

Presale:

# Japan Housing Finance Agency (Series T-3)

November 20, 2018

## ¥100.0 Billion JHF Series T-3 Secured Pass-Through Notes Due January 2033

This presale report is based on information as of Nov. 20, 2018. The rating shown is preliminary. This report does not constitute a recommendation to buy, hold, or sell securities. Subsequent information may result in the assignment of a final rating that differs from the preliminary rating. Please call S&P Global Ratings at (81) 3-4550-8474 for the final rating when assigned.

**PRIMARY CREDIT ANALYST**

**Hiroshi Sonoda**  
Tokyo  
(81) 3-4550-8474  
hiroshi.sonoda@spglobal.com

**SECONDARY CONTACT**

**Yuji Hashimoto**  
Tokyo  
(81) 3-4550-8275  
yuji.hashimoto@spglobal.com

### Preliminary Rating As Of Nov. 16, 2018

Preliminary rating	Preliminary amount (bil. ¥)	Coupon type	Legal final maturity date	Overcollateralization ratio (%)*
AAA (sf)	100.0	Fixed rate	Jan. 10, 2033	2.5

\*We define the overcollateralization ratio as:  $1 - (A+B)/(C-D-E)$ ; A: the rated obligations and equally ranked obligations; B: prior obligations to the rated obligations; C: underlying assets (including cash); D: liquidity reserves; E: obligations, except for senior, mezzanine, or subordinate obligations (seller's interest, etc.)

### Profile

Expected closing date	Nov. 30, 2018
Collateral	An entrusted pool of residential mortgage loans
Originator/Servicer	Japan Housing Finance Agency
Collateral trustee	Sumitomo Mitsui Trust Bank Ltd.
Beneficiary representative	Sumitomo Mitsui Banking Corp.
Backup servicer	Sumitomo Mitsui Trust Bank Ltd.

### Rationale

S&P Global Ratings has assigned its preliminary 'AAA (sf)' rating to Japan Housing Finance Agency's (JHF) ¥100.0 billion series T-3 fixed-rate residential mortgage-secured pass-through notes and beneficiary certificates (subsequent to a trigger event).

S&P Global Ratings' preliminary rating reflects its opinion on the likelihood of the full and timely payment of interest, or interest distribution in the case of the beneficiary certificates, allowing for a three-month grace period, and the ultimate repayment of principal by the transaction's legal final maturity date.

The preliminary rating primarily reflects the following:

- We assume a foreclosure frequency for the loan receivables in the notes' underlying asset pool of about 15.3% under a stress level commensurate with our 'AAA' rating and about 2.5% under a stress level commensurate with our 'B' rating (base-case scenario). These rates, which reflect our view of the credit quality of the underlying pools, are prior to applying adjustments for the transaction's convertible pro rata payment structure. (See the Convertible pro rata payment structure subsection under Cash Flow Analysis below for details.) Meanwhile, we assume a loss severity rate of about 14% for defaulted receivables under our 'AAA' stress scenario. For this transaction, we apply projected losses (net loss rate after accounting for recoveries from defaulted loans) subject to a floor of 0.35% in our base-case scenario and 4.0% at the 'AAA' rating level, as set out in our Japanese RMBS criteria (Methodology And Assumptions For Rating Japanese RMBS, Dec. 19, 2014).
- We conducted a cash flow analysis based on the foreclosure frequency and loss severity rate assumptions. From this analysis we concluded that, under the stress level sized for our 'AAA' rating, interest payments and principal repayments on the notes and beneficiary certificates (subsequent to a beneficiary certificate trigger event) would be made as scheduled (allowing for a three-month grace period with respect to payment of interest, or interest distribution in the case of the beneficiary certificates).
- Prior to a beneficiary certificate trigger event and if receivables in the collateral pool default or are delinquent for four months, JHF will eliminate these receivables from the collateral pool and amortize the notes by the same amount of these receivables to maintain the trust's initial level of overcollateralization (the level at the transaction's closing). After a beneficiary certificate trigger event, the overcollateralization will mitigate the credit risk of the transaction's underlying mortgage loans and interest rate risk (interest on the mortgage loans less the sum of interest payments on the beneficiary certificates and transaction costs).
- The underlying mortgage loans consist of loans that JHF's predecessor, Government Housing Loan Corp. (GHLC), directly extended. JHF has very limited setoff exposure as it is not a deposit-taking institution.
- After considering the structural features of this transaction--including the transfer of collections from the collateral receivables, the level of liquidity protection, and the lack of a credit enhancement floor--we believe the rating on the notes depends to an extent on the credit quality of JHF.

## **Strengths**

- Prior to a beneficiary certificate trigger event and if receivables in the collateral pool default (primarily receivables that are at least four months overdue, receivables for which terms and conditions were relaxed, and receivables that are in breach of representations and warranties), JHF will use a "withdrawal scheme" to eliminate these receivables from the collateral pool and amortize the notes by the same amount of these receivables. Specifically, under this scheme, JHF will apply an amount equivalent to the defaulted receivables to the payment of the JHF notes and withdraw the receivables from the trust pool. In effect, this structure provides the transaction with the same benefits as JHF's purchase of the defaulted loans.

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- All underlying mortgages are recorded as first-lien mortgage loans. Accordingly, in conducting our rating analysis, we factored in recoveries from defaulted receivables.
- Interest rate mismatch risk does not exist because all the mortgage loan receivables carry fixed interest rates throughout their terms (including loans with a step-up interest feature) and the notes/beneficiary certificates also bear fixed interest rates.
- The step-up interest rate has become effective for all of the underlying loans that have a step-up feature. Hence, potential increases in loan interest rates are not a source of concern.
- The underlying mortgages backing this transaction consist only of seasoned loans that JHF extended itself and have been outstanding for a significant period.
- Geographical concentration has a limited impact on the transaction's overall default risk because the collateral properties backing the mortgage loans are dispersed across Japan.

