MOODY'S
INVESTORS SERVICE

CREDIT OPINION
2 November 2018

Update

OP Mortgage Bank - Mortgage Covered Bonds 2

Update to new issue report, reflecting data as of 30 June 2018

Closing Date

April 2011

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Ratings

Exhibit 1

Cover Pool (€)	Ordinary Cover Pool Assets	Covered Bonds (€)	Rating
13,409,866,769	Residential Mortgage Loans	11,735,000,000	Aaa

Our ratings address only the credit risks associated with the transaction. Other non-credit risks have not been addressed, but may have a significant effect on yield to investors.
Source: Moody's Investors Service

Summary

The covered bonds issued by OP Mortgage Bank (OPMB or the issuer) are full recourse to the issuer and secured by a cover pool consisting exclusively of mortgage loans secured almost exclusively by owner-occupied residential properties located in Finland.

Credit strengths include the full recourse of the covered bonds to the issuer, Aa2(cr) counterparty risk (CR) assessment, and support provided by the Finnish covered bond legislation.

Credit challenges include the high level of dependency on the issuer. As with most covered bonds in Europe, the issuer can materially change the nature of the programme.

Our credit analysis takes into account the cover pool's credit quality, which is reflected in the collateral score of 5.0%, the current over-collateralisation (OC) of 14.3% as of 30 June 2018 and the programme's enhanced features, which includes a soft-bullet maturity extension of up to 12 months.

Credit strengths

» ***Recourse to the issuer*:** The covered bonds are full recourse to OPMB. (See "Covered bond analysis")

» ***Support provided by the Finnish legal framework*:** The covered bonds are governed by the Finnish covered bond legislation (Act on Mortgage Credit Bank Operations, Laki kiinnitysluottopankkitoiminnasta, 688/2010), which provides for the issuer's regulation and supervision, and sets certain minimum requirements for the covered bonds and the cover pool. (See "Covered bond description - Structure description")

- » ***High credit quality of the cover pool*****:** The covered bonds are supported by a cover pool of high-quality assets. The assets are exclusively residential mortgage loans backed by properties in Finland. The collateral quality is reflected in the collateral score, which is currently 5.0% (2.0% collateral score excluding systemic risk). (See “Cover pool analysis”)
- » ***No currency risk*****:** Both the assets and the liabilities are denominated in the same currency (euros), so we have not modelled any risk of currency mismatch. (See “Covered bond analysis”)
- » ***No set-off, claw-back or moratorium risk.*** The covered bond law prohibits set-off against cover pool assets that benefit from the priority rights. This does not prevent netting under derivatives contracts.
- » ***Provisions for a cover pool supervisor:*** At issuer insolvency, the Finnish financial services authority (FIN-FSA) would appoint a cover pool supervisor and will continue to supervise the issuer. The cover pool supervisor has a strong and clearly defined role relative to the bankruptcy administrator and a clear mandate to act in the interests of covered bondholders.

Credit challenges

- » ***High level of dependency on the issuer's credit strength:*** The credit quality of the covered bonds is primarily dependent on the credit quality of the covered bond issuer. If the issuer's (or another entity in the issuer group that supports the issuer) credit strength deteriorates, there would be a greater risk that the issuer, ceases to service the payments on the covered bonds (we call it a CB anchor event), leading to refinancing risk for the covered bonds; consequently the credit quality of the covered bonds would deteriorate unless sufficient credit enhancements are implemented. At the same time, as a separate legal entity, the issuer may survive the default of its parent, and this may enable the issuer to continue operating at least for a period and possibly gain access to alternative liquidity sources. (See “Covered bond description”)
- » ***Investors exposed to issuer discretion:*** As with most covered bonds, before the insolvency of the issuer, the issuer can materially change the nature of the programme. Issuer's changes could affect the cover pool's credit quality as well as the overall refinancing risk and market risks. The issuer has the ability, but not the obligation, to increase the over-collateralisation (OC) in the cover pool to mitigate the aforementioned risks. (See “Covered bond description”)
- » ***Refinancing*****:** Following a CB anchor event, cash flows from the assets may not be sufficient to meet the repayment obligations under the covered bonds. Covered bondholders, to achieve timely principal payment, might need to rely on proceeds raised through the sale of, or borrowing against, cover pool assets. In this scenario, the market value of these assets may be subject to high volatility. Refinancing risk is mitigated by the ability to extend most of the covered bonds' maturity by 12 months (soft-bullet covered bonds). (See “Covered bond analysis”)
- » ***Interest rate risk:*** Interest rate risk exists as 99.1% of the covered bonds are fixed rate, while 97.9% of the assets are floating rate. The risk is mitigated by group internal swap agreements entered into with OP Corporate Bank PLC. While the hedging arrangements contain a number of provisions designed to reduce the likelihood of the swaps terminating at a time of insolvency of the issuer, such termination remains a possibility. (See “Covered bond analysis”)
- » ***Time subordination:*** After a CB anchor event, later-maturing covered bonds are subject to time subordination. Principal cash collections may be used on a first-come, first-served basis, paying earlier-maturing covered bonds before later-maturing covered bonds. This subordination could lead to the erosion of OC before any payments are made to later-paying covered bonds. (See “Covered bond analysis”)

Key characteristics

Exhibit 2

Covered bond characteristics

Moody's Programme Number:	262
Issuer:	OP Mortgage Bank
Covered Bond Type:	Residential Mortgage Loans
Issued under Covered Bonds Law:	Yes
Applicable Covered Bonds Law:	Finland - Legal Framework for Covered Bonds
Entity used in Moody's TPI analysis:	OP Corporate Bank plc
CR Assessment:	Aa2(cr)
CB Anchor:	CR assessment +1 notch
Senior unsecured/deposit rating:	Aa3
Total Covered Bonds Outstanding:	€11,735,000,000
Main Currency of Covered Bonds:	EUR (100%)
Extended Refinance Period:	Yes
Principal Payment Type:	Soft bullet (some bonds are hard bullet; see Covered Bond Analysis)
Interest Rate Type:	Floating rate covered bonds (0.9%), fixed rate covered bonds (99.1%)
Committed Over-Collateralisation:	2.0% on NPV basis, per law
Current Over-Collateralisation:	14.3% (on a nominal basis)
Intra-group Swap Provider:	OP Corporate Bank PLC
Monitoring of Cover Pool:	Supervision of Finnish FSA
Trustees:	n/a
Timely Payment Indicator:	Probable-High
TPI Leeway:	5 notches

