

# JHF No.143 Monthly MBS Issue

Strategic Memorandum DSBE004

FICC Research Dept.

Chief Strategist of Securitization

**Koji Matsushita**

(81) 3 5555-8778

koji1.matsushita@daiwa.co.jp

Strategist of Securitization

**Kenta Saeki**

(81) 3 5555-8756

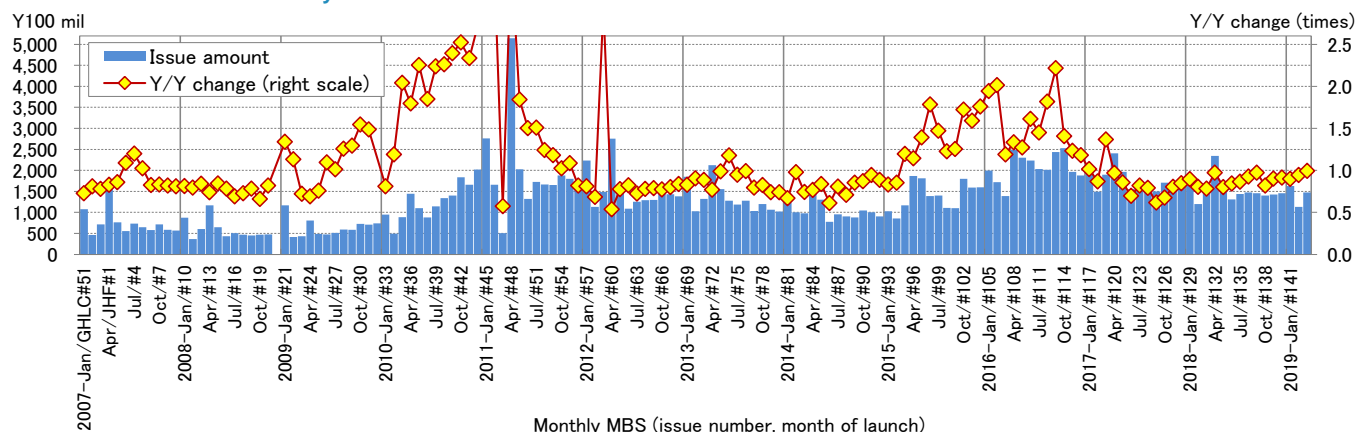
kenta.saeki@daiwa.co.jp

Daiwa Securities Co. Ltd.

- Issuance amount in last month of Heisei's final fiscal year likely to remain almost flat y/y

- The Japan Housing Finance Agency (JHF) plans to issue its No. 143 Monthly MBS.
- The candidate trust assets total Y184.4 bil, almost all of which were Flat 35 loans originated in February. If the credit enhancement ratio is unchanged from that for the previous issue at 20.1%, the issue amount is estimated at Y147.4 bil.
- The Flat 35 interest rate in February declined both m/m and y/y. The aggregate amount of Flat 35 loans was almost flat y/y, of which new loans increased by 4% but refinancing loans plunged by 43% y/y. Among new loans, purchases of existing detached homes posted substantial growth of around 40%.
- Based on our prepayment model, we estimate a WAL of 8.51 years (based on 11 March closing prices; same hereinafter). The expected WAL based on the JHF's PSJ Forecast Statistical Data is 8.80 years. Final maturity is estimated at 19.0 years on both our and JHF models.
- The No. 142, launched in February, had a launch spread of 35bps and a coupon of 0.32%. Based on the same launch spread, the No. 143 would have a coupon of 0.31% and an OAS of 16.4bps.
- In the secondary market, the previous issue's risk premium in terms of the OAS is 16.0bps. Based on the same OAS, the No. 143's coupon would be about 0.30-0.31% and the launch spread 34-35bps.
- Based on our demand forecasts for the No. 143 issue, we think it appropriate that supply and demand will meet at the launch spread of around 35-37bps. If so, the coupon would be 0.31-0.33%.

Chart : Issue Amount of Monthly MBS



Source: JHF; compiled by Daiwa Securities.  
Note: Estimate for No. 143 issue.

## Issuance of JHF MBS and Situations of Flat 35

### No. 143 to be launched in March

The Japan Housing Finance Agency (JHF) plans to price (launch) its No. 143 MBS this month. Issuance terms are determined by the spread-pricing method, in which a new issue's coupon is set on the launch date by adding a launch spread—which is determined based on investor demand—to the compound yield on a benchmark 10Y JGB (JB353 in this case) at the time of the launch. The launch date is scheduled in mid-March, and the payment date is scheduled for 28 March.

### Issuance amount of about Y147.4 bil

Candidate trust assets for the No. 143 totaled Y184.4 bil, almost all of which were Flat 35 loans originated in February. The issue is likely to have the highest ratings from S&P and R&I. The issue amount is to be announced on 14 March. If the credit enhancement ratio is unchanged from that for the previous issue at 20.1%, the issue amount is estimated at Y147.4 bil.

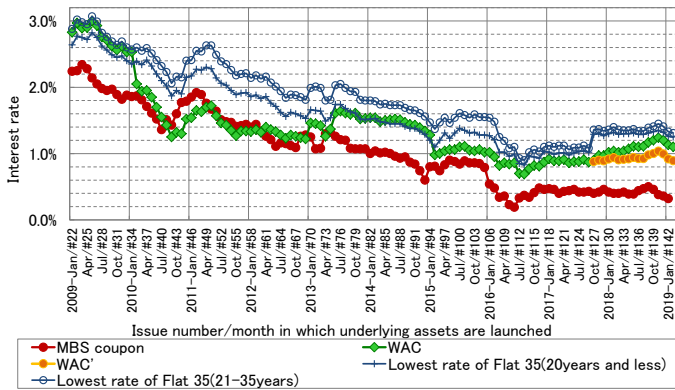
### M/m decline in Flat 35 interest rate

The Flat 35 interest rate in February declined m/m. For LTV of 90% or lower, the lowest retail rate in February for 35-year mortgages (incl. premiums for new JHF group credit life insurance) was 1.31%, 0.02 points lower than the rate in January. The lowest retail rate for mortgages of 20 years or less was 1.25%, 0.01 point lower. On a y/y basis as well, they declined by 0.09 points and 0.07 points, respectively. The aggregate amount of Flat 35 loans was almost flat y/y, falling only by 0.6%. Of which, new loans increased by 3.7%, while refinancing loans plunged by 43% y/y. Looking at the breakdown of new loan usage, we found that all usages (except for custom homes) posted y/y growth, led by existing detached homes which posted substantial growth of around 40%.