## Weaknesses and mitigating factors

- The credit risk of JHF's notes depends to an extent on JHF's credit quality. This is because the transaction, unlike typical securitizations, does not involve a true sale structure through the transfer of the collateral assets to the trust at closing.
- About 13% of the obligors of the loans in the underlying pool are neither corporate employees nor civil servants as of the time of loan application. This is a key factor that has led to an increase in our foreclosure frequency assumptions in our stress scenarios.
- Prior to a beneficiary certificate trigger event, JHF will maintain the trust's initial level of credit enhancement (the level at the transaction's closing). In conducting our cash flow analysis for this transaction, we applied a 1.2x multiple to our foreclosure frequency assumptions to compensate for the additional back-loaded default risk in convertible pro rata payment structures.

## Transaction Overview

JHF will issue its ¥100.0 billion series T-3 fixed-rate residential mortgage-secured pass-through notes pursuant to clearance under the JHF Law. As security for JHF's payment obligations under the issued notes, JHF will entrust 15,530 residential mortgage loan contracts worth about ¥102.6 billion with a trust that Sumitomo Mitsui Trust Bank Ltd. holds. The noteholders will collectively hold all of the beneficiary interests from the mortgage loan contracts. The entrusted receivables will include overcollateralization of 2.5% of the total pool or 2.56% of the note balance. The entrustment of the receivables will be perfected against third-party claims under Japan's Special Perfection Law.

Prior to any trigger event, JHF will use its own funds to pay interest and principal on the notes. Upon payment of the notes, the trustee will release a corresponding amount of receivables to JHF and cancel the relevant proportion of the trust. At no time during this process will the amount of overcollateralization fall below 2.5% of the total remaining entrusted receivables.

If specified trigger events occur and the procedure to confirm the holders of the beneficiary certificates is unimpeded, the investors will acquire the beneficiary certificates in place of the notes and the notes will then lapse.

## Collateral

### Overview of loan pool

The beneficiary certificates will be issued from a trust created with an underlying pool of residential mortgage loans that satisfy certain eligibility criteria. Loans made to obligors that do not meet the eligibility criteria and have low creditworthiness will not be included in the underlying pool. The underlying mortgages backing this transaction consist only of seasoned loans that JHF extended and have been outstanding for a significant period. Tables 1 and 2 show the loan characteristics and main eligibility criteria.

A comparison of the key attributes of JHF's series T-3 notes with those of JHF's series T-2 notes shows that:

- The percentage of loans with LTV ratios (including non-JHF debt) higher than 90% within the underlying asset pool has declined by about 3.7 percentage points;
- The percentage of obligors who are neither corporate employees nor civil servants at the time of loan application has risen by about 0.5 percentage point;
- The percentage of loans with debt-to-income (DTI) ratios (including non-JHF debt) higher than 25% within the underlying asset pool has risen by about 0.7 percentage point; and
- The weighted average interest rate on the underlying loans has risen by about 0.15 percentage point.

Table 1

### Pool Characteristics\*

	All loans
Total initial loan amount (¥)	275,205,050,000
Average initial loan amount (¥)	17,720,866
Total loan balance (¥)	102,578,619,838
Average loan balance (¥)	6,605,191
No. of obligors	15,530
No. of loans	27,298
Average initial maturity (years)	29.6
Average period until maturity (years)	7.9
Average age of loans (months)	256
Average LTV ratio (%)	75.70
Average DTI ratio (%)	18.34
Average annual obligor income at time of loan application (¥)	5,826,072
Average interest rate (%)	3.42
Average obligor age at time of loan application (years)	38.9
Weighted average interest rate (%)	3.42
Weighted average period until maturity (years)	9.8

Table 1

**Pool Characteristics\* (cont.)**

	All loans
Weighted average initial maturity (years)	30
Weighted average age of loans (months)	256
Ratio of loans to corporate employees and civil servants (% of total loan balance)	87.1

\*As of the end of October 2018. DTI--Debt to income.

Table 2

**Major Eligibility Criteria For Purchased Loans**

Originator	GHLC (JHF's predecessor)
Applicants' eligibility	To build or purchase a house to live in themselves
	Age under 70
	Monthly income must be at least five times larger than repayment amount
	Japanese national or permanent resident
Max. loan amount	¥80 million
LTV ratio	80% or less in principle
Interest rate	Fixed (with step-up clause)
Initial loan tenor	Between 10 and 35 years
Obligor's age at final repayment	Under the age of 80
Guarantee	Not required
Types of loans	New homeowner loan ("mai homu shinchiku)
	Constructed home loan (tateuri jutaku)
	Apartment purchase loan (manshon kounyu)
	Condominium loan (bunjo jutaku kounyu)
Eligible property	Newly built homes
Priority of mortgage	First priority on land and building
Contract origination	Contracts entered into between April 1, 1996, and Nov. 30, 1997

The tables below show the distributions of the main attributes of the notes' underlying loan pool.