Source: Moody's Investors Service, issuer data

Exhibit 3

Cover pool characteristics

Size of Cover Pool:	€13,409,866,769
Main Collateral Type in Cover Pool:	Residential (100.0%)
Main Asset Location of Ordinary Cover Assets:	Finland (100%)
Main Currency:	EUR (100%)
Loans Count:	252,492
Number of Borrowers:	308,003
WA unindexed LTV:	51.0%
WA indexed LTV:	45.0%
WA Seasoning:	71 months
WA Remaining Term:	154 months
Interest Rate Type:	Fixed rate assets (2.1%), floating rate assets (97.9%)
Collateral Score:	5.0% (2.0% excluding systemic risk)
Cover Pool Losses:	9.4%
Further Cover Pool Details:	See Appendix 1
Pool Cut-off Date:	30 June 2018

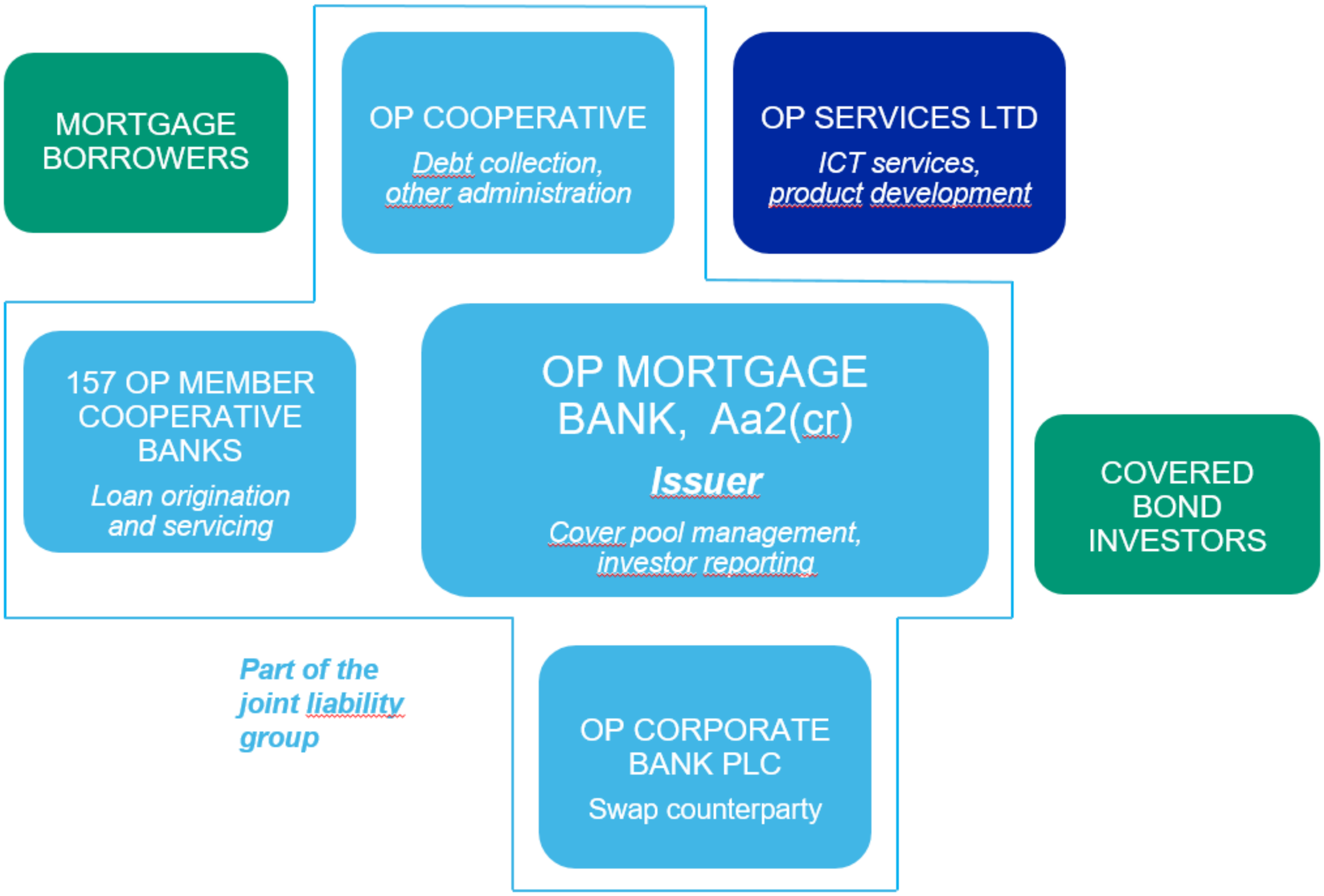
Source: Moody's Investors Service, issuer data

Covered bond description

The covered bonds issued under the mortgage covered bond programme of OPMB are full recourse to the issuer. Upon a CB anchor event, covered bondholders will have access to a cover pool of residential mortgage loan receivables.

Structural diagram:

Exhibit 4



Source: Moody's Investors Service, issuer data

Structure description

The bonds

All but 2% of the outstanding covered bonds have a soft-bullet repayment at maturity, with a 12-month extension period for the repayment of the bonds. If the issuer notifies the paying agent that it will not redeem the relevant covered bonds in full on the (expected) maturity date, the maturity of the covered bonds then outstanding and the date on which such covered bonds will be due and repayable will be automatically extended up to but no later than the (legal final) extended maturity date. In that event, the issuer may redeem all or some only of the covered bonds then outstanding on any interest payment date. The interest payable on the bonds in such event is expected to be a floating rate calculated with reference to EURIBOR or its equivalent as detailed in the bond's terms and conditions.

The soft-bullet provision provides the issuer technically with an option to extend the maturity of its soft bullet covered bonds. However, we are not aware of any case where an issuer has exercised this option to actually extend the maturity of a bond in the market; such a step would likely have materially negative consequences.

Issuer recourse

The covered bonds are full recourse to the issuer, OPMB. Therefore, the issuer is obliged to repay principal and pay interest on the covered bonds. Our analysis links to OP Corporate Bank PLC for the Expected Loss and TPI analysis.

Recourse to cover pool

If the issuer becomes insolvent, the covered bondholders would have priority claims over a pool of assets (cover pool).