### Slight decline in ratio of new Flat 35 borrowers

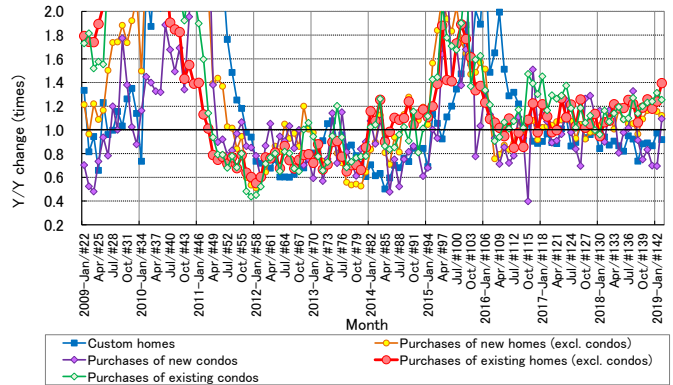
Among candidate trust assets for the No. 143 issue, the ratio of new Flat 35 borrowers (who applied from Oct 2017 onward) was 96.9%, slightly lower than the ratio in the previous month. As the ratio has already reached a high level, a stable trend is expected going forward. For reference, the ratio of new JHF group credit life insurance system policyholders stood at 85.1%.

Chart : Interest Rate of Flat 35 Loans and JHF MBS (monthly trend)



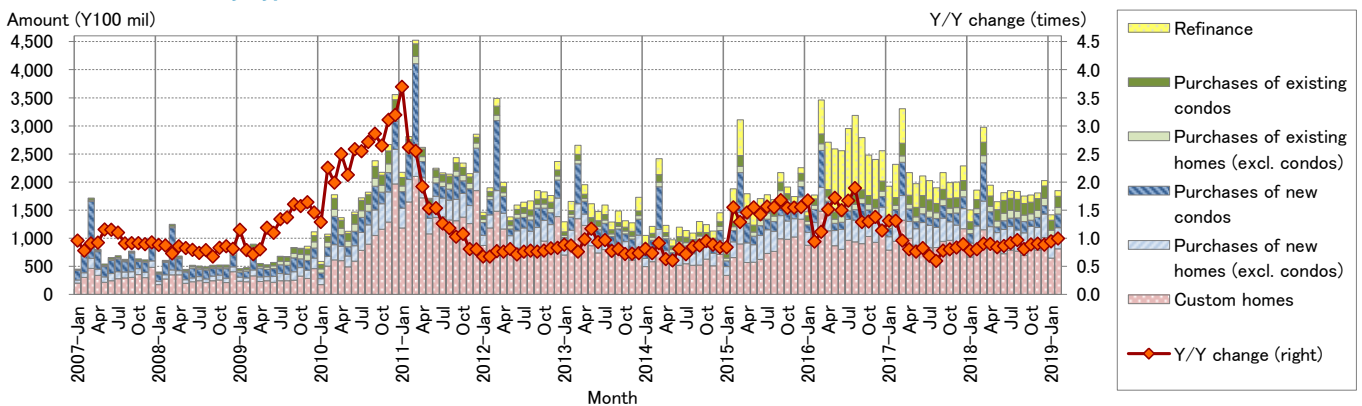
Source: JHF; compiled by Daiwa Securities.

Chart : Change in Flat 35 Loan Originations



Source: JHF; compiled by Daiwa Securities.

Chart : Flat 35 Loans by Type of Loans



Source: JHF; compiled by Daiwa Securities.

## Terms for the previous issue

### No. 142's launch spread 35bps

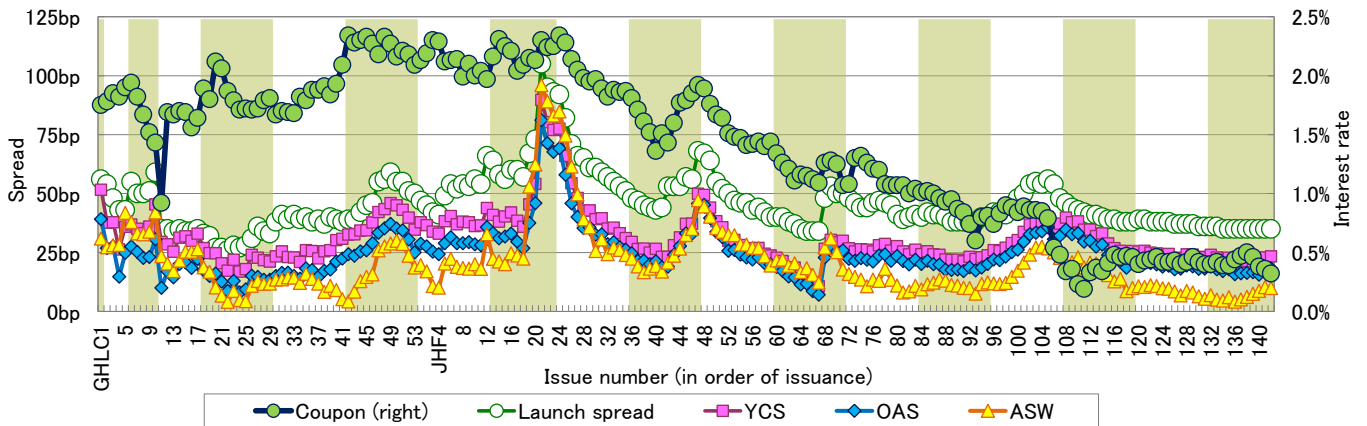
The No. 142 (Y112.9 bil) was launched on 20 February with a coupon of 0.32%, 4bps lower than No. 141. The spread was 35bps (unchanged). The OAS at launch (our estimate; same hereinafter) stood at 18.2bps (0.5bps wider) and the YCS was 23.3bps (0.5bps wider).

