

JHF No.129 Monthly MBS Issue

Strategic Memorandum DSTE211

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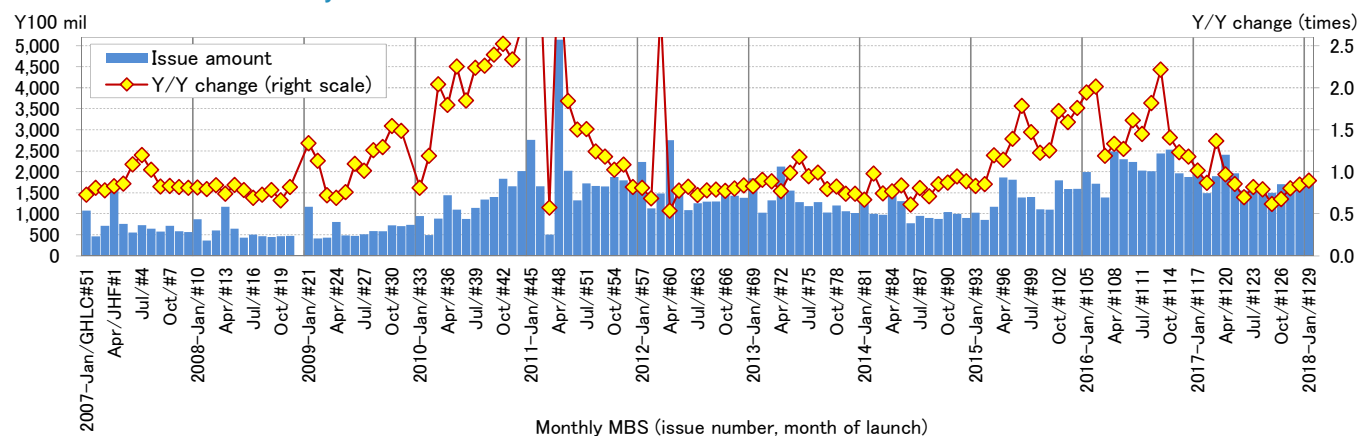
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Daiwa Securities Co. Ltd.

- First issue in 2018 amounts to Y180.8 bil to meet demand from investors

- The Japan Housing Finance Agency (JHF) plans to issue its No. 129 Monthly MBS.
- The candidate trust assets total Y228.4 bil, all of which were Flat 35 loans originated in December. With the issuance amount of Y180.8 bil, the credit enhancement ratio increased to 20.8% from 20.3% for previous issue.
- The Flat 35 interest rate in December declined m/m. Of candidate trust assets, the ratio of Flat 35 loans applied since October (New Flat 35), when the new JHF group credit life insurance system was introduced, has gradually increased to 38%. The ratio of New Flat 35 borrowers who bought the new insurance is high at nearly 90%.
- Based on our prepayment model, we estimate a WAL of 8.39 years and a final maturity of 18.7 years (based on 12 January closing prices; same hereinafter). The expected WAL based on the JHF's PSJ Forecast Statistical Data is 8.79 years.
- The No. 128, launched in December, had a launch spread of 37bps and a coupon of 0.42%. Based on the same launch spread, the No. 129 would have a coupon of 0.44% and an OAS of 17.9bps.
- In the secondary market, the previous issue's risk premium in terms of the OAS is 17.0bps. Based on the same OAS, the No. 129's coupon would be about 0.43% and the launch spread 36bps.
- Based on our demand forecasts for the No. 129 issue, we think it appropriate that supply and demand will meet at the launch spread of around 36-38bps. If so, the coupon would be 0.43-0.45%.

Chart : Issue Amount of Monthly MBS



Source: JHF; compiled by Daiwa Securities.

Note: Estimate for No. 129 issue.

Issuance of JHF MBS and Situations of Flat 35

No. 129 to be launched in January

The Japan Housing Finance Agency (JHF) plans to price (launch) its No. 129 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 (JB349 in this case) at the time of the launch. The launch date is scheduled on 19 January, and the payment date is scheduled on 26 January.

Issuance amount of Y180.8 bil

Candidate trust assets for the No. 129 totaled Y228.4 bil, all of which were Flat 35 loans originated in December. The issue is likely to have the highest ratings from S&P and R&I. As the credit enhancement ratio increased to 20.8% (up 0.5 percentage points vs. previous issue), it was disclosed that the issuance amount would be Y180.8 bil.