The Finnish covered bond legislation requires that asset cover must be maintained on both a nominal and net present value (NPV) basis:

(1) on a nominal basis, the total amount of cover pool assets must continuously exceed the principal amount of the covered bonds; and

(2) on a NPV basis, the net present value of the total amount of cover pool assets must continuously exceed by at least 2.0% the total net present value of payment liabilities under covered bonds. We understand the NPVs should be calculated, for both covered bonds and cover pool assets, as the total value of future discounted cash flows applying the market rate of interest prevailing from time to time.

In each case, the amount of cover pool assets included in the test is restricted by the loan-to-property value (LTV) thresholds and also takes into account the effect of derivatives contracts. See “Cover pool description” for the LTV thresholds.

Overcollateralisation (OC)

The OC in the cover pool is 14.3% on a nominal value basis of which 2.0% are provided on a NPV basis in a “committed” form in accordance with the legal minimum requirement. According to the issuer, these reported OC levels include loan parts above the LTV thresholds. Under Moody's Cobol model, the minimum OC consistent with the Aaa rating is 0.0%, of which the issuer should provide 0% in a “committed” form to be given full value (numbers in nominal terms). Moody's is currently giving benefit to “uncommitted” OC in its expected loss analysis.

Covered bondholders (and derivatives counterparties/providers of liquidity finance) will have preferential security interest over the OC, including (uncommitted) OC in excess of the legal minimum, as long as this does not include loan amounts that exceed the LTV thresholds at the time the issuer enters insolvency and the cover pool is segregated. In respect of OC made up of loan parts that come to exceed the LTV thresholds *after* issuer default, covered bondholders should have priority.

Ability to provide OC: The board of OP Financial Group must annually set limits on the total amount of covered bond issuance, reflecting FIN-FSA regulations and guidelines 6/2012. As a general guideline, OP Mortgage Bank's internal aim is to fund a maximum of one third of OP Financial Group's mortgage-backed loan portfolio through covered bonds.

In each case, the amount of cover pool assets included in the test is restricted by the loan-to-property value (LTV) thresholds.

Willingness to provide OC: Although the issuer has the ability to increase the OC in the cover pool if the collateral quality deteriorates or other risk in the programme increase, the issuer does not have any obligation to do so. The failure to increase OC following a deterioration of the collateral could lead to a negative rating action.

Legal framework

The covered bonds are governed by the Finnish covered bond legislation (Act on Mortgage Credit Bank Operations, *Laki kiinnitysluottopankkitoiminnasta*, 688/2010). There are a number of strengths in this legislation, including the regulation of the issuer by the Finnish Financial Supervisory Authority (FSA), as well as certain minimum requirements for the covered bonds and the cover pool. (See Covered Bonds: Finland - Legal Framework for Covered Bonds)

Covered bond analysis

Our credit analysis of the covered bonds primarily focuses on the issuer's credit quality, refinancing risk, interest rate risk and currency risk, as well as the probability that payments on the covered bonds would be made in a timely fashion following a CB anchor event, which we measure using the Timely Payment Indicator (See “Timely Payment Indicator”).

Primary analysis

Credit quality of the issuer

The issuer's CR assessment is Aa2(cr). It belongs to the OP Financial Group, which has a CR Assessment of Aa2(cr). For a description of OP Financial Group's rating drivers, see our Credit Opinion, published on 25 April 2018. (See “Moody's related publications”)

The reference point for the issuer's credit strength in our analysis is the CB anchor, which for covered bond programmes under the covered bond law in Finland is the CR Assessment plus one notch.

The credit quality of the covered bonds depends primarily on the credit quality of the issuer. If the issuer's credit strength were to deteriorate, there would be a greater risk that a CB anchor event would occur, leading to refinancing risk for the covered bonds. Consequently, the credit quality of the covered bonds would deteriorate unless other credit risks were to decrease.

In the event that the CB anchor deteriorates, the issuer would have the ability, but not the obligation, to increase the OC in the cover pool. Failure to increase the level of OC under these circumstances could lead to a negative rating action.

Exposure to issuer discretion

Reasons for the high level of dependency of the covered bonds with the issuer also include exposure to decisions made by the issuer in its discretion as manager of the covered bond programme. For example, before a CB anchor event, the issuer may add new assets to the cover pool and remove assets from the cover pool, issue further bonds with varying promises and enter new hedging arrangements. Such actions could change the nature of the programme.

With respect to the cover pool, we see currently limited substitution risk with respect to the following aspects:

» The legal framework limits the share of commercial mortgage loans to 10% of the total cover pool. The issuer would have the option to amend the terms and conditions of the covered bonds to change such limit but we note that the cover pool currently does not contain commercial mortgage loans and understand that this is in line with the issuer's medium term plans.

» The legal framework requires that both residential and commercial mortgage loans are secured by property located within the European Economic Area. Currently all mortgage loans are secured by properties located in Finland and understand that this is in line with the issuer's medium term plans.

Substitution risk and issuer discretion can be mitigated by (1) the bondholders' direct claim on the issuer; and (2) our monitoring of the cover pool to assess the evolution of the quality of the cover pool collateral. If we determine as part of our monitoring that the quality of the collateral has deteriorated below a certain threshold, and the committed OC is not consistent with the current rating, the issuer has the capability — but not the obligation — to increase the OC in the cover pool. Failure to increase OC levels following a deterioration of the collateral under these circumstances could lead to a negative rating action.

Refinancing risk

Following a CB anchor event, the "natural" amortisation of the cover pool assets alone cannot be relied on to repay principal. We assume that funds must be raised against the cover pool at a discount if covered bondholders are to receive timely principal payment. Where the portion of the cover pool that is potentially exposed to refinancing risk is not contractually limited, our expected loss analysis typically assumes that this amount is in excess of 50% of the cover pool.

After a CB anchor event, the market value of these assets may be subject to volatility. Examples of the stressed refinancing margins we use for different types of prime-quality assets are published in our Rating Methodology. (See "Moody's related publications - Moody's Approach to Rating Covered Bonds")

The refinancing-positive factors outweigh the negative ones. The refinancing-positive aspects of this covered bond programme include:

» The high credit quality of the cover pool, which is reflected in the low collateral score of 5.0%. A high credit quality of the cover pool will lead to a lower write-off for losses and lower refinancing margins applied, all other variables being equal.