Table 3

**LTV Ratios**

LTV	Including non-JHF debt (% of total pool)	Excluding non-JHF debt (% of total pool)
~5%	0.0	0.0
~10%	0.0	0.0
~15%	0.0	0.0
~20%	0.0	0.1
~25%	0.1	0.4
~30%	0.2	0.8

Table 3

### LTV Ratios (cont.)

LTV	Including non-JHF debt (% of total pool)	Excluding non-JHF debt (% of total pool)
~35%	0.3	1.3
~40%	0.8	2.5
~45%	1.6	4.5
~50%	2.2	5.4
~55%	2.3	6.0
~60%	3.0	6.5
~65%	4.1	7.5
~70%	5.8	8.2
~75%	8.5	9.8
~80%	35.1	46.8
~85%	4.8	0.1
~90%	12.7	0.0
~95%	13.8	0.0
~100%	4.7	0.0
Total	100.0	100.0

Table 4

### DTI Ratios

DTI	% of total pool
~5%	0.0
~10%	4.5
~15%	19.5
~20%	45.8
~25%	17.7
~30%	9.2
More than 30%	3.3
Total	100.0

Table 5

### Obligors' Employment Status

Employment status at loan application	% of total pool
Either civil servant or corporate employee	87.1
Neither civil servant nor corporate employee	12.9
Total	100.0

## Loan origination and underwriting process

JHF's (including predecessor GHLC) lending policy reflects the economic and housing policies of the Japanese government and these policies differentiate JHF from private mortgage lenders.

Furthermore, GHLC's guidelines at the time the underlying loans were originated required that GHLC's maximum LTV ratio be no higher than 80% of the construction costs or the property's purchase price; the monthly income of the obligor be at least five times larger than repayment amount; and the loan amount be no higher than ¥80 million.

In calculating our foreclosure frequency assumptions, we determined the lender-level adjustment factor based on:

- Differences with private mortgage lenders, in that GHLC's underwriting criteria reflected political directives from the Japanese government, such as that GHLC contribute to all citizens being able to acquire high-quality homes; and
- The underwriting criteria at the time the loans were originated and the default rates and delinquency rates of the mortgage loans extended under these underwriting criteria.

As a result of the above, we applied a lender-level adjustment factor of 1.3x.

## Credit Risk Analysis

### Performance outlook for mortgage loan receivables in Japan

We expect the performance of the assets underlying RMBS transactions backed by loans for purchasing owner-occupied houses (owner-occupied RMBS) and RMBS transactions backed by loans for investment in condominiums (condominium investment RMBS) to remain favorable in 2018. Our performance outlook for these assets is slightly positive, reflecting our expectations that:

- Overall labor market conditions in Japan will remain favorable with a moderate increase in the average wages of regular salaried employees and an expected unemployment rate of about 3% in 2018;
- Reflecting the Bank of Japan's monetary policy, interest rates on housing loans have remained low and are unlikely to see a material increase in 2018; and
- Residential land prices have bottomed out and begun slowly rising in major metropolitan areas; average nationwide residential land prices have generally stopped declining.

Increases in interest rates are a major risk factor for housing loans because they could push up repayment amounts. The Japanese housing loan market has not undergone a phase of full-blown increase in interest rates since the bursting of the bubble economy almost 30 years ago. Accordingly, only a small proportion of borrowers of floating-rate loans have experienced an increase in repayment amounts in the past.

The underlying assets backing Japanese owner-occupied RMBS transactions are largely housing loans with fixed interest rates for their entire loan periods. In other words, they face extremely limited risk from rate hikes. On the other hand, a large portion of Japanese condominium investment RMBS transactions is backed by loans with floating interest rates. We therefore

assume that rate hikes and consequent increases in repayment amounts will hurt the loans' performance. However, existing condominium investment loans are protected against deterioration of performance by increased credit enhancement through seasoning carried out from the closing.

## Assessment of the credit quality of the underlying assets

**Projected loss rate for the archetypical Japanese mortgage loan pool.** The projected loss rate for the archetypical Japanese mortgage loan pool at the 'B' rating level, as defined in our criteria "Methodology And Assumptions For Rating Japanese RMBS," published Dec. 19, 2014, matches our current assumptions of expected losses on that pool (see "Outlook Assumptions For The Japanese Residential Mortgage Market," published Dec. 25, 2017).

The projected loss rate therefore varies according to changes in our outlook for Japan's mortgage market, which covers such macroeconomic factors as unemployment, inflation, and current mortgage performance in Japan. The current 'B' level of projected losses includes a foreclosure frequency component for the archetypical Japanese mortgage loan pool (see table 6). We used the assumptions in table 6 as part of our credit analysis of the transaction's underlying assets.

If the attributes of an actual Japanese pool indicate better credit quality than that of the archetype, projected losses are below the levels shown in table 6. In such a case, our criteria for rating Japanese RMBS apply a floor for projected losses of 4.0% for our 'AAA' rating and 0.35% for our 'B' rating.

Table 6

### Projected Losses For The Archetypical Japanese Pool Under Benign Starting Conditions

Rating category	Projected loss level (%)	Foreclosure frequency component (%)	Loss severity component (%)
AAA	5.0	10.0	50.0
AA	3.5	7.5	47.0
A	2.2	5.0	44.5
BBB	1.3	3.2	41.0
BB	0.8	2.1	36.0
B	0.4	1.1	31.0

**Foreclosure frequency assumptions.** We analyzed the credit risk of the transaction's underlying asset pool. Specifically, we calculated the foreclosure frequency of the relevant loan receivables pool, which we define as the cumulative amount of defaulted receivables as a percentage of the total initial balance of the receivables at the transaction's outset (see table 7).

In our analysis of this transaction, we assume JHF will provide updated loan-by-loan data during the surveillance process.