### Launch spread flat since Jun 2018

Since the launch of the No. 134 issue in June 2018, the launch spread has remained flat at 35bps for nine consecutive months. Meanwhile, the coupon level has been changing, reflecting fluctuation of the benchmark interest rate. At the launch of the No. 142 issue, the benchmark interest rate was below 0% for the first time since the launch of the No. 114 issue in October 2016. Nevertheless, the No. 142 issue appears to have attracted sufficient investment demand as the launch spread was unchanged from the previous issue. Reflecting seasonality, the issuance amount was relatively small, which seems to have helped the issue secure sufficient excess demand.

On the other hand, risk premiums (such as OAS) widened slightly. This is because of bull flattening of the yield curve since the launch of the previous issue, as the longer the maturity, the more JGB yields declined.

Chart : Issuance Terms for JHF Monthly MBS



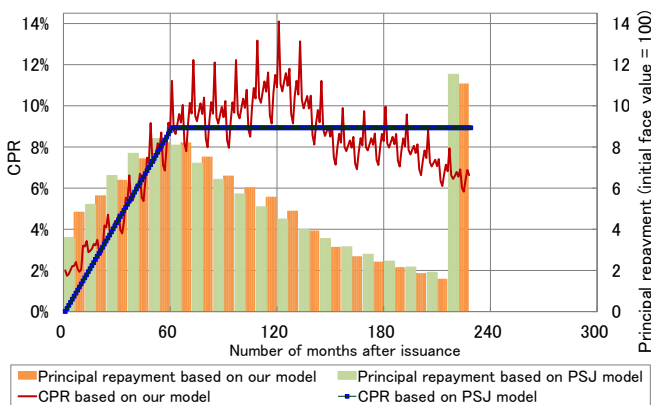
Source: JHF and our estimates.

Note: The background colors indicate different fiscal years.

### Different risk premiums depending on expected cash flow distribution

With regard to the pricing of JHF MBS, it should be noted that the risk premium varies depending on the expected cash flow distribution. For example, the expected cash flows based on our prepayment model have terms that are somewhat shorter than those based on the PSJ Forecast Statistical Data. As a result, even with the same issuance terms (e.g., the coupon), YCSs based on the PSJ Forecast Statistical Data are slightly lower than those based on our prepayment model.

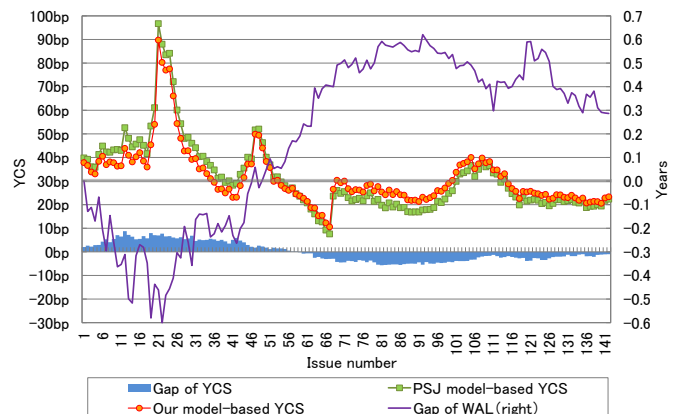
Chart : Expected CPR & Principal Repayment for No. 143 Issue (based on 11 March closing prices)



Source: Our estimates.

Note: Although principal repayments are made every month, the graph show annual repayment totals.

Chart : Difference in YCS for Monthly MBS at Launch



Source: Our estimates.

## Cash flow characteristics and issuance terms for No. 143

We take a look at the issuance terms for the upcoming issue. Based on expected cash flow using our prepayment model and the PSJ model, we estimate the issuance terms (the coupon and launch spread) and the risk premiums.

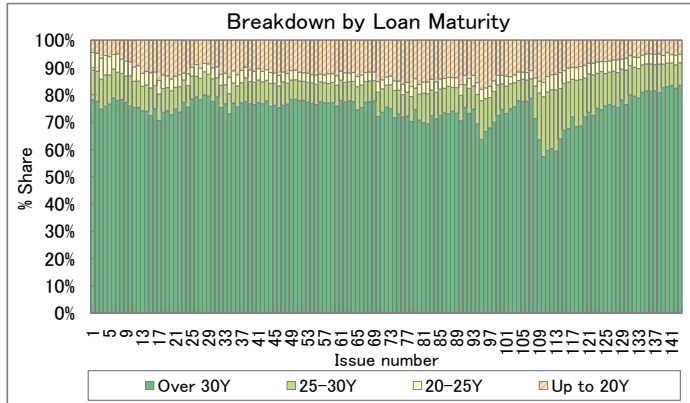
### Expected maturities change little vs. previous issue

The expected cash flow distribution for the upcoming issue (the chart on the previous page, based on 11 March closing prices; hereinafter the same unless otherwise noted) is about the same as the previous issue (at the time of its launch; same hereinafter). The expected WAL is about 8.5 years. The length has changed little compared to the previous issue.

- Based on our model, the expected WAL is 8.51 years (8.49 years for the previous issue) and the expected final maturity 19.0 years. The PSJ forecast is 9.57% PSJ (vs. 9.61% PSJ for the previous issue).
- The PSJ Calculation Statistical Value (average) is 8.93% PSJ (vs. 8.97% PSJ for the previous issue). Accordingly, the expected WAL is 8.80 years (vs. 8.78 years for the previous issue) and the expected final maturity 19.0 years.