» Under the direction of a cover pool supervisor appointed by the FIN-FSA, the bankruptcy administrator will manage the cover pool separately from the issuer's insolvency estate. The cover pool supervisor will supervise the interests of bondholders and other comparable creditors, and exercise their right to be heard.

» The legal framework offers a variety of ways in which financing can be achieved against the cover pool, including complete and partial sales of the cover pool, with or without all or parts of liabilities attached. The administrator has the same power to act as the issuer in respect of mortgage loans and their applicable terms. The market is dominated by floating-rate loans. The margins on these loans could not be re-set at the issuer's (or administrator's) discretion.

- The administrator may enter into any contractual arrangements for the purpose of securing liquidity, upon the demand or with the consent of the cover pool supervisor. Counterparties under these agreements would rank equally with covered bondholders and derivatives counterparties. Liquidity could be obtained by using covered bonds as collateral for repo agreements, but it is not clear whether the FIN-FSA would permit further issuance of covered bonds for this purpose after issuer default. The cover pool assets could not be directly used as collateral under repo agreements, except with the permission of the FIN-FSA.
- All but 2% of the covered bonds issued under this programme benefit from an extension period of 12 months. Also, the issuer shall ensure that the total amount of interest accrued from the cover pool assets, during any successive period of 12 calendar months, is sufficient to cover the total amount of interest payable to holders of covered bonds and payments to counterparties in derivative contracts during the same period.

Refinancing-negative aspects of this covered bond programme include:

- In line with other covered bond programmes, we expect that upon a CB anchor event the cover pool assets will have a significantly higher weighted-average life, compared with the outstanding covered bonds.
- This covered bond programme includes acceleration risk. If asset cover and minimum OC requirement are not met, the administrator must upon the demand or with the consent of the cover pool supervisor, call the covered bonds due and, in order to pay them, sell the cover pool assets. The asset cover test includes to
  - maintain the legal minimum 2% OC requirement on a NPV basis; and
  - maintain collateral equal to the notional of the covered bonds at a maximum 70% loan-to-value (LTV) ratio for residential mortgage loans.
- We note certain consequences that seem to arise from the reference to the cover pool tests as detailed below but we expect the authorities and the cover pool supervisor to take a pragmatic approach considering the benefit of noteholders if these provisions are ever tested and avoid acceleration for technical, minor or temporary breaches:
  - It is not clear whether the exclusion from the cover tests of loan parts that come to exceed the LTV thresholds after issuer default could lead to a breach of the tests, even though these assets come within the priority rights; and
  - the tests appear to be breached if OC levels fall below the minimum 2%, meaning the 2% is not there to act as a buffer to absorb losses after issuer default and thereby avoid or delay acceleration.

Interest rate and currency risk

As with the majority of European covered bonds, there is potential for interest rate risks, which could arise from the different payment promises and durations made on the cover pool and the covered bonds.

Exhibit 5

Overview of assets and liabilities

	WAL Assets (Years)	WAL Liabilities (Years)	Assets (%)	Liabilities (%)
Fixed rate	8.2	4.3	2.1%	99.1%
Variable rate	6.8	0.5	97.9%	0.9%

WAL = weighted average life.
Source: Moody's Investors Service, issuer data

In the event of issuer insolvency, we currently do not assume that the special cover pool administrator will always be able to efficiently manage any natural hedge between the cover pool and the covered bonds. Therefore, following a CB anchor event, our model would separately assess the impact of increasing and decreasing interest rates on the expected loss of the covered bonds, taking the path of interest rates that leads to the worst result. The interest rate and currency stresses used over different time horizons are published in our rating methodology. (See "Moody's related publications - Moody's Approach to Rating Covered Bonds")

Aspects of this covered bond programme that are market-risk positive include:

» No currency risk: Currently, all outstanding covered bonds and all cover assets are denominated in euros. In addition, under the legal framework all currency mismatches must be hedged.

» The requirement under the legal framework that the present value OC of the cover pool must exceed, by at least 2%, the total of outstanding covered bonds issued against the cover pool. Non-performing loans may not be taken into account in the calculations.

» The issuer must test, on an ongoing basis, that total interest accruing on the cover pool assets[1] over 12 months is sufficient to cover interest payable during that period to covered bondholders and payments under derivatives.[2] Guidelines suggest that this calculation should also be stressed, for instance by moving the yield curve +/- 1%; however, such stresses are not applicable for this programme as swap arrangements have been put in place.

Aspects of this covered bond programme that are market-risk negative include:

» Almost all of the cover pool assets are floating rate (97.9%), but almost all covered bonds are fixed rate (99.1%).

» Swap arrangements have been put in place to mitigate the interest-rate risk stemming from the different rates of interest received on the cover pool assets (mainly floating rate) and on the covered bonds (mainly fixed rate). However, the risk of swap termination at the time of issuer insolvency increases given that all interest rate swaps in place are entered into with OP Corporate Bank PLC, which belongs to the same group as the issuer. The swap arrangements aim at reducing the impact on the covered bonds in case the credit quality of the swap counterparty deteriorates below certain predetermined levels.

  – The current swap documentation foresees that the swap counterparty must post collateral upon loss of A2, and upon loss of A3 must either procure a guarantee in respect of all of its present and future obligations under the swap agreement, or transfer the swap agreement to an entity that could perform the obligations. For further information including to the trigger levels that Moody's gives benefit to in its analysis, please refer to the Moody's Related Publications section.[3]

  – The ISDA / CSA is a one-way contract where OP Corporate Bank PLC posts collateral to the issuer. Only cash collateral is forseen to be used, we expect only EUR would be exchanged. There is no requirement to transfer cash collateral to a third party in case the credit strength of the account bank (OP Financial Group member bank) deteriorates. Also, there is legal uncertainty with respect to the segregation of posted swap collateral from the issuer's insolvency estate.

» It is not clear whether all forms of swap collateral posted by a swap counterparty before issuer insolvency would necessarily become part of the segregated cover pool upon issuer insolvency. For example, there is no explicit requirement for the issuer to put cash collateral received from the swap counterparty onto a segregated account.

» A default under, or early termination of a swap agreement does not result in a contractual acceleration of the covered bonds. However, following a CB anchor event, the covered bondholders may be exposed to the risk of swap termination following late payment on the covered bonds.