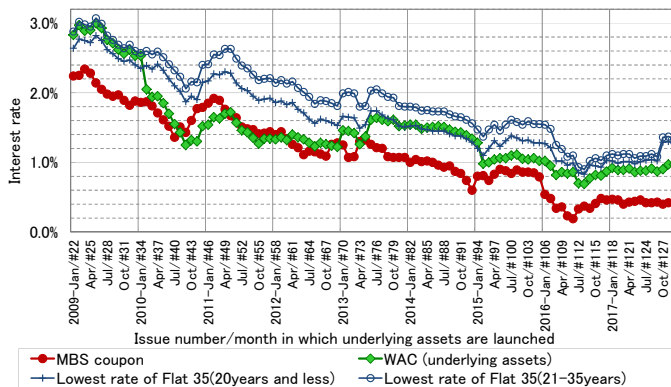
M/m decline in Flat 35 interest rate

In the case of the LTV being 90% and lower, the lowest retail rate in December for Flat 35 mortgages of at least 21 years was 1.34% (for mortgages of 20 years or less was 1.27%), 0.03% lower than the rate in November. The outstanding amount of candidate trust assets for the No. 129 issue is 10% less than the year-earlier level. As new usage of Flat 35 loans has been steady, the amount is slightly higher than the year-earlier level. On the other hand, refinancing usage is continuing to decline y/y, constraining growth in the overall usage amount. However, the pace of the y/y drop in refinancing usage bottomed in August 2017.

New Flat 35 loans account for nearly 40% of candidate trust assets

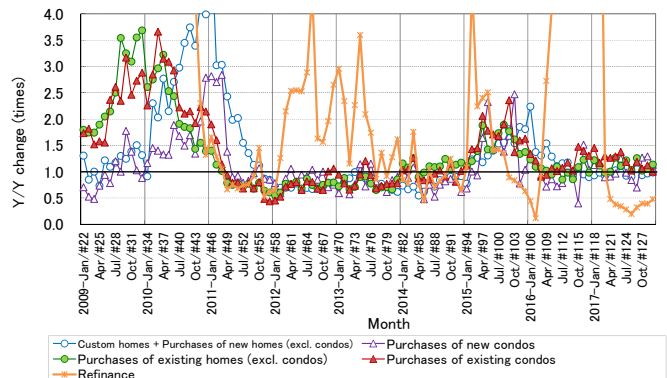
Of candidate trust assets for the No. 129 issue, the ratio of Flat 35 loans applied since October (New Flat 35), when the new JHF group credit life insurance system was introduced, has gradually increased to 38.3%. The ratio of policyholders of the new insurance system is 33.0% (2.0% by *Duet*, 4.6% by insurance incl. special contract for three major diseases). Nearly 90% of New Flat 35 borrowers have bought the new insurance.

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



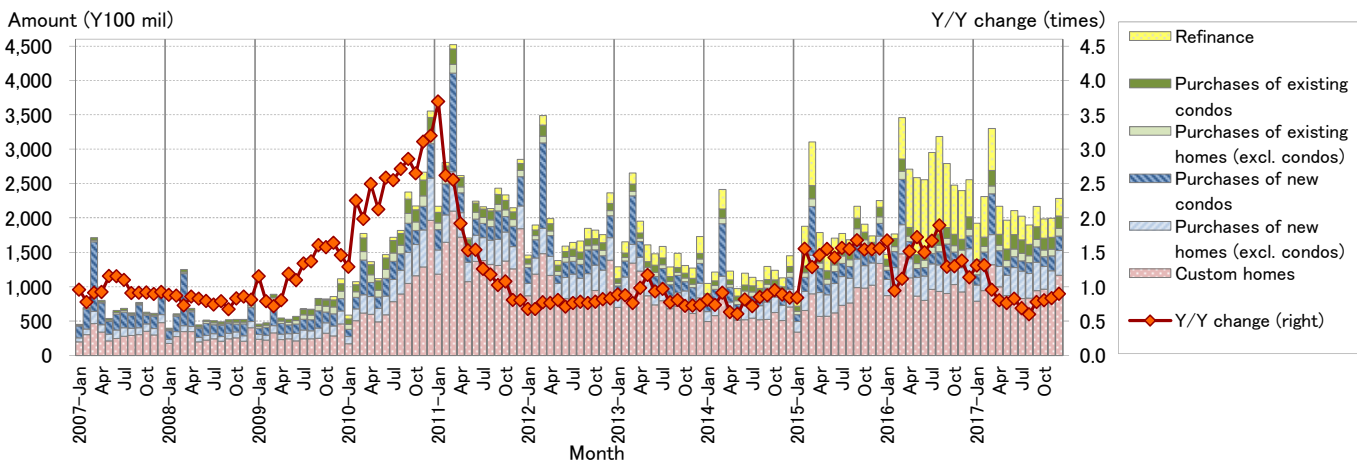
Source: JHF; compiled by Daiwa Securities.