The WAC of the underlying loan pool (excl. premiums for new JHF group credit life insurance) for the No. 143 issue declined compared to that for the No. 142 issue (0.92% →

Chart : Distribution of Loan Maturities (all JHF MBS monthly issues)



Source: JHF; compiled by Daiwa Securities.

0.89%). This served as a factor to lengthen the expected maturity of the No. 143 issue by reining in prepayment projections in the future. In addition, the ratio of loans with maturity of longer than 30 years has been rising slightly (left chart). This also appears to have worked to lengthen the expected maturity via the forward shift in distribution of the principal cash flow.

Due to these factors, the expected WAL of the No. 143 issue has lengthened slightly compared to that of the previous issue. However, there is no change to the expected timing for lump-sum redemption due to the exercising of clean-up call options. Accordingly, the expected final maturity has shortened by only 0.1 year, reflecting the difference in the issuance month.

Chart : Launch Spread Estimates for No. 143 MBS (based on 11 March closing prices)

| Valuations of JHF_MBS #143 Pricing (Simulation) |        |                          |            |        |  |                      |                       |         | Base Market Price date : 11-Mar-19<br>(Tokyo Close) |  |
|---|--------|--------------------------|------------|--------|--|----------------------|-----------------------|---------|---|--|
| Base Yield: JGB(353G) YTM -0.040 %              |        |                          |            |        |  |                      |                       |         |   |  |
| Launch Spread                                   | Coupon | Valuations of Cash Flows |            |        |  |                      |                       |         | Indications of Previous RMBS Issue (#142)           |  |
|   |        | Daiwa Model              |            |        |  | PSJ Model            |                       |         |   |  |
|   |        | Dynamic                  |            | Static |  | PSJ forecast         | Statistical Data(Ave) |         |   |  |
|   |        | OAS                      | YCS        | ASW    | RevDur*  | YCS                  | ASW                   | RevDur* |   |  |
| 30 bp   | 0.26 % | 11.3                     | 16.6       | 3.9    | 8.345  | 15.6                 | 3.1                   | 8.626   | (Issuance Terms)                                    |  |
| 31 bp   | 0.27 % | 12.3                     | 17.6       | 4.9    | 8.340  | 16.6                 | 4.1                   | 8.621   | [Launch Spread=35bp]                                |  |
| 32 bp   | 0.28 % | 13.4                     | 18.6       | 5.8    | 8.335  | 17.6                 | 5.1                   | 8.616   | [Coupon=0.32%]                                      |  |
| 33 bp   | 0.29 % | 14.4                     | 19.7       | 6.8    | 8.330  | 18.6                 | 6.1                   | 8.611   | (Valuations at the time of launch)                  |  |
| 34 bp   | 0.30 % | 15.4                     | 20.7       | 7.8    | 8.325  | 19.7                 | 7.0                   | 8.605   | [CF based on Daiwa Model]                           |  |
| 35 bp   | 0.31 % | 16.4                     | 21.7       | 8.8    | 8.320  | 20.7                 | 8.0                   | 8.600   | OAS=18.2bp, YCS=23.3bp, ASW=9.9bp                   |  |
| 36 bp   | 0.32 % | 17.4                     | 22.7       | 9.8    | 8.316  | 21.7                 | 9.0                   | 8.595   | [CF based on PSJ Model]                             |  |
| 37 bp   | 0.33 % | 18.5                     | 23.7       | 10.8   | 8.311  | 22.7                 | 10.0                  | 8.590   | YCS=22.3bp, ASW=9.1bp                               |  |
| 38 bp   | 0.34 % | 19.5                     | 24.7       | 11.8   | 8.306  | 23.7                 | 11.0                  | 8.585   | (Valuations in the secondary market)                |  |
| 39 bp   | 0.35 % | 20.5                     | 25.8       | 12.7   | 8.301  | 24.7                 | 12.0                  | 8.579   | [CF based on Daiwa Model/ Daiwa Price]              |  |
| 40 bp   | 0.36 % | 21.5                     | 26.8       | 13.7   | 8.296  | 25.8                 | 13.0                  | 8.574   | OAS=16bp, YCS=21.2bp, ASW=8.3bp                     |  |
| 41 bp   | 0.37 % | 22.5                     | 27.8       | 14.7   | 8.291  | 26.8                 | 13.9                  | 8.569   | [CF based on PSJ Model/JSDA price]                  |  |
|   |        |                          |            |        |  |                      |                       |         | YCS=20.7bp, ASW=8.1bp                               |  |
|   |        | <Daiwa Model>            |            |        | <PSJ model/based on PSJ Forecast Statistical Data> |                      |                       |         |   |  |
|   |        | PSJ                      | 9.57 %PSJ  |        | Ave : 8.93 %PSJ                                    | (Median: 8.91 ) %PSJ |                       |         | *RevDur: Revised Duration                           |  |
|   |        | WAL                      | 8.51 years |        | 8.80 years   | ( 8.85 ) years       |                       |         |   |  |

Source: Compiled by Daiwa Securities.

Note: 1) Figures in colored cells show similar indications to those in the previous issue, as indicated in the right section (Indications of Previous MBS Issue) with the same colors. Spreads in the previous issue at launch are based on those at the time of pricing. The spreads in the previous issue in the secondary market used in the Daiwa model are based on Daiwa prices, and the spreads in the previous issue in the secondary market used in the PSJ model are based on the JSDA's Trading Reference Statistical Data.

2) Figures for both Trading Reference Statistical Data and PSJ Forecast Statistical Data are average figures.

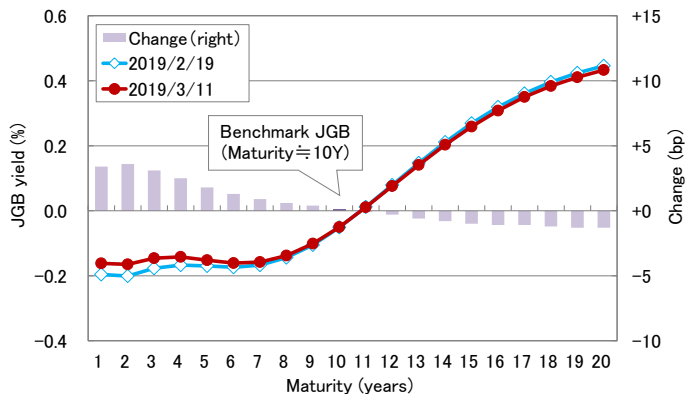
3) Estimated cash flow is based on the assumption that clean-up call options are exercised in initial April or October after the outstanding amount becomes 10% or less of the original.