Timely Payment Indicator

Our Timely Payment Indicator (TPI) assesses the likelihood that timely payments will be made to covered bondholders following a CB anchor event, and thus determines the maximum rating a covered bond programme can achieve with its current structure while allowing for the addition of a reasonable level of OC. We have assigned a TPI of Probable-High to these covered bonds, in line with other mortgage covered bonds issued under the legal framework.

Based on the current TPI of Probable-High, the TPI leeway for this programme is five notches. This five-notch leeway implies that we might downgrade the covered bonds' rating because of a TPI cap if we were to lower the CB anchor by more than five notches, all other variables being equal.

The TPI-positive aspects of this covered bond programme include:

» The level of support expected for covered bonds in Finland.

» When the issuer is placed in liquidation or declared bankrupt, the entire estate (including the covered bonds) shall be administered by a bankruptcy administrator appointed by the courts (pesänhoitaja). However, in addition to this, the FIN-FSA shall appoint an attorney (asiamies; cover pool supervisor) to supervise the interests of creditors of covered bonds and equivalent creditors, and to exercise on their behalf the right to be heard. In particular, the cover pool supervisor will supervise cover pool cash flows and payments to covered bondholders. The cover pool supervisor has quite a wide range of powers and is required to be independent.

» Most of the covered bonds benefit from an extension period for the repayment of the bonds of up to 12 months.

» The issuer needs to ascertain that the total amount of interest accruing on the cover pool collateral over a rolling 12-month period must be sufficient to cover interest payments to bondholders and swap counterparties over the same period.

» The operation of the legal framework excludes set-off risk for loans registered in the cover pool. The cover pool supervisor's obligation to supervise the management of cash flow and the requirement to register funds received on cover pool assets in the cover pool register mitigate commingling risk.

» There is no moratorium under the Finnish law that could challenge timely payments on covered bonds.

The TPI-negative aspects of this covered bond programme include:

» Acceleration risk: The legal framework specifies several cover pool tests. Under the legal framework, asset cover requirements shall be met. If any of the tests are breached, the bankruptcy administrator must upon demand or consent of the supervisor accelerate the covered bonds, exposing the cover pool to refinancing risk. However, as mentioned before, we expect the authorities and the cover pool supervisor to take a pragmatic approach if these provisions are ever tested and avoid acceleration for technical, minor or temporary breaches.

» The programme does not benefit from any designated source of liquidity if cash flow collections are interrupted.

Additional analysis

Time subordination

After a CB anchor event, later-maturing covered bonds are subject to time subordination. Principal cash collections may be used on a first-come, first-served basis, paying earlier-maturing covered bonds before later-maturing covered bonds. Such payments could result in the erosion of OC before any payments are made to later-paying covered bonds. However, the effects of time subordination could be mitigated if the cover pool supervisor decides to accelerate all the bonds in case the asset cover requirements detailed earlier are not met.

Comparables

Exhibit 6

Comparables - OP Mortgage Bank and other selected Finnish deals

PROGRAMME NAME	OP Mortgage Bank - Mortgage Covered Bonds 2	Nordea Mortgage Bank Plc - Mortgage Covered Bonds	Aktia Bank p.l.c. - Mortgage Covered Bonds	Danske Mortgage Bank Plc - Mortgage Covered Bonds (Danske Bank Plc - Mortgage Covered Bonds)
Overview				
Programme is under the law	Finland	Finland	Finland	Finland
Main country in which collateral is based	Finland	Finland	Finland	Finland
Country in which issuer is based	Finland	Finland	Finland	Finland
Total outstanding liabilities	11,735,000,000	17,355,685,221	1,540,000,000	4,000,000,000
Total assets in the Cover Pool	13,409,866,769	20,359,595,298	2,109,603,072	4,967,962,564
Issuer name	OP Mortgage Bank	Nordea Mortgage Bank plc	Aktia Bank plc	Danske Mortgage Bank plc
Issuer CR assessment	Aa2(cr)	Unrated	A2(cr)	Unpublished
Group or parent name	OP Financial Group	Nordea Bank AB	n/a	Danske Bank A/S
Group or parent CR assessment	Aa2(cr)	Aa2(cr)	n/a	Aa2(cr)
Main collateral type	Residential	Residential	Residential	Residential
Collateral types	Residential 100%, Commercial 0%, Public Sector 0%, Other/Supplementary assets 0%	Residential 99%, Commercial 0%, Public Sector 1%, Other/Supplementary assets 0%	Residential 100%, Commercial 0%, Public Sector 0%, Other/Supplementary assets 0%	Residential 100%, Commercial 0%, Public Sector 0%, Other/Supplementary assets 0%
Ratings				
Covered bonds rating	Aaa	Aaa	Aaa	Aaa
Entity used in Moody's EL & TPI analysis	OP Corporate Bank plc	Nordea Bank AB	Aktia Bank p.l.c.	Danske Mortgage Bank Plc
CB anchor	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch	CR Assessment + 1 notch
CR Assessment	Aa2(cr)	Aa2(cr)	Aa3(cr)	Unpublished
SUR / LT Deposit	Aa3	Aa3	A1	n/a
Unsecured claim used for Moody's EL analysis	Yes	No	Yes	Yes
Value of Cover Pool				
Collateral Score	5.0%	5.1%	5.0%	5.0%
Collateral Score excl. systemic risk	2.0%	2.7%	4.7%	2.9%
Collateral Risk (Collateral Score post-haircut)	3.4%	3.4%	3.4%	3.4%
Market Risk	6.1%	8.3%	10.3%	6.6%
Over-Collateralisation Levels				
Committed OC*	2.0%	0.0%	10.0%	5.0%
Current OC	14.3%	17.3%	37.0%	24.2%
OC consistent with current rating	0.0%	0.0%	0.0%	0.0%
Surplus OC	14.3%	17.3%	37.0%	24.2%
Timely Payment Indicator & TPI Leeway				
TPI	Probable-High	Probable	Probable-High	Probable-High
TPI Leeway	5	5	4	4
Reporting date	30 June 2018	31 March 2018	31 March 2018	31 March 2018

Source: Moody's Investors Service, issuer data

Cover pool description

Pool description as of 30 June 2018

The cover pool may comprise (1) residential mortgage loans, including shares in housing companies; (2) commercial mortgage loans up to 10% of the cover pool; (3) public-sector loans to the Finnish state or a municipality or equivalent entity (or loans guaranteed by such entities); and (4) qualifying substitute assets. As of 30 June 2018, the cover pool consisted of residential mortgage loans. All of the cover assets are loans backed by properties in Finland.