Table 7

### Foreclosure Frequencies Of The Pool Backing JHF Series T-3

Rating category	Foreclosure frequency (%)
AAA	15.8

Table 7

**Foreclosure Frequencies Of The Pool Backing JHF Series T-3 (cont.)**

Rating category	Foreclosure frequency (%)
AA	12.1
A	8.1
BBB	5.9
BB	4.2
B	2.6

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Table 8

**Key Adjustment Factors Of The Pool Backing JHF Series T-3**

	Adjustment factor (x)
LTV ratio	1.5
DTI ratio	0.8
Employment status	1.2
Interest type	1.0
Loan term	1.0
Geographic concentration (by region)	1.0
Geographic concentration (by postcode)	1.0
Lender-level adjustment	1.3

\*An adjustment factor of 1.0x for a particular attribute indicates that the credit quality of the transaction pool in terms of that attribute equals that of the archetypical pool, while an adjustment factor lower (higher) than 1.0x indicates stronger (weaker) credit quality for the attribute than that of the archetypical pool.

Most of the mortgages in this transaction are covered by group credit life insurance. However, given that some mortgages are not, we assume no mortgage in the pool is covered by the group credit life insurance under our scenario and apply an adjustment factor of 1.3x to the assumed foreclosure frequency.

**Loss severity assumptions.** In principle, all mortgages that JHF originated directly are recorded as first-lien mortgage loans. Accordingly, in conducting our rating analysis, we factored in recoveries from defaulted receivables. In sizing loss severity for the collateral pool, we take into account:

- Our assumption of the market value decline of our archetypical pool (see table 9); and
- Costs related to collateral property sales and legal costs.

Furthermore, we assume the duration from loan default to completion of collection activities is 18 months. Our loss severity assumptions for the loan pool backing JHF's series T-3 notes are shown below (see table 10).

Table 9

### Market Value Declines For The Archetypical Japanese Pool

Rating category	Market value decline (%)
AAA	45
AA	43
A	41
BBB	38
BB	34
B	30

Table 10

### Loss Severity Of The Pool Backing JHF Series T-3

Rating category	Loss severity (%)
AAA	14.1
AA	12.6
A	11.1
BBB	9.2
BB	7.0
B	5.3

**Minimum projected losses.** The pool's projected losses are lower than the minimum projected losses we set out in our criteria for rating Japanese RMBS. In analyzing this transaction, we apply a floor for projected losses of 4.0% for our 'AAA' rating.

Therefore, the foreclosure frequency assumption for the 'AAA' rating is about 20.8% and the loss severity assumption is about 19.3% after applying the minimum projected losses.

## Cash Flow Analysis

We conducted a cash flow analysis based on the above foreclosure frequency and loss severity assumptions. Specifically, we analyzed various scenarios based on cash flow under the scheduled payments using variables such as:

- The timing of defaults; and
- The amount and timing of prepayments.

As a result, under the stress level sized for our 'AAA' rating, we concluded that interest payments and principal repayments on the notes and beneficiary certificates (subsequent to a beneficiary trigger event) would be made as scheduled (allowing for a three-month grace period with respect to payment of interest, or interest distribution in the case of the beneficiary certificates).

## Default timings

Japanese mortgage loan pools typically observe no defaults shortly after the loans are originated.

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The defaults generally start to gradually increase around the end of the first year, peaking in the seventh to 10th year and gradually decreasing thereafter. (The figures are based on the total amount of defaulted loans or ratios of the defaulted amount to the initial loan balance.) We define this default curve as a standard path. In addition to the standard path, the timing of defaults is modeled to follow one of two paths, referred to as "front-loaded" (i.e., concentrated toward a transaction's earlier stage) and "back-loaded" (i.e., concentrated toward the later stage).

Table 11

### Default Timings

(%)	--No. of months*--			
	1 to 60	61 to 120	121 to 180	181 to 240
Front-loaded	35	45	15	5
Standard	15	50	25	10
Back-loaded	5	40	40	15

\*Percentage of weighted-average foreclosure frequency applied in each term. For modeling purposes, in the percentage at each stage is divided by 60 each month.

We also consider default scenarios with a duration of 120 months in addition to the scenarios described in our Japanese RMBS criteria. This is because the mortgage loans backing this transaction consist of seasoned loans that have been outstanding for a significant period.

Table 12

### Default Timings

(%)	--No. of months*--			
	1 to 30	31 to 60	61 to 90	91 to 120
Front-loaded	35	45	15	5
Standard	15	50	25	10
Back-loaded	5	40	40	15

\*Percentage of weighted-average foreclosure frequency applied in each term. For modeling purposes, in the percentage at each stage is divided by 30 each month.

## Prepayment rate

Japanese mortgage loan pools typically have lower prepayment rates than global counterparts'. We assume that prepayment rates generally start at 3.0% per year at transaction closing and increase linearly before reaching 6.0% at year five, after which they remain at that level. In addition to this standard level, the prepayment rate is assumed to follow one of two paths, referred to as "low" and "high".

Table 13

### Annualized Prepayment Rates

(%)	Start	Year five
Low	3.0	3.0
Standard	3.0	6.0
High	3.0	12.0

We also consider scenarios in which the prepayment remains level at 12.0% per year after transaction closing. This is because the mortgage loans backing this transaction consist of seasoned loans that have been outstanding for a significant period.

### **Transaction maintenance fees and expenses**

In conducting our cash flow analysis, we considered transaction maintenance expenses. Specifically, we assumed that trustee fees would represent 0.05% and servicing fees 0.35% of the total loan balance.

In addition, we did not assume extra costs in connection with group credit life insurance premiums because relevant premium payments are not included in the transaction's payment waterfall.

### **Interest risk and basis risk**

The transaction is not exposed to interest rate mismatch risk or basis risk because all the mortgage loan receivables backing JHF's series T-3 notes carry fixed interest rates throughout their terms (including loans with a step-up interest feature), and the notes/beneficiary certificates also bear fixed interest rates.