## Launch spread indications

Since the launch of the previous issue, the JGB yield curve has twisted and flattened, in which the base point was the 10-year sector. While yields rose by several basis points in the zone less than 10 years, those in the 10-year and longer zone were almost flat (slight decline). Since February, the 10-year JGB yield—the benchmark for pricing—has been moving in negative territory. Currently, the yield is at around the  $-0.04\%$  level.

If the launch spread is the same as the previous issue at 35bps, the No. 143 coupon would be 0.31%. If so, the OAS would be at 16.4bps, 1.8bps tighter than the previous issue's launch OAS.

**Chart : JGB Yield Curve Changes (from the day before launch day of No.142)**



Source: Compiled by Daiwa Securities.

The connection with secondary market levels is also of concern. We confirmed spread levels from our offices' prices and JSDA Trading Reference Statistical Data for the previous issue and then looked at the connection with the current issue. For convenience, we used our offices' prices for our model's cash flow analysis and JSDA Trading Reference Statistical Data for the PSJ model-based cash flow estimates (the JSDA's published PSJ Forecast Statistical Data; PSJ values based on the average of the 0bp yield curve scenario).

We did a launch spread case study for the current issue and compared spreads based on cash flow using our model and the PSJ model (based on the average for the JHF's PSJ Forecast Statistical Data).

The connections with the previous issue are shown as follows (secondary market levels and benchmark yield are as of the 11 March close).

## (Connection with risk premium of previous issue)

### 【Pricing using our model's cash flow estimates】

- The No. 142's launch OAS was 18.2bps and the YCS 23.3bps. Based on the similar OAS and YCS, the No. 143's launch spread would be about 36-37bps and the coupon 0.32-0.33%.
- In the secondary market, the No. 142's OAS is 16.0bps and the YCS 21.2bps. In line with these, the No. 143's launch spread would be about 34-35bps and the coupon 0.30-0.31%.

### 【Pricing using PSJ forecast-based cash flow estimates】

- The No. 142's launch YCS was 22.3bps. Based on the similar YCS, the No. 143's launch spread would be about 36-37bps and the coupon 0.32-0.33%.
- In the secondary market, the No. 142's YCS is 20.7bps. In line with this, the No. 143's launch spread would be about 35bps and the coupon 0.31%.

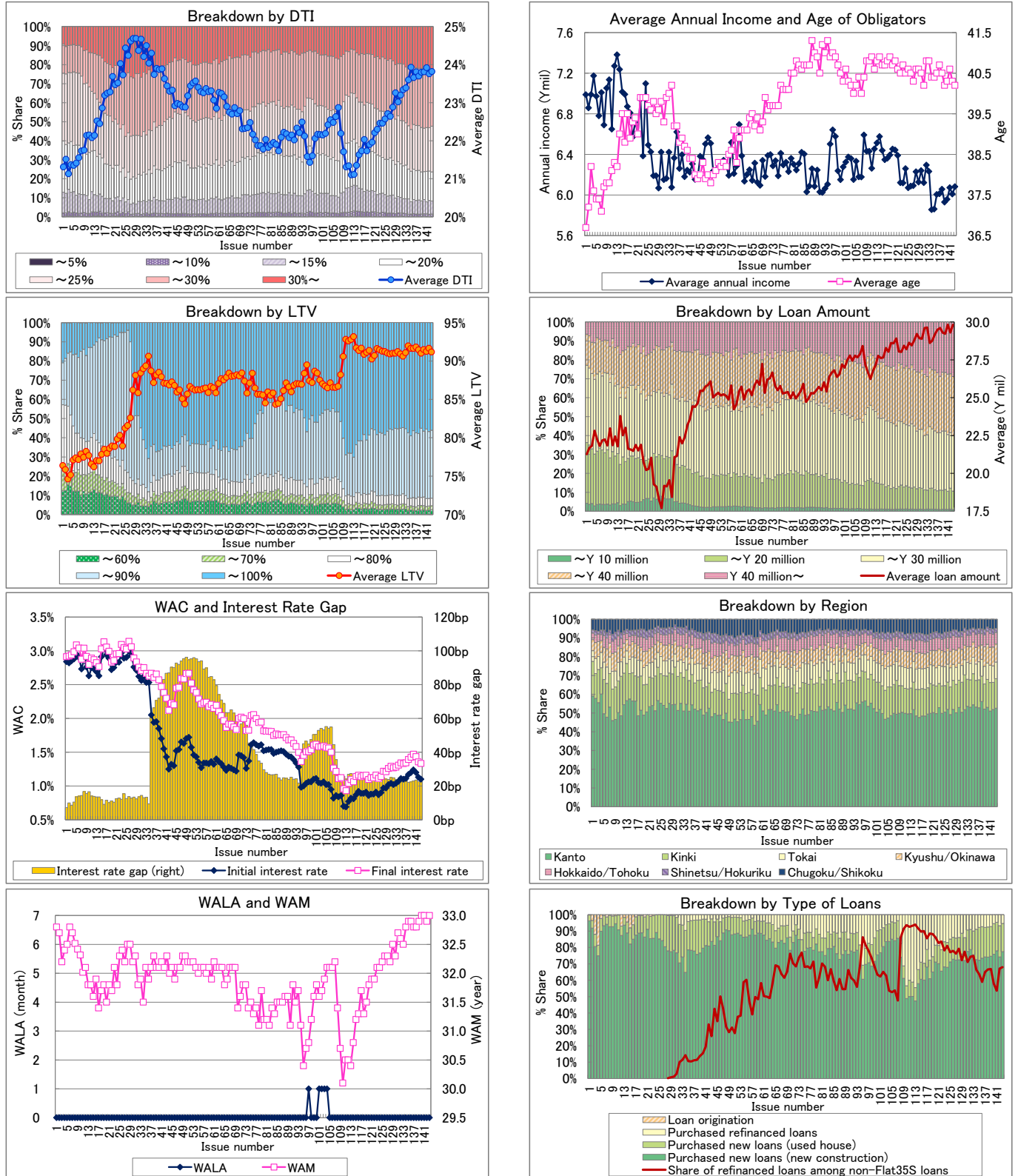
## Demand forecast for No. 143 issue and issuance level

The issuance amount of the No. 143 issue, the final issue in FY18, is expected to increase by 31% m/m in reaction to the small issuance amount of the previous issue due to seasonality.