No mortgage loan may be included in the cover pool if its outstanding balance exceeds the current value of the related property. For the purpose of the cover tests, the following loan-to-value thresholds (LTVs) are applied to mortgage loans: (1) residential mortgage loans: 70% of the current value of the related property; and (2) commercial mortgage loans: 60% of the current value of the related property.

The "current value" is used in relation to residential and commercial property. The current value is determined in accordance with good real-estate-evaluation practice applicable to credit institutions in accordance with FIN-FSA capital adequacy and credit risk regulations. For the initial valuation of ordinary residential properties, a contract of sale may be sufficient. For loans over €3 million, the issuer must acquire the statement of an independent and external real estate evaluator approved by the Central Chamber of Commerce.

OP Financial Group monitors market price developments quarterly using price indexes received from Statistics Finland.

Loan parts that are or become ineligible as property values deteriorate may remain in the cover pool (provided overall LTV is below 100%) but will not be taken into account for the cover tests and covered bondholders will not have preferential security interest over the portion of the loan in excess of the LTV thresholds.

Non-performing assets may not be taken into account when calculating the total amount of cover pool assets for the purpose of the cover tests. We understand that under FIN-FSA guidelines assets should be recorded as non-performing for their entire principal amount if either interest or principal is in arrears for 90 days.

For DMB's underwriting criteria, see "Appendix - Income underwriting and valuation".

Residential mortgage loans

On a nominal value basis, the cover pool assets total €13.40 billion, which back €11.73 billion in covered bonds. This translates into an OC level of 14.3% on a nominal basis.

As Exhibits 7 and 8 show, mortgage loans are secured almost exclusively by owner-occupied residential properties in Finland. Of those, 33.3% are in the Uusimaa region, 9.5% in Pirkanmaa and the remainder is distributed in various other regions. This distribution shows comparatively low geographical concentration of the pool.

The general characteristics of the loans include the following:

» OP Financial Group member cooperative banks originate the loans, and the bank's staff verifies the customer's income using a debt service capability test. Based on the test, the borrower's net income, reduced by all expenses and assuming a total interest rate of 6% and annuity repayment of 25 years, has to exceed all debt servicing costs.

» The loans are performing.

» The weighted average LTV ratio of the residential loans is 45% on an indexed basis. 4% of the cover pool are loans with a LTV above the legal threshold (70%), and the ineligible share of such loans (amount above the legal threshold) is €47 million.

» Some of the mortgage loans included in the cover pool benefit from a state guarantee, personal guarantee or bank guarantee. We have not considered these guarantees when estimating the severity of loss for those loans in the event of foreclosure of the property.

» The loans are fully drawn and there are no obligations for the issuer to make further advances in any of the loans included in the pool.

» All loans are denominated in euros, hence there is no currency risk on borrower and property level.

Exhibit 7 show more details about the cover pool characteristics.

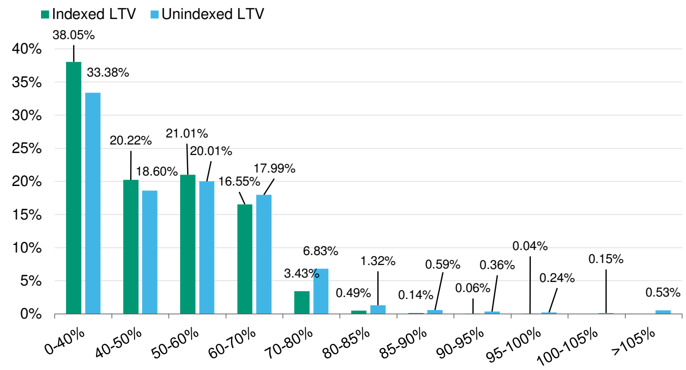
Exhibit 7

Overview		Specific Loan and Borrower characteristics	
Asset type:	Residential	Loans with an external guarantee in addition to a mortgage:	n/a
Asset balance:	13,409,866,769	Interest only Loans:	0.0%
Average loan balance:	53,110	Loans for second homes / Vacation:	0.1%
Number of loans:	252,492	Buy to let loans / Non owner occupied properties:	0.0%
Number of borrowers:	308,003	Limited income verified:	0.0%
Number of properties:	260,741	Adverse credit characteristics (**):	0.0%
WA remaining term (in months):	154		
WA seasoning (in months):	71	**Performance**	
		Loans in arrears (≥ 2months - < 6months):	0.0%
Details on LTV		Loans in arrears (≥ 6months - < 12months):	0.0%
WA unindexed LTV (*):	51.0%	Loans in arrears (≥ 12months):	0.0%
WA indexed LTV:	45.0%	Loans in a foreclosure procedure:	0.0%
Valuation type:	Market Value		
LTV threshold:	70.0%	**Multi-Family Properties**	
Junior ranks:	0.0%	Loans to tenants of tenant-owned Housing Cooperatives:	n/a
Prior ranks:	0.0%	Other type of Multi-Family loans (***):	n/a

(*) Based on property value at time of origination or further advance or borrower refinancing.
(**) Typically borrowers with a previous personal bankruptcy or borrowers with record of court claims against them at time of origination.
(***) This "other" type refers to loans directly to Housing Cooperatives and to Landlords of Multi-Family properties (not included in Buy to Let).
Source: Moody's Investors Service, issuer data