The step-up interest rate has become effective for all of the underlying loans with a step-up feature. Hence, potential increases in loan interest rates are not a source of concern.

### **Tail risk of pro rata payment structure**

Prior to a beneficiary certificate trigger event, this transaction employs a pro rata payment structure whereby the principal on the notes is redeemed pro rata. In addition, the transaction does not provide for a credit enhancement floor or an equivalent functional mechanism. Accordingly, the tail end of the transaction entails greater uncertainty and event risk. Nevertheless, we believe tail risk is mitigated because JHF, as the issuer and as a government-related entity, will support the transaction when waterfall payments are pro rata.

### **Convertible pro rata payment structure**

This transaction uses a convertible pro rata payment structure such that its waterfall converts to sequential pay from pro rata following certain trigger events. The initial level of credit enhancement (the level at the transaction's closing) is maintained until a sequential-pay conversion event occurs. The transaction does not provide for a credit enhancement floor. Still, we consider that an equivalent functional mechanism is available.

Meanwhile, the pro rata payment mechanism allows the reduction of the actual amount of credit enhancement available for the rated notes. Accordingly, in conducting our cash flow analysis for this transaction, we used a foreclosure frequency assumption of 24.9% (after applying a 1.2x multiple to our foreclosure frequency assumption of 20.8% using the minimum projected losses) to compensate for the additional back-loaded default risk in convertible pro rata payment structures.

### **Credit enhancement floor**

When a high interest rate is applied to a transaction's underlying loans, they might incur excess

interest in our cash flow analysis. The excess interest could be used to help cover anticipated losses from defaulted receivables. Our criteria for rating Japanese RMBS apply a floor for projected losses of 4.0% for our 'AAA' rating. However, credit enhancement might fall short of 4.0% at the 'AAA' rating level for transactions in which excess interest can be expected to help cover losses.

However, unlike with hard credit enhancements, the effectiveness of excess interest is more variable under different scenarios. As a result, the transaction might not secure the excess interest we assumed in our cash flow analysis. Therefore, we set a hard credit enhancement floor of 2.5% for our 'AAA' rating for this transaction, taking into account the nature of excess interest and our global criteria for rating other asset classes.

## Scenario Analysis

Various factors could cause us to downgrade JHF's notes, such as rising foreclosure rates in the underlying pool or changes in the pool composition. We have chosen to analyze the effect of increased delinquencies by testing the transaction's sensitivity to two different levels of severity. Rising levels of delinquencies will likely place more stress on a transaction and would likely contribute to downgrades of the rated notes.

In our analysis, assumptions for delinquency increases are specific to a transaction, although these levels may be either similar or the same in different transactions. The levels do not reflect our views on whether these deteriorations will materialize in the future. However, our analysis already includes additional adjustments for the pool's default probability by projecting buckets of expected arrears.

We ran two scenarios. Specifically, after applying a 4.0% floor for projected losses for the 'AAA' rating, we assumed an 8.0% rise in the one-month delinquency rate for scenario 1, and a 4.0% rise in both the one-month and three-month delinquency rates for scenario 2. The longer a mortgage loan is delinquent, the more likely it is to default. Therefore, we assumed a higher foreclosure frequency for scenario 2 to reflect the higher default risk.

We determined that the ratings under both scenario 1 and scenario 2 would be 'AAA'. Still, we do not base rating actions on the outcomes of a scenario analysis alone but rather carry them out based on a comprehensive assessment of multiple factors.

In addition, the ratings we determined under this scenario analysis refer to the receivables pool alone. In fact, given JHF's public-policy role and the transaction's structural nature, we deem the long-term rating on the issuer to be, in principle, the lowest possible rating for the notes before a beneficiary certificate trigger event.

Table 14

### Scenario 1: Foreclosure Frequency And Loss Severity

Rating	Foreclosure frequency (%)*	Loss severity (%)
AAA	22.8	19.3
AA+	19.9	18.2
AA	17.2	16.4

\*Assumptions before we applied a 1.2x multiple to compensate for the additional back-loaded default risk in a convertible pro rata payment structure.

Table 15

## Scenario 2: Foreclosure Frequency And Loss Severity

Rating	Foreclosure frequency (%)*	Loss severity (%)
AAA	25.8	19.3
AA+	21.9	18.2
AA	19.2	16.4

\*Assumptions before we applied a 1.2x multiple to compensate for the additional back-loaded default risk in a convertible pro rata payment structure.

## Surveillance

In the course of the surveillance process, we will use the same methodology and assumptions as those we apply for new transactions. Specifically, we analyze updated loan-by-loan attribute data provided periodically.

With respect to the receivables pool, we will analyze regular servicer reports detailing the performance of the underlying collateral, monitor supporting ratings, and make regular contact with the servicer to ensure it maintains servicing standards and any material changes in its operations are communicated and assessed.

The key performance indicators in the surveillance of this transaction are:

- Credit support for the rated notes,
- The delinquency rate,
- The replacement/withdrawal ratio, and
- The prepayment rate.

## JHF Note Structural Continuity And Historical Issuance Data

In this report, we focus on the characteristics of this transaction. See "Overview Of Japan Housing Finance Agency's Structured Notes," published April 21, 2015, on RatingsDirect, for details on the continuity of the transaction structure for all JHF notes.

As is the case with the JHF S series, the underlying mortgages for the JHF T series consist of loans that JHF extended itself. Prior to a trigger event and if receivables in the collateral pool default, JHF will use a "withdrawal scheme" for such receivables under this transaction structure, as it does under the securitization structure for its regular monthly note issued in and after April 2007.