Meanwhile, the issuance amount is expected to decline slightly on a y/y basis (down less than 1%). Although the issuance amount of the monthly JHF MBS issue had continued to fall y/y over the past two years since April 2017, the amount for the No. 143 issue has recovered nearly to the year-earlier level. While the issuance amount depends on the amount of Flat 35 loans, the loan amount tends to increase due to a decline in the Flat 35 rate. We will closely watch the relationship between the supply/demand balance and issuance terms of the No. 143 issue, ahead of the launch of the next issue in April, which has the largest issuance amount in the year due to seasonality.

For the No. 143 issue, we think it appropriate that supply and demand will meet at the launch spread of around 35-37bps. If so, the coupon would be 0.31-0.33%.

## Characteristics of Underlying Loan Pools for All JHF Monthly MBSs



Source: JHF; compiled by Daiwa Securities.  
 Note: Candidate pool used for No. 143 issue.

## Characteristics of Underlying Loans: No. 143 Monthly MBS and Last Six Issues (No. 137-142)

|  | JHF #137           | JHF #138           | JHF #139           | JHF #140           | JHF #141           | JHF #142           | JHF #143           | Ave. of previous 6 issues | Change from #142 |       |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------------|------------------|-------|
| Loan Pool Selected in                                | Aug-2018           | Sep-2018           | Oct-2018           | Nov-2018           | Dec-2018           | Jan-2019           | Feb-2019           |                           |                  |       |
| Loan Application Started in                          | Jan-2016           | Jan-2016           | Mar-2016           | Dec-2015           | Oct-2016           | Oct-2016           | Jan-2016           |                           |                  |       |
| Repayment Started in                                 | Jun-2018, Aug-2018 | Jul-2018, Sep-2018 | Aug-2018, Oct-2018 | Sep-2018, Nov-2018 | Oct-2018, Dec-2018 | Nov-2018, Jan-2019 | Dec-2018, Feb-2019 |                           |                  |       |
| Initial Outstanding Entrusted Assets (Y mil)         | 183,127            | 174,940            | 176,651            | 180,324            | 202,368            | 141,407            | 184,492            | 176,470                   | +43,085          |       |
| Issue Size (Y mil)                                   | 145,700            | 139,900            | 142,200            | 145,300            | 162,500            | 112,900            | TBD                | 141,417                   | -                |       |
| Excess Collateral (Y mil)                            | 37,427             | 35,040             | 34,451             | 35,024             | 39,868             | 28,507             | TBD                | 35,053                    | -                |       |
| Overcollateralization                                | 20.4%              | 20.0%              | 19.5%              | 19.4%              | 19.7%              | 20.1%              | TBD                | 19.9%                     | -                |       |
| Number of Loans                                      | 6,210              | 5,908              | 6,030              | 6,171              | 6,785              | 4,824              | 6,187              | 5,988                     | +1,363           |       |
| Average Outstanding Loan                             | 29.489             | 29.611             | 29.295             | 29.221             | 29.826             | 29.313             | 29.819             | 29.459                    | +0.506           |       |
| Average LTV  | 91.81%             | 91.44%             | 91.01%             | 91.48%             | 91.25%             | 91.65%             | 91.18%             | 91.44%                    | -0.47%           |       |
| Average DTI  | 23.81%             | 23.70%             | 23.80%             | 23.81%             | 23.92%             | 23.76%             | 23.82%             | 23.80%                    | +0.06%           |       |
| Average LTV for Refinance                            | 85.16%             | 83.34%             | 85.21%             | 82.48%             | 81.52%             | 80.80%             | 84.47%             | 83.09%                    | +3.67%           |       |
| Average DTI for Refinance                            | 20.23%             | 19.42%             | 19.96%             | 19.43%             | 19.88%             | 19.96%             | 19.56%             | 19.81%                    | -0.40%           |       |
| Average Annual Income of Obligor (Y mil)             | 6.012              | 6.057              | 5.929              | 5.957              | 6.072              | 6.009              | 6.082              | 6.006                     | +0.073           |       |
| Average Age of Obligor                               | 40.7               | 40.5               | 40.2               | 40.3               | 40.6               | 40.3               | 40.2               | 40.4                      | -0.1             |       |
| WAC (Initial Rate)                                   | 1.11%              | 1.17%              | 1.20%              | 1.24%              | 1.20%              | 1.13%              | 1.10%              | 1.18%                     | -0.03%           |       |
| WAC (Final Rate)                                     | 1.34%              | 1.39%              | 1.43%              | 1.47%              | 1.44%              | 1.36%              | 1.33%              | 1.40%                     | -0.02%           |       |
| WALA (Weighted Average Loan Age)                     | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                         | +0               |       |
| WALA for Refinance                                   | 92                 | 91                 | 86                 | 93                 | 96                 | 90                 | 95                 | 91                        | +5               |       |
| WAM  | 394                | 394                | 395                | 396                | 396                | 395                | 396                | 395                       | +1               |       |
| Maturity Structure of Loans at Origination (% share) | Up to 10Y          | 0.1%               | 0.1%               | 0.1%               | 0.1%               | 0.1%               | 0.1%               | 0.1%                      | -0.0%            |       |