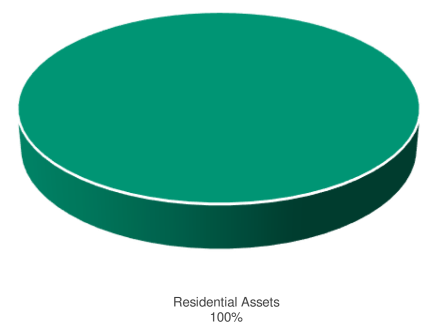
Exhibit 8

Exhibit A
Balance per LTV band



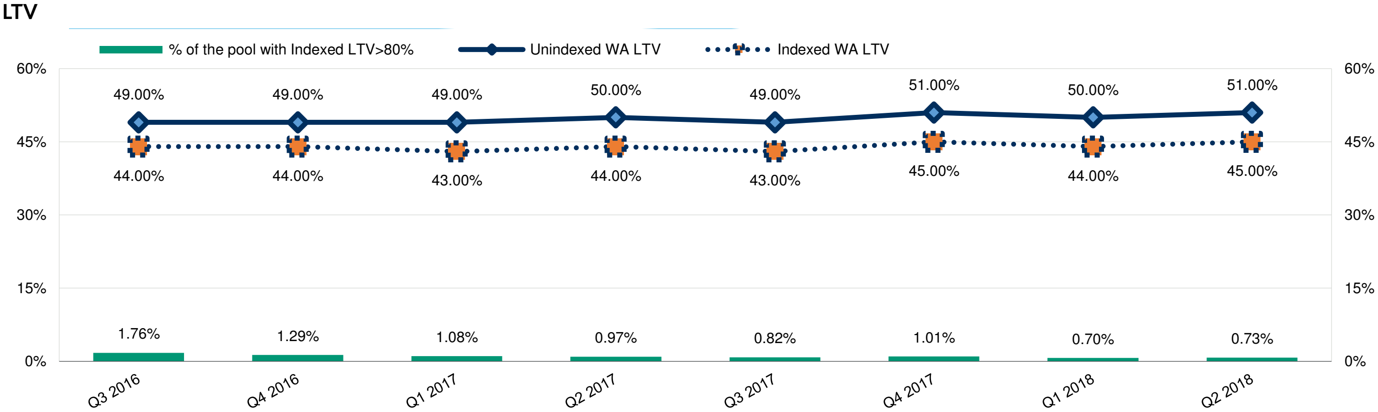
Sources: Moody's Investors Service, issuer data

Exhibit B
Percentage of residential assets



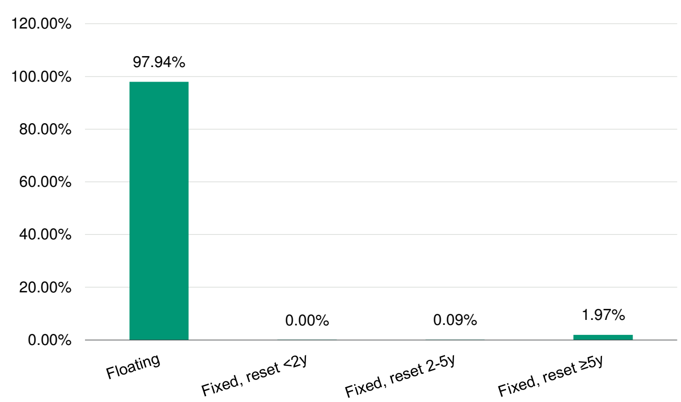
Sources: Moody's Investors Service, issuer data

Exhibit C
LTV



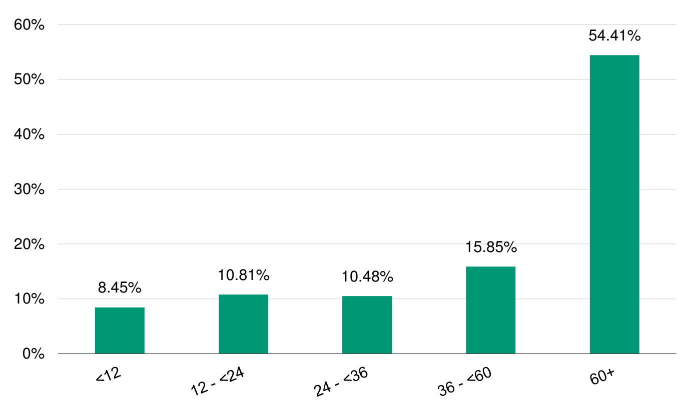
Sources: Moody's Investors Service, issuer data

Exhibit D
Interest rate type



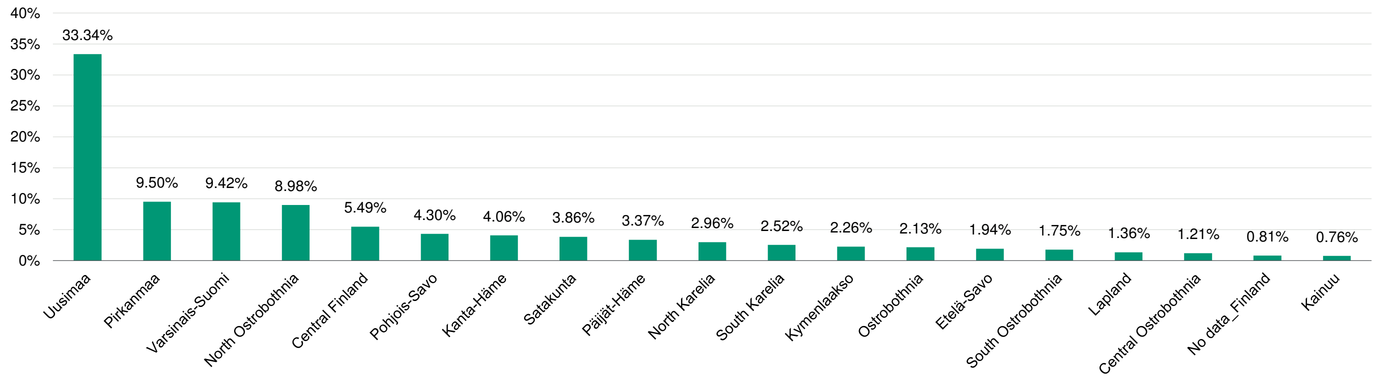
Sources: Moody's Investors Service, issuer data

Exhibit E
Seasoning (in months)



Sources: Moody's Investors Service, issuer data

Exhibit F
Main country regional distribution



Sources: Moody's Investors Service, issuer data

Cover pool analysis

Our credit analysis of the pool takes into account specific characteristics of the pool.

Primary cover pool analysis

We calculate the collateral score for residential mortgage loans with a scoring model (called MILAN) that we use to assess the credit risk of residential mortgage loan portfolios. For this transaction, we calculated a collateral score of 5%, based on the information available on the current pool and assuming a 70% LTV threshold. The collateral score, reflecting the credit risk of the cover pool in a stress scenario, is in line with the collateral score modelled for other Finnish cover pools, and this is mainly owing to the owner-occupied residential nature of the properties and overall good quality of the mortgage loans with strong loan amortization characteristics.

