netherlands is around 20%.
• The NHG program is the public mortgage loan guarantee scheme supporting home ownership in the Netherlands. An NHG guarantee can be obtained for an amortizing mortgage loan up to an amount of €245,000. The mortgage lender receives 90% compensation from the NHG program in case of a loss on an NHG mortgage.
• Dutch households have a good track record in paying off their debts. Fitch (2013) ranks default probability for Dutch mortgages among the lowest in Europe. This is due to employment protection and strong unemployment benefits, strict underwriting rules and the strong legal position of lenders.

All of the above points mean that losses on Dutch mortgage portfolios have historically always been low. Hence, the relatively high spread level on Dutch mortgages is not explained by mortgage fundamentals, but is mostly the result of the following technicals in the Dutch mortgage market:

• Banks are the largest mortgage providers in the Netherlands. New liquidity and capital rules make it more expensive for banks to provide mortgage loans. These additional costs for banks are transferred to the customer by higher mortgage spread levels.
• Dutch consumers hold the main share of their savings in pension plans. The level of bank deposits is therefore relatively low and is not sufficient for the funding of all loans provided by Dutch banks. This “deposit gap” keeps deposit rates much higher than in other countries. And these higher funding costs of banks are transferred to the customer with relatively high mortgage rates.
• In the 2008 financial crisis, the number of mortgage providers in the Netherlands decreased sharply, and is currently still well below 2007 level. The reduced competition in the mortgage market has also kept mortgage spread levels relatively high.
Aegon Asset Management’s mortgage experience

The Dutch mortgage market has undergone substantial change since the 2008 financial crisis. Banks have traditionally been the main providers of mortgage loans. However, due to the increased cost of funding for banks, together with the attractiveness of Dutch mortgage rates, insurance companies and pension plans have become principal providers of mortgage finance.

Aegon has been a mortgage lender in the Netherlands for more than 30 years, and has grown its market share over time. Currently, Aegon is number four in the Dutch mortgage market in mortgage production volume, behind three large Dutch banks: ABN AMRO, ING and Rabobank. These banks focus mostly on short fixed-rate mortgages, whereas Aegon focusses predominantly on providing long fixed-rate mortgages. This makes Aegon effectively the market leader in long fixed-rate mortgages in the Netherlands.

![Aegon mortgage lending market share chart]

Aegon mortgage lending market share in the Netherlands, end of 2016. Source: Land Registry

The losses in the Aegon portfolio have been very low and stable in recent years, due to Aegon’s long time expertise in underwriting and foreclosure.

Aegon Asset Management first setup a Dutch Mortgage vehicle in 1997 for its insurance-linked clients and sources the mortgages via Aegon. Since 2013, Aegon Asset Management also provides third-party institutional clients with access to the Dutch mortgage market, via a separate vehicle. Today, Aegon Asset Management manages €12.6 billion in Dutch mortgages for institutional clients. Dutch mortgage investment has become a cornerstone of the fixed-income capabilities of Aegon Asset Management.
Investment team

The Dutch Mortgages strategy is managed by Aegon Asset Management’s European ABS & Mortgages team. It consists of seven portfolio managers who are responsible for two mortgage funds and the asset-backed securities strategies. Frank Meijer, the Lead Portfolio Manager, and three other portfolio managers are responsible for the performance of the institutional vehicle since inception in August 2013.

Frank Meijer (pictured), PhD joined Aegon Asset Management in 2005. Frank is Head of the European ABS & Mortgages team. He is also a member of the Asset Liability Committee of Aegon Bank and a permanent guest lecturer at VU University in Amsterdam. Prior to his current role, he was also responsible for the Quant Group and has set up the Structured Credit Desk. Before joining Aegon Asset Management, Frank worked at ABN AMRO in the Credit Risk Modelling & Product department. Frank holds an MSc in Physics, cum laude, from University of Groningen and a PhD in Physics from Delft University of Technology.

Stijn Stortelder, CFA joined Aegon Asset Management in 2010. Stijn has been a portfolio manager in the European ABS & Mortgages team since 2012. Prior to his role at Aegon Asset Management, he worked for two years in the Portfolio Risk Management & Control department of Aegon Asset Management. Stijn holds an MSc in Finance from Amsterdam VU University and is a CFA charter holder.

Ewout van der Meer, CFA joined Aegon Asset Management in 2014. Ewout is a portfolio manager in the European ABS & Mortgages team. Prior to joining Aegon Asset Management, Ewout served for five years in the Structuring Team of NIBC. In that role, he worked on securitizations and covered bond programs backed by mortgage receivables. He also executed transactions backed by leases and other receivables. Ewout holds an MSc in Financial Economics, cum laude, from Erasmus University and is a CFA charter holder.

Rens Ramaekers joined Aegon Asset Management in 2015. Rens is a portfolio manager in the European ABS & Mortgages team. He started at Aegon Asset Management in 2014 as a trainee with a focus on Dutch Mortgages. Rens holds an MSc in Quantitative Finance and Actuarial Science from Tilburg University.
Portfolio summary

The portfolio statistics for a representative portfolio are summarized below.