Table 16

## Series T-1 To T-3 Breakdown And Total/Average For Notes Issued In Fiscal 2018

	Series T-1	Series T-2	Series T-3	Total/ Average
Issue date	June 29, 2018	Aug. 31, 2018	Nov. 30, 2018	
Issue size (bil. ¥)	50.0	50.0	100.0	200.0
LTV ratio (%)	78.2	78.4	75.7	77.4
DTI ratio (%)	17.9	18.4	18.3	18.2

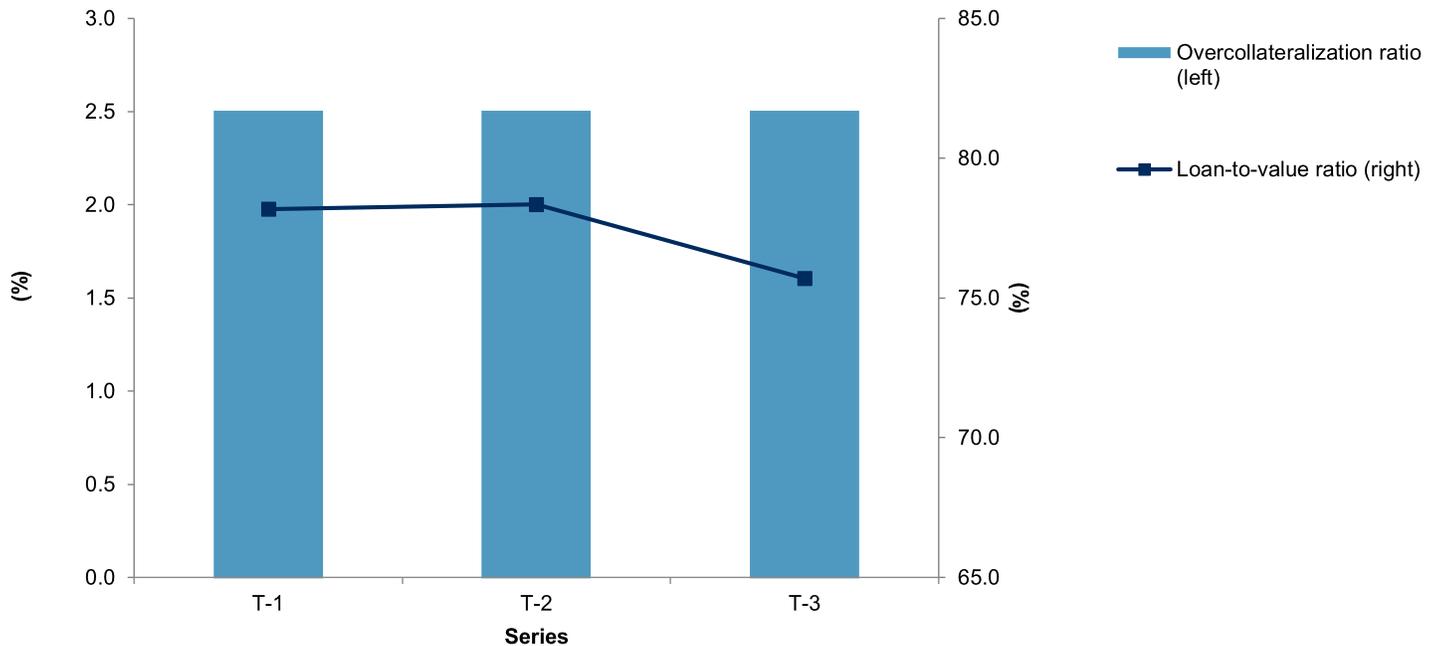
Table 16

**Series T-1 To T-3 Breakdown And Total/Average For Notes Issued In Fiscal 2018 (cont.)**

	Series T-1	Series T-2	Series T-3	Total/ Average
Average loan term at origination (years)	30.2	30.1	29.6	30.0
Overcollateralization ratio (%)	2.5	2.5	2.5	2.5
Coupon (%)	0.16	0.18	--	0.17
Weighted average interest at issuance (%)	3.27	3.27	3.42	3.32
Purchased loan ratio (value basis)	100.0	100.0	100.0	100.0

Chart 1

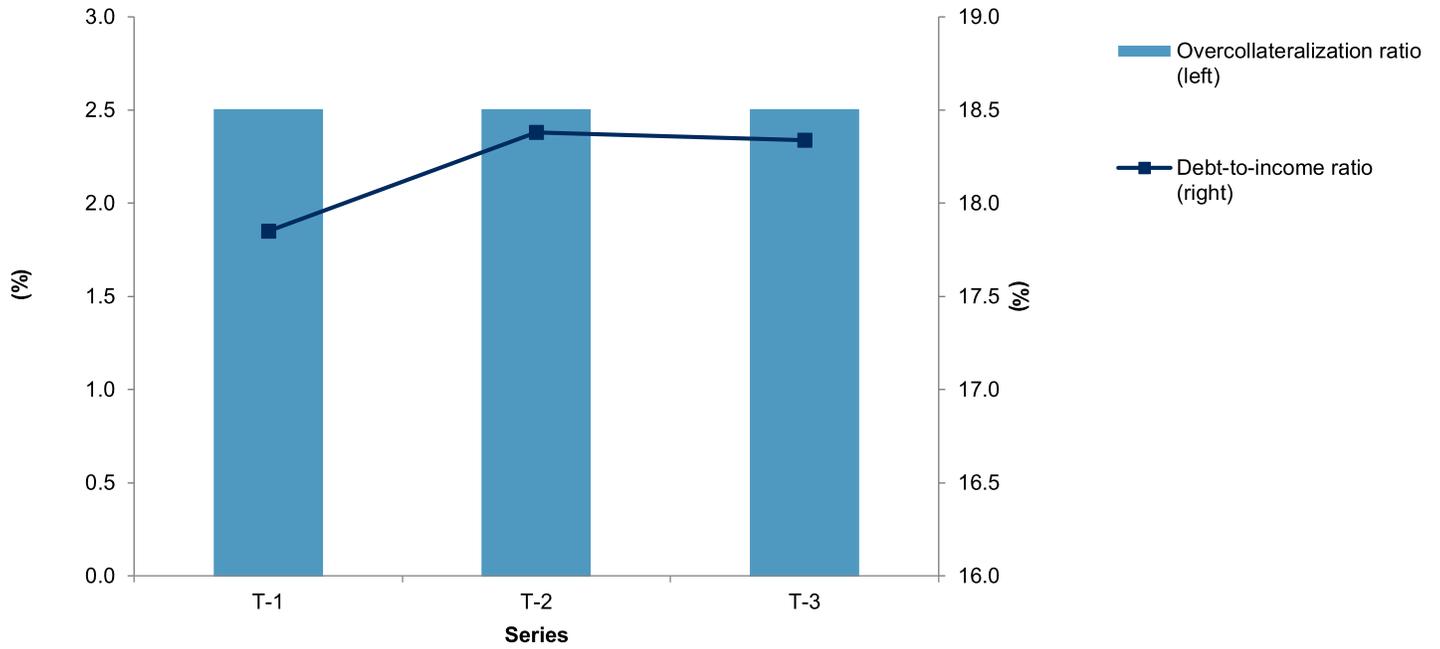
**Overcollateralization And Loan-To-Value Ratios**