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. 128's launch spread 37bps

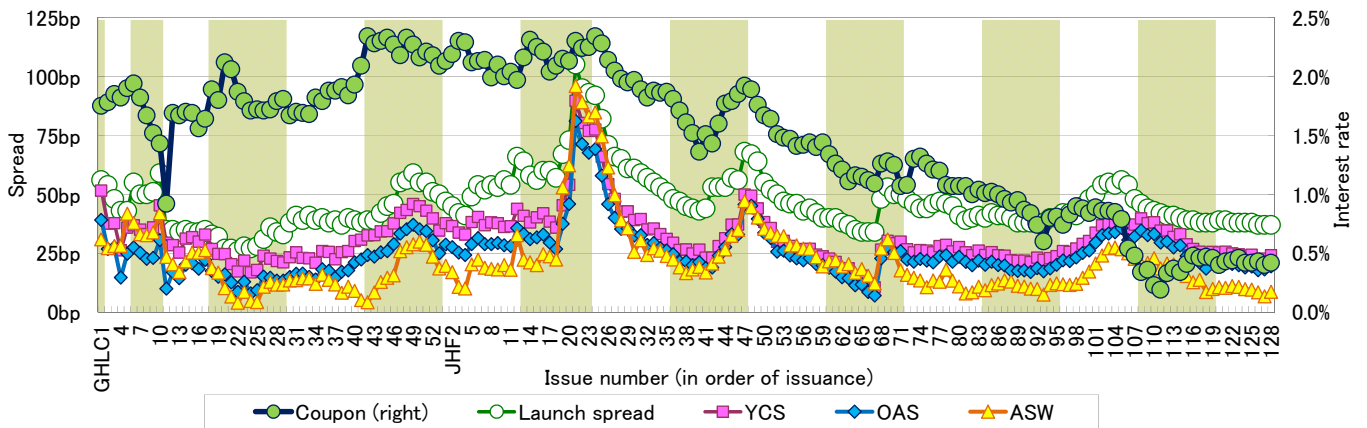
The No. 128 (Y158.9 bil) was launched on 15 December with a coupon of 0.42%, 2bps higher than No. 127. The spread was 37bps (same as previous issue). The OAS at launch (our estimate; same hereinafter) stood at 19.4bps (1.3bps wider) and the YCS was 24.1bps (1.4bps wider).

Rise in coupon reflecting higher benchmark interest rate

The launch spread was unchanged for two months in a row. The rise in coupon reflected a slight rise in the 10Y JGB yield, the benchmark for pricing. Around half of the rise stemmed from the extension of maturity of the benchmark JGB due to a shift to a new maturity basket. As fluctuation of the 10Y JGB remains limited, the coupon has been at the 0.4% level for 14 consecutive months.

Compared to other sectors, the 10Y JGB yield was boosted by the shift in the benchmark JGB. This appears to be the reason behind the widening of the OAS.

Chart : Issuance Terms for JHF Monthly MBS

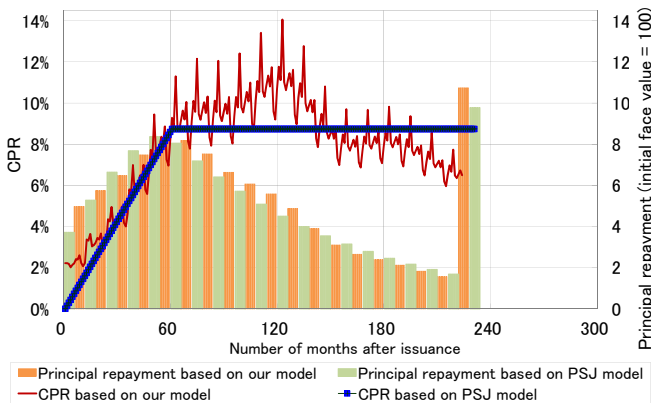


Source: JHF and our estimates.
Note: The background colors indicate different fiscal years.