|  | 10-20Y             | 5.0%               | 4.9%               | 5.4%               | 4.5%               | 5.1%               | 5.4%               | 5.1%                      | -0.3%            |       |
|  | 20-25Y             | 3.8%               | 3.8%               | 3.2%               | 3.8%               | 3.0%               | 3.5%               | 3.0%                      | -0.5%            |       |
|  | 25-30Y             | 9.5%               | 10.4%              | 8.6%               | 8.6%               | 8.3%               | 8.5%               | 8.3%                      | -0.3%            |       |
|  | Over 30Y           | 81.6%              | 80.8%              | 82.7%              | 83.0%              | 83.5%              | 82.5%              | 83.5%                     | 82.3%            | +1.0% |
| % share of loans with bonus payments                 | (in number)        | 13.2%              | 12.3%              | 12.9%              | 12.2%              | 12.9%              | 12.7%              | 13.6%                     | 12.7%            | +0.9% |
|  | (in value)         | 14.9%              | 13.7%              | 14.8%              | 14.0%              | 14.4%              | 14.7%              | 15.6%                     | 14.4%            | +0.9% |
| Type of Loan   | new                | 92.3%              | 92.5%              | 92.8%              | 94.6%              | 95.4%              | 93.3%              | 94.7%                     | 93.5%            | +1.4% |
|  | refinanced         | 7.7%               | 7.5%               | 7.2%               | 5.4%               | 4.6%               | 6.7%               | 5.3%                      | 6.5%             | -1.4% |
| Loan Amount at Origination (% share)                 | Up to Y10 mil      | 0.9%               | 0.9%               | 1.0%               | 0.9%               | 1.0%               | 1.0%               | 0.9%                      | 0.9%             | -0.1% |
|  | Y10-20 mil         | 9.8%               | 10.2%              | 10.1%              | 10.5%              | 9.6%               | 11.1%              | 9.7%                      | 10.2%            | -1.4% |
|  | Y20-30 mil         | 30.7%              | 30.4%              | 31.3%              | 30.9%              | 30.0%              | 29.5%              | 29.3%                     | 30.5%            | -0.2% |
|  | Y30-40 mil         | 31.7%              | 29.8%              | 31.0%              | 31.0%              | 31.9%              | 31.1%              | 31.3%                     | 31.1%            | +0.3% |
|  | Y40-50 mil         | 15.7%              | 14.9%              | 15.7%              | 15.8%              | 15.1%              | 16.5%              | 16.8%                     | 15.6%            | +0.3% |
|  | Over Y50 mil       | 11.1%              | 13.8%              | 10.9%              | 10.8%              | 12.5%              | 10.9%              | 12.0%                     | 11.7%            | +1.2% |
| Loan Amount by Region (% share)                      | Hokkaido/Tohoku    | 6.6%               | 5.9%               | 6.3%               | 6.8%               | 7.3%               | 6.9%               | 6.2%                      | 6.6%             | -0.7% |
|  | Kanto              | 52.7%              | 56.1%              | 52.1%              | 52.9%              | 51.0%              | 51.8%              | 52.5%                     | 52.8%            | +0.7% |
|  | Shinetsu/Hokuriku  | 2.7%               | 2.6%               | 3.0%               | 2.4%               | 2.7%               | 2.8%               | 2.2%                      | 2.7%             | -0.6% |
|  | Tokai              | 9.6%               | 8.8%               | 9.4%               | 8.7%               | 9.2%               | 8.8%               | 8.9%                      | 9.1%             | +0.1% |
|  | Kinki              | 15.0%              | 13.6%              | 13.4%              | 15.0%              | 15.3%              | 14.5%              | 15.7%                     | 14.4%            | +1.2% |
|  | Chugoku            | 3.3%               | 3.5%               | 3.8%               | 3.1%               | 3.6%               | 3.4%               | 3.5%                      | 3.5%             | +0.0% |
|  | Shikoku            | 1.7%               | 1.6%               | 1.6%               | 1.1%               | 1.3%               | 1.8%               | 1.4%                      | 1.5%             | -0.3% |
| Kyushu/Okinawa                                       | 8.5%               | 7.8%               | 10.4%              | 10.0%              | 9.6%               | 10.0%              | 9.6%               | 9.4%                      | -0.5%            |       |

Source: JHF; compiled by Daiwa Securities.  
Note: Candidate pool used for No. 143 issue.

## Explanatory Document of Unregistered Credit Ratings

In order to ensure the fairness and transparency in the markets, Credit Rating Agencies became subject to the Credit Rating Agencies' registration system based on the Financial Instruments and Exchange Act. In accordance with this Act, in soliciting customers, Financial Instruments Business Operators, etc. shall not use the credit ratings provided by unregistered Credit Rating Agencies without informing customers of the fact that those Credit Rating Agencies are not registered, and shall also inform customers of the significance and limitations of credit ratings, etc.

### ■ The Significance of Registration

Registered Credit Rating Agencies are subject to the following regulations:

- 1) Duty of good faith.
- 2) Establishment of control systems (fairness of the rating process, and prevention of conflicts of interest, etc.).
- 3) Prohibition of the ratings in cases where Credit Rating Agencies have a close relationship with the issuers of the financial instruments to be rated, etc.
- 4) Duty to disclose information (preparation and publication of rating policies, etc. and public disclosure of explanatory documents).

In addition to the above, Registered Credit Rating Agencies are subject to the supervision of the Financial Services Agency ("FSA"), and as such may be ordered to produce reports, be subject to on-site inspection, and be ordered to improve business operations, whereas unregistered Credit Rating Agencies are free from such regulations and supervision.