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Chart 2

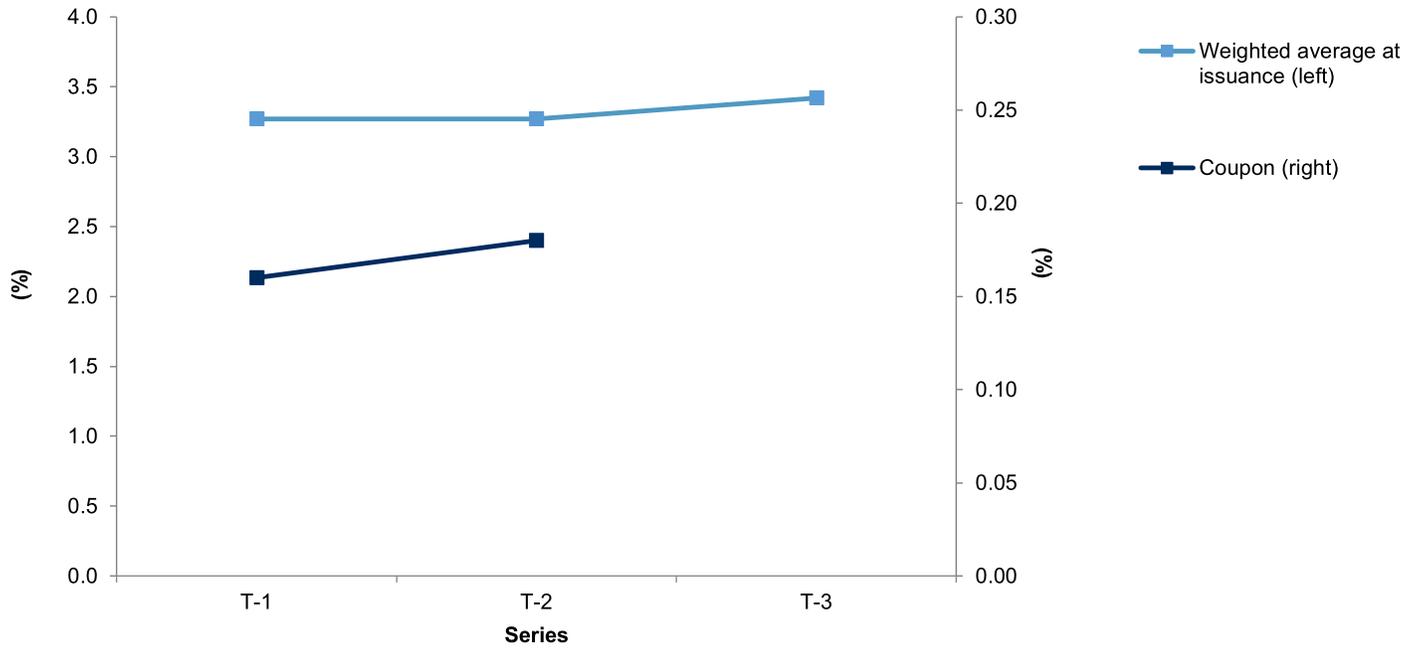
### Overcollateralization And Debt-To-Income Ratios