Different risk premiums depending on expected cash flow distribution

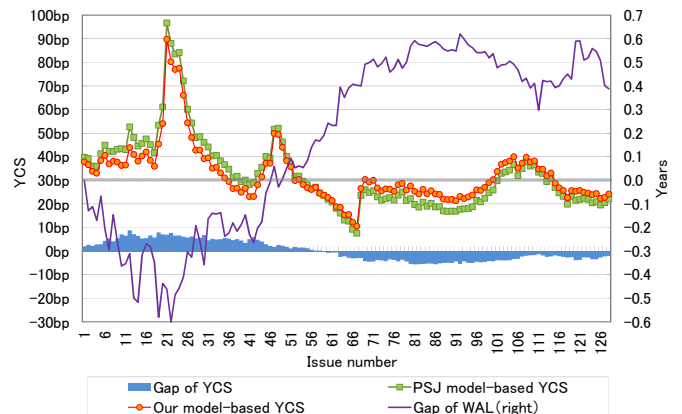
With regard to the pricing of JHF MBS, it should be noted that the risk premium varies depending on the expected cash flow distribution. For example, the expected cash flows based on our prepayment model have terms that are somewhat shorter than those based on the PSJ Forecast Statistical Data. As a 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. 129 Issue (12 January 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. 129

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.

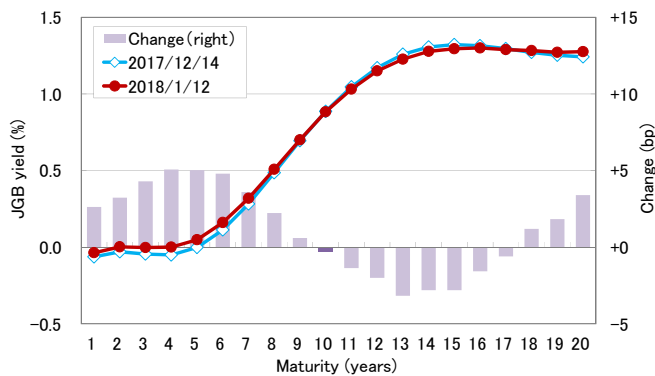
Expected maturities change little vs. previous issue

The expected cash flow distribution for the upcoming issue (the chart on the previous page) 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 12 January closing prices; hereinafter the same unless otherwise noted).

- Based on our model, the expected WAL is 8.39 years (8.39 years for the previous issue) and the expected final maturity 18.7 years. The PSJ forecast is 9.55% PSJ (vs. 9.58% PSJ for the previous issue).
- The PSJ Calculation Statistical Value (average) is 8.74% PSJ (vs. 8.78% PSJ for the previous issue). Accordingly, the expected WAL is 8.79 years (vs. 8.78 years for the previous issue).

When we compared the No. 129 issue with the previous issue, the rise in the implied forward rate and the decline in the underlying loan pool's weighted average coupon (from

Chart : Change in 3Y-Forward Rate



Source: Compiled by Daiwa Securities.

0.90% to 0.89% based on figures excl. premium of new JHF group credit life insurance) served as factors to lengthen the expected maturities via the decline in prepayment estimates. The weighted average maturity of the underlying loan pool has also lengthened (see graph on page 6, table on page 7).

Nevertheless, the expected WAL of the No. 129 issue has changed little (+0.004 years based on our model), probably because the impact from lengthening factors was offset by that from a shortening factor—i.e., a change in the time lag due to the JHF's semiannual exercising of clean-up call options. Regarding the 129 issue, the period from the timing when the outstanding amount becomes 10% or less of the original to a lump-sum redemption has shortened by three months compared to the previous issue.

Chart : Launch Spread Estimates for No. 129 MBS (based on 12 January closing prices)