### ■ Credit Rating Agencies

#### [Standard & Poor's]

##### The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: S&P Global Ratings ("Standard & Poor's")

The name and registration number of the Registered Credit Rating Agency in the group: S&P Global Ratings Japan Inc. (FSA commissioner (Rating) No.5)

##### How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating Information" (<http://www.standardandpoors.co.jp/unregistered>) in the "Library and Regulations" section on the website of S&P Global Ratings Japan Inc. (<http://www.standardandpoors.co.jp>)

##### Assumptions, Significance and Limitations of Credit Ratings

Credit ratings assigned by Standard & Poor's are statements of opinion on the future credit quality of specific issuers or issues as of the date they are expressed and they are not indexes which show the probability of the occurrence of the failure to pay by the issuer or a specific debt and do not guarantee creditworthiness. Credit ratings are not a recommendation to purchase, sell or hold any securities, or a statement of market liquidity or prices in the secondary market of any issues.

Credit ratings may change depending on various factors, including issuers' performance, changes in external environment, performance of underlying assets, creditworthiness of counterparties and others. Standard & Poor's conducts rating analysis based on information it believes to be provided by the reliable source and assigns credit ratings only when it believes there is enough information in terms of quality and quantity to make a conclusion. However, Standard & Poor's does not perform an audit, due diligence or independent verification of any information it receives from the issuer or a third party, or guarantee its accuracy, completeness or timeliness of the results by using the information. Moreover, it needs to be noted that it may incur a potential risk due to the limitation of the historical data that are available for use depending on the rating.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of March 7th, 2017, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of S&P Global Ratings Japan Inc. (<http://www.standardandpoors.co.jp>)

#### [Moody's]

##### The Name of the Credit Rating Agencies Group, etc

The name of the Credit Rating Agencies group: Moody's Investors Service ("MIS")

The name and registration number of the Registered Credit Rating Agency in the group: Moody's Japan K.K. (FSA commissioner (Rating) No.2)

##### How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating explanation" in the section on "The use of Ratings of Unregistered Agencies" on the website of Moody's Japan K.K. (The website can be viewed after clicking on "Credit Rating Business" on the Japanese version of Moody's website ([https://www.moody.com/pages/default\\_ja.aspx](https://www.moody.com/pages/default_ja.aspx)))

##### Assumptions, Significance and Limitations of Credit Ratings

Credit ratings are Moody's Investors Service's ("MIS") current opinions of the relative future credit risk of entities, credit commitments, or debt or debt-like securities. MIS defines credit risk as the risk that an entity may not meet its contractual, financial obligations as they come due and any estimated financial loss in the event of default. Credit ratings do not address any other risk, including but not limited to: liquidity risk, market value risk, or price volatility. Credit ratings do not constitute investment or financial advice, and credit ratings are not recommendations to purchase, sell, or hold particular securities. No warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any such rating or other opinion or information, is given or made by MIS in any form or manner whatsoever.

Based on the information received from issuers or from public sources, the credit risks of the issuers or obligations are assessed. MIS adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MIS considers to be reliable. However, MIS is not an auditor and cannot in every instance independently verify or validate information received in the rating process.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of April 16<sup>th</sup>, 2018, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Moody's Japan K.K. ([https://www.moody.com/pages/default\\_ja.aspx](https://www.moody.com/pages/default_ja.aspx))

#### [Fitch]

##### The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: Fitch Ratings ("Fitch")

The name and registration number of the Registered Credit Rating Agency in the group: Fitch Ratings Japan Limited (FSA commissioner (Rating) No.7)

##### How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Outline of Rating Policies" in the section of "Regulatory Affairs" on the website of Fitch Ratings Japan Limited (<https://www.fitchratings.co.jp/web/>)

##### Assumptions, Significance and Limitations of Credit Ratings

Ratings assigned by Fitch are opinions based on established criteria and methodologies. Ratings are not facts, and therefore cannot be described as being "accurate" or "inaccurate". Credit ratings do not directly address any risk other than credit risk. Credit ratings do not comment on the adequacy of market price or market liquidity for rated instruments. Ratings are relative measures of risk; as a result, the assignment of ratings in the same category to entities and obligations may not fully reflect small differences in the degrees of risk. Credit ratings, as opinions on relative ranking of vulnerability to default, do not imply or convey a specific statistical probability of default.

In issuing and maintaining its ratings, Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction. The assignment of a rating to any issuer or any security should not be viewed as a guarantee of the accuracy, completeness, or timeliness of the information relied on in connection with the rating or the results obtained from the use of such information. If any such information should turn out to contain misrepresentations or to be otherwise misleading, the rating associated with that information may not be appropriate. Despite any verification of current facts, ratings can be affected by future events or conditions that were not anticipated at the time a rating was issued or affirmed.

For the details of assumption, purpose and restriction of credit ratings, please refer to "Definitions of ratings and other forms of opinion" on the website of Fitch Rating Japan Limited.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of May 13<sup>th</sup>, 2016, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Fitch Rating Japan Limited (<https://www.fitchratings.co.jp/web/>)



**IMPORTANT**

This report is provided as a reference for making investment decisions and is not intended to be a solicitation for investment. Investment decisions should be made at your own discretion and risk. Content herein is based on information available at the time the report was prepared and may be amended or otherwise changed in the future without notice. We make no representations as to the accuracy or completeness. Daiwa Securities Co. Ltd. retains all rights related to the content of this report, which may not be redistributed or otherwise transmitted without prior consent.

**Notification items pursuant to Article 37 of the Financial Instruments and Exchange Law**

If you decide to enter into a business arrangement with our company based on the information described in this report, we ask you to pay close attention to the following items.

- In addition to the purchase price of a financial instrument, our company will collect a trading commission\* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction. In some cases, our company also may charge a maximum of ¥ 2 million (including tax) per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
- For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements\*\*.
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
- There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
- Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

\* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

\*\* The ratio of margin requirements etc. to the amount of the transaction cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

Corporate Name: Daiwa Securities Co. Ltd.  
Registered: Financial Instruments Business Operator  
Chief of Kanto Local Finance Bureau (Kin-sho) No.108  
Memberships: Japan Securities Dealers Association  
The Financial Futures Association of Japan  
Japan Investment Advisers Association  
Type II Financial Instruments Firms Association