From a credit perspective, we see the following characteristics of the residential mortgage loans as positive:

» All mortgage loans are amortising on a regular basis with the view to fully repay the mortgage within 25 years. Less than 0.5% of the cover pool are mortgages that have a maturity over 25 years based on the scheduled amortisation profile.

» Robust income underwriting; the income of each borrower has been verified and the income restricts the amount that can be lent.

» The vast majority of mortgage loans are secured on owner-occupied residential properties in Finland.

» LTV of 45% on an indexed property value basis, and 51% on an unindexed basis, with only 3% of the loans with an LTV of more than 80%.

» The loans have a comparatively high average seasoning of 71 months.

» The issuer maintains the high credit quality of the cover pool: The issuer removes, on a daily basis, any loan exhibiting any one of the following underperformance criteria from the cover pool (pre-issuer insolvency):

  – LTV above 100%;

  – Loan debt service payments overdue by 90 days or more;

  – Impairment on the customer at IFRS Stage 3;

» Comparatively low geographical concentration, a credit positive, but some exposure to economically weaker areas of Finland, a credit negative.

From a credit perspective, we see the following portfolio characteristics as negative:

» 97.9% of the residential loans are with floating interest rate arrangements based on Euribor rates. Hence, the borrower is exposed to rising interest rates.

  – 25.6% of the loans are fixed period loans and this means rising interest rates increase the borrower's debt service burden. [4]

  – 63.1% of the loans are fixed installment loans and this means rising interest rates prolong the time until the loan is fully repaid. [5]

  – As mitigating factors, the loans are at the outset amortising with a view to fully repay the mortgage within 25 years, and the affordability test for new residential loan origination uses a 6.0% stressed interest rate.

» It is a standard feature in the Finish lending market that the borrower may request to switch to interest-only for an extended period, with no limit to how many times such payment holidays can be requested. The lender then has the power to approve or reject this request.

Methodology and monitoring

The primary methodology we use in rating the issuer's covered bonds is "Moody's Approach to Rating Covered Bonds", published in December 2016. Other methodologies and factors that may have been considered in the rating process can also be found on http://www.moodys.com. In addition, we publish a weekly summary of structured finance credit, ratings and methodologies, available to all registered users of our website, at www.moodys.com/SFQuickCheck.

We expect the issuer to deliver certain performance data to us on an ongoing basis. In the event that this data is not made available to us, our ability to monitor the ratings may be impaired. This lack of data availability could negatively affect the ratings or, in some cases, our ability to continue to rate the covered bonds.

Income underwriting and valuation

Exhibit 9

A. Residential Income Underwriting	
1. Is income always checked?	Yes.
2. Does this check ever rely on income stated by borrower ("limited income verification") ?	No.
3. Percentage of loans in Cover Pool that have limited income verification	None.
4. If limited income verification loans are in the Cover Pool, describe what requirements lender has in place for these loans.	Not applicable.
5. Does income in all cases constrain the amount lent (for example through some form of Income Sufficiency Test ("IST")?	Yes.
6. If not, what percentage of cases are exceptions.	No exceptions.
For the purpose of any IST:	
7. Is it confirmed that income after tax is sufficient to cover both interest and principal?	Yes.
8. If so over what period is it assumed principal will be paid (typically on an annuity basis)? Any exceptions?	Payment of interest and principal typically on a monthly basis. Maximum payment period for loan is limited to 30 years.
9. Does the age of the borrower constrain the period over which principal can be amortised?	Yes.
10. Are any stresses made to interest rates when carrying out the IST? If so when and for what type of products?	Yes, all products. For IST purposes borrower's capacity to pay is tested using an interest rate of 6%.
11. Are all other debts of the borrower taken into account at the point the loan is made?	Yes.
12. How are living expenses of the borrower calculated? And what is the stated maximum percentage of income (or income multiple if relevant) that will be relied on to cover debt payments. (specify if income is pre or post tax)	Expenses are based on standard indices prepared by the OP Financial Group and are based on public statistics on expanses and estimates that are used by officials. These are not published. The percentage of post tax income that is assumed to be available for debt repayment varies between 15-40%.
Other comments	

B. Residential Valuation	
1. Are valuations based on market or lending values?	Market values.
2. Are all or the majority of valuations carried out by external valuers (with no direct ownership link to any company in the Sponsor Bank group)?	No.
3. How are valuations carried out where an external valuer not used?	Valuation is based on sales contract or internal valuation that is supported by available market data.
4. What qualifications are external valuers required to have?	Experience/Licensed real estate agent.
5. What qualifications are internal valuers required to have?	Experience.
6. Do all external valuations include an internal inspection of a property?	Yes.
7. What exceptions?	None.
8. Do all internal valuations include an internal inspection of a property?	No.
9. What exceptions?	None.
Other comments	

Source: Issuer

Moody's related publications

Rating Methodology

» Moody's Approach to Rating Covered Bonds, December 2016 (1044142)

Special Comments

» Moody's Global Covered Bonds Monitoring Overview: Q1 2018, October 2018 (1142108)

» Banks - Finland: Finnish banks' increased capital requirements will be positive for unsecured and covered bonds, July 2018 (1132496)

Performance Overview

» OP Mortgage Bank - Mortgage Covered Bonds 2

Credit Opinion

» OP Financial Group

Webpages

» Covered Bonds: www.moodys.com/coveredbonds

» Covered Bond Legal Frameworks: www.moodys.com/Pages/CoveredBondLegalFrameworks.aspx

To access any of these reports or webpages, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

1 Incomings should also take into account derivatives. Interest on variable rate loans will be calculated based on FIN-FSA guidelines; interest on variable rate contracts may be based on the forward-rate yield curve derived from the interest-rate swap yield curve.

2 It is not entirely clear whether the law requires only the next 12 months, or any future 12 month period during the life of the bonds, to be tested.

3 For further reference, see Moody's Approach to Assessing Counterparty Risks in Structured Finance, Appendix 5: Model Swap Framework.

4 Explanation of fixed period loans: http://www.finanssivalvonta.fi/en/Financial_customer/Financial_products/Loans/Housing/Amortisation_criteria_and_repayment/Pages/Fixed_period.aspx.

5 Explanation of fixed period loans: http://www.finanssivalvonta.fi/en/Financial_customer/Financial_products/Loans/Housing/Amortisation_criteria_and_repayment/Pages/Fixed_instalment.aspx.

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