Valuations of JHF_MBS_#129 Pricing (Simulation)										Base Market Price date : 12-Jan-18 (Tokyo Close)	
Base Yield: JGB(349G) YTM 0.070 %											
Launch Spread	Coupon	Valuations of Cash Flows							Indications of Previous RMBS Issue (#128)		
		Daiwa Model				PSJ Model					
		Dynamic	Static			PSJ forecast	Statistical Data(Ave)				
OAS	YCS	ASW	RevDur*	YCS	ASW	RevDur*					
31 bp	0.38 %	11.8	16.9	1.4	8.179	14.8	-0.2	8.555	(Issuance Terms)		
32 bp	0.39 %	12.8	17.9	2.4	8.174	15.8	0.8	8.550	[Launch Spread=37bp]		
33 bp	0.40 %	13.8	18.9	3.4	8.169	16.9	1.8	8.544	[Coupon=0.42%]		
34 bp	0.41 %	14.8	19.9	4.4	8.164	17.9	2.8	8.539	(Valuations at the time of launch)		
35 bp	0.42 %	15.9	20.9	5.4	8.160	18.9	3.8	8.534	[CF based on Daiwa Model]		
36 bp	0.43 %	16.9	21.9	6.3	8.155	19.9	4.8	8.529	OAS=19.4bp, YCS=24.1bp, ASW=8.7bp		
37 bp	0.44 %	17.9	23.0	7.3	8.150	20.9	5.7	8.524	[CF based on PSJ Model]		
38 bp	0.45 %	18.9	24.0	8.3	8.145	22.0	6.7	8.518	YCS=22.1bp, ASW=7.1bp		
39 bp	0.46 %	19.9	25.0	9.3	8.140	23.0	7.7	8.513	(Valuations in the secondary market)		
40 bp	0.47 %	21.0	26.0	10.3	8.135	24.0	8.7	8.508	[CF based on Daiwa Model/ Daiwa Price]		
41 bp	0.48 %	22.0	27.0	11.3	8.131	25.0	9.7	8.503	OAS=17bp, YCS=21.7bp, ASW=6.2bp		
42 bp	0.49 %	23.0	28.1	12.3	8.126	26.0	10.7	8.498	[CF based on PSJ Model/JSDA price]		
									YCS=20.6bp, ASW=5.4bp		
		<Daiwa Model>				<PSJ model/based on PSJ Forecast Statistical Data>				*RevDur: Revised Duration	
		PSJ	9.55 %PSJ			Ave : 8.74 %PSJ	(Median: 8.65) %PSJ				
		WAL	8.39 years			8.79 years	(8.82) 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.

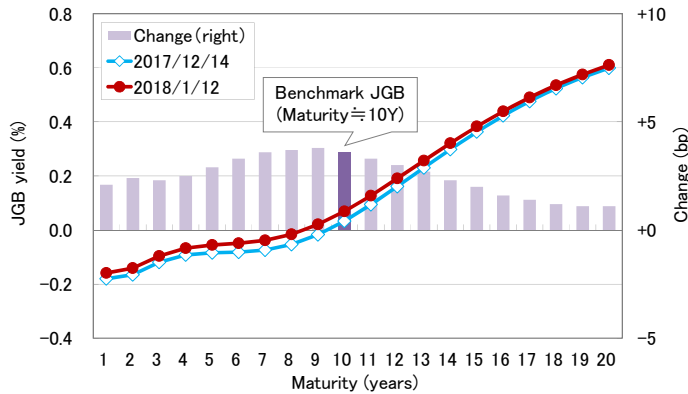
3) Estimated cash flow is based on the assumption that clean-up call options are exercised in initial April or October after the outstanding amount becomes 10% or less of the original.

Launch spread indications

Since the launch of the previous issue, JGB yields have risen across the board. The JGB yield curve has shifted upward led by around the 9Y sector. Although the 10Y JGB yield had remained in a narrow range, the yield rose to 0.08% in the second week of January for the first time in roughly six months after breaking out from the range between slightly below 0.04% and the mid-0.05% level seen in late December. Currently, the yield has slid to 0.07%, 3.5bps higher than that as of the launch of the previous issue.

If the launch spread is the same as the previous issue at 37bps, the No. 129 coupon would be 0.44%. If so, the OAS would be at 17.9bps, 1.5bps tighter than the previous issue's launch OAS.

Chart : JGB Yield Curve Changes (from the day before launch day of No.128)



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 following connections with the previous issue are apparent (secondary market levels and benchmark yield are as of the 12 January close).

(Connection with risk premium of previous issue)

【Pricing using our model's cash flow estimates】

- The No. 128's launch OAS was 19.4bps and the YCS 24.1bps. Based on the similar OAS and YCS, the No. 129's launch spread would be about 38-39bps and the coupon 0.45-0.46%.
- In the secondary market, the No. 128's OAS is 17.0bps and the YCS 21.7bps. In line with these, the No. 129's launch spread would be about 36bps and the coupon 0.43%.

【Pricing using PSJ forecast-based cash flow estimates】