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Chart 3

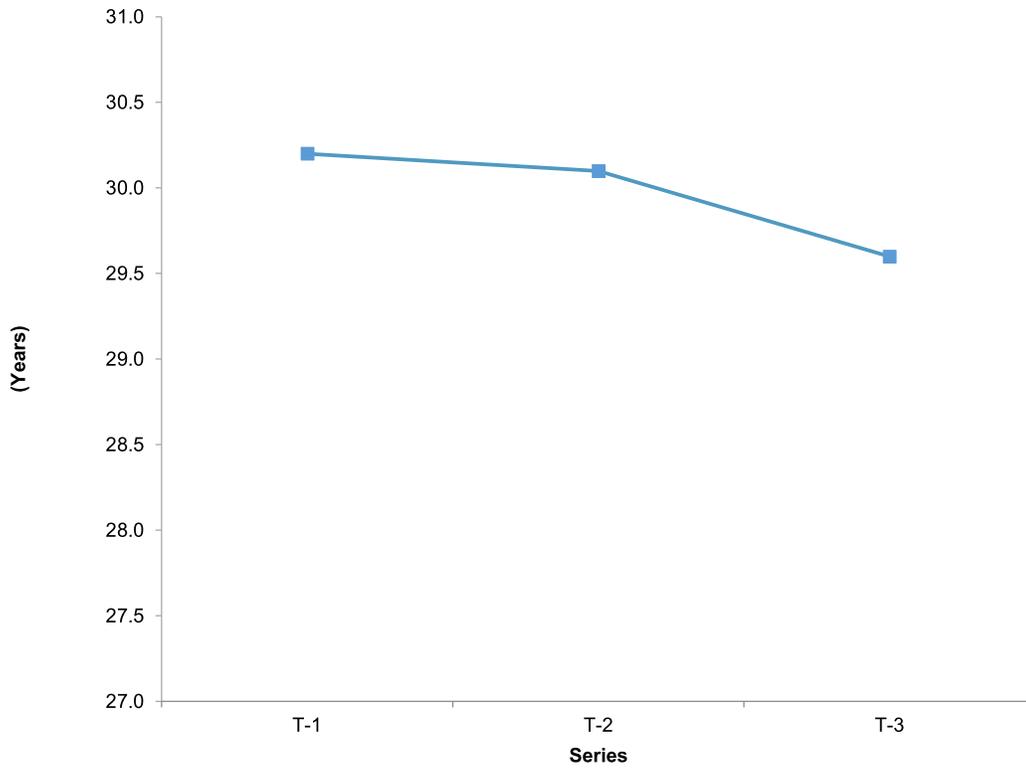
### Weighted Average Interest Rates And Coupons



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Chart 4

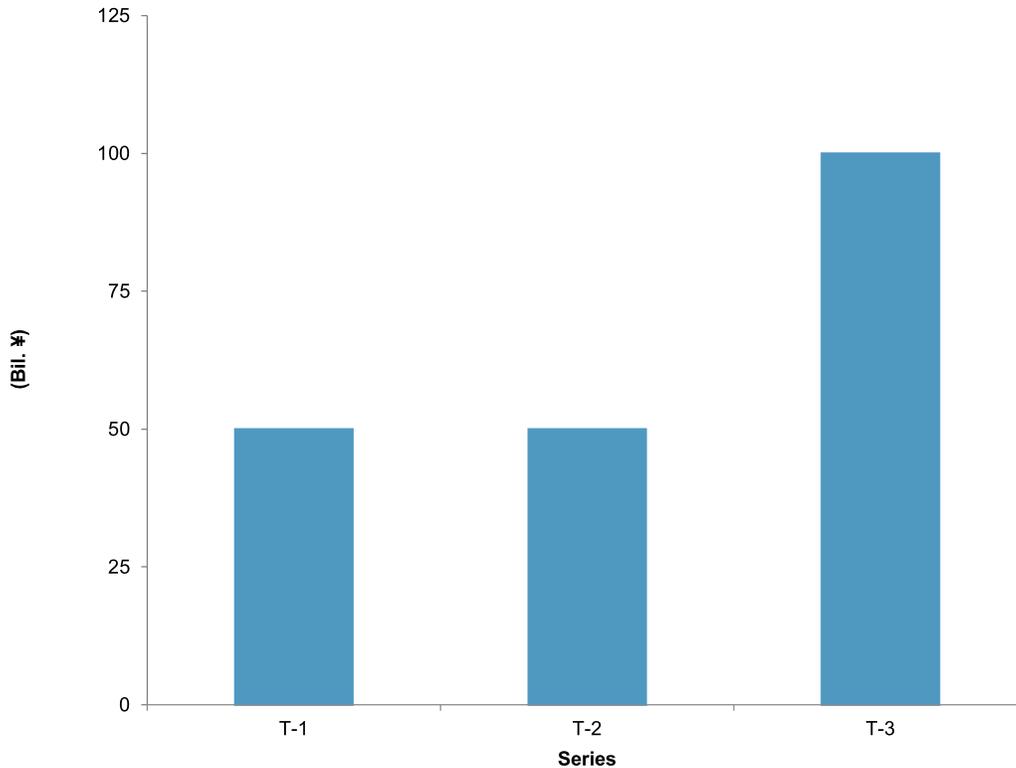
**Average Loan Term At Origination**



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Chart 5

### Issue Size



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### Related Criteria

- Ratings Above The Sovereign - Structured Finance: Methodology And Assumptions, Aug. 8, 2016
- Global Framework For Assessing Operational Risk In Structured Finance Transactions, Oct. 9, 2014
- Global Framework For Cash Flow Analysis Of Structured Finance Securities, Oct. 9, 2014
- Methodology And Assumptions For Rating Japanese RMBS, Dec. 19, 2014
- Counterparty Risk Framework Methodology And Assumptions, June 25, 2013
- Methodology: Credit Stability Criteria, May 3, 2010
- Standard & Poor's Revises Criteria Methodology For Servicer Risk Assessment, May 28, 2009

## **Related Research**

- Japan Structured Finance 2018 Outlook: Securitized Assets Set For Another Steady Performance, Dec. 26, 2017
- Japanese Structured Finance Scenario And Sensitivity Analysis 2017: The Effects Of The Top Five Macroeconomic Factors, Dec. 26, 2017
- Outlook Assumptions For The Japanese Residential Mortgage Market, Dec. 25, 2017
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- Overview Of Japan Housing Finance Agency's Structured Notes, April 21, 2015
- Stable Japanese RMBS Fundamentals Reflect Low Unemployment And Interest Rates, Nov. 11, 2014

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