### Portfolio statistics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of loans</td>
<td>50,392</td>
</tr>
<tr>
<td>Average principal balance per borrower</td>
<td>€203,193</td>
</tr>
<tr>
<td>Weighted average current interest rate (%)</td>
<td>3.17%</td>
</tr>
<tr>
<td>Weighted average remaining fixed rate period (in years)</td>
<td>18.40</td>
</tr>
<tr>
<td>Weighted average indexed LTV</td>
<td>82.5%</td>
</tr>
<tr>
<td>Weighted average indexed LTV for non-NHG mortgages</td>
<td>79.1%</td>
</tr>
<tr>
<td>Weighted average debt service-to-income</td>
<td>17.8%</td>
</tr>
<tr>
<td>Cumulative losses since inception</td>
<td>&lt; 1 bps</td>
</tr>
</tbody>
</table>

### Portfolio by redemption type

- Annuity: 23.8%
- Interest-only: 64.8%
- Savings: 5.3%
- Life insurance: 0.3%
- Linear: 0.3%

### Portfolio by interest re-set period

- 0-7 years: 12.7%
- 7-15 years: 5.8%
- 16-20 years: 6.6%
- 21-30 years: 64.9%

### Performance

The performance of a representative Dutch mortgages portfolio against the JPM Netherlands Government Bond Index is summarized below. The yield is currently the swap rate +160 bps per annum. We expect the strategy to outperform the reference index over a full business cycle.

#### Annualized returns

<table>
<thead>
<tr>
<th></th>
<th>1 year</th>
<th>2 years</th>
<th>3 years</th>
<th>Inception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representative portfolio</td>
<td>4.66%</td>
<td>4.65%</td>
<td>7.49%</td>
<td>7.09%</td>
</tr>
<tr>
<td>JPM Netherlands Government Bond Index</td>
<td>-4.29%</td>
<td>2.12%</td>
<td>2.85%</td>
<td>3.64%</td>
</tr>
<tr>
<td>Excess return</td>
<td>8.94%</td>
<td>2.52%</td>
<td>4.64%</td>
<td>3.45%</td>
</tr>
<tr>
<td>Information ratio</td>
<td>0.91</td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracking error (ex-post)</td>
<td>5.11%</td>
<td>4.88%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Calendar year returns

<table>
<thead>
<tr>
<th></th>
<th>2017 YTD</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representative portfolio</td>
<td>1.86%</td>
<td>6.32%</td>
<td>7.58%</td>
<td>9.20%</td>
</tr>
<tr>
<td>JPM Netherlands Government Bond Index</td>
<td>-1.73%</td>
<td>4.33%</td>
<td>0.35%</td>
<td>11.66%</td>
</tr>
<tr>
<td>Excess return</td>
<td>3.59%</td>
<td>1.99%</td>
<td>7.23%</td>
<td>-2.46%</td>
</tr>
</tbody>
</table>
Strategy details

Inception 30 August 2013
Assets under management €12.6 billion
Domicile The Netherlands
Liquidity terms Monthly liquidity
Minimum investment €1 million
Fees 0.50% per annum
Available to Qualified investors only

Investment policy and objective
- The strategy invests in Dutch mortgages that are originated by Aegon Hypotheken B.V., comply with the mortgage loan criteria and are secured by Dutch private homes.
- New mortgage loans in the portfolio are a cross-section of the new mortgage production and are acquired at the nominal value at the time of granting.
- Resources that are not invested in such mortgage loans will be invested in liquid assets or Dutch government bonds. Liquid assets are held for purposes such as facilitating entry and exit.
- The investment policy is aimed at buy-and-hold.

Benchmark The strategy has no benchmark. The JPM Netherlands Government Bond Index is reported for comparison purposes.

Monthly reporting
- Net asset value
- Overview of mortgage arrears
- Detailed stratification tables of the portfolio
- Loan-level-data of all the mortgages via a portal
- Expected cash flows going forward
- Portfolio look-through report
- Dutch Mortgage Bulletin with portfolio and market information
Important information

Aegon Investment Management B.V. is registered with the Netherlands Authority for the Financial Markets as a licensed fund management company. On the basis of its fund management license Aegon Investment Management B.V. is also authorized to provide individual portfolio management and advisory services.

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The strategy is not open to investors who (i) are not “Non-United States Persons” within the meaning of Dodd Frank (Commodity Futures Trading Commission Rule 4.7(A)(1) (iv)), or (ii) are designated as “Specified U.S. Persons” within the meaning of paragraph 1.1471-5(f)(1) (D) of the Foreign Account Tax Compliance Act.

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About Aegon Asset Management

Aegon Asset Management is a global, active investment manager. Aegon Asset Management uses its investment management expertise to help its clients take responsibility for their financial futures, with a focus on excellence, trust and partnership. Institutional and private investors entrust Aegon Asset Management to manage over €300 billion worldwide.

Positioned for success in its chosen markets (the UK, Continental Europe, North America and Asia), Aegon Asset Management’s specialist teams provide high-quality investment solutions across asset classes. Its clients benefit from the extensive international research capabilities and in-depth local knowledge of Aegon Asset Management, as well as Kames Capital, its UK investment team, and TKP Investments, its fiduciary management investment team in the Netherlands.

Aegon Asset Management is part of Aegon, one of the world’s leading financial services organizations, providing insurance, pension and asset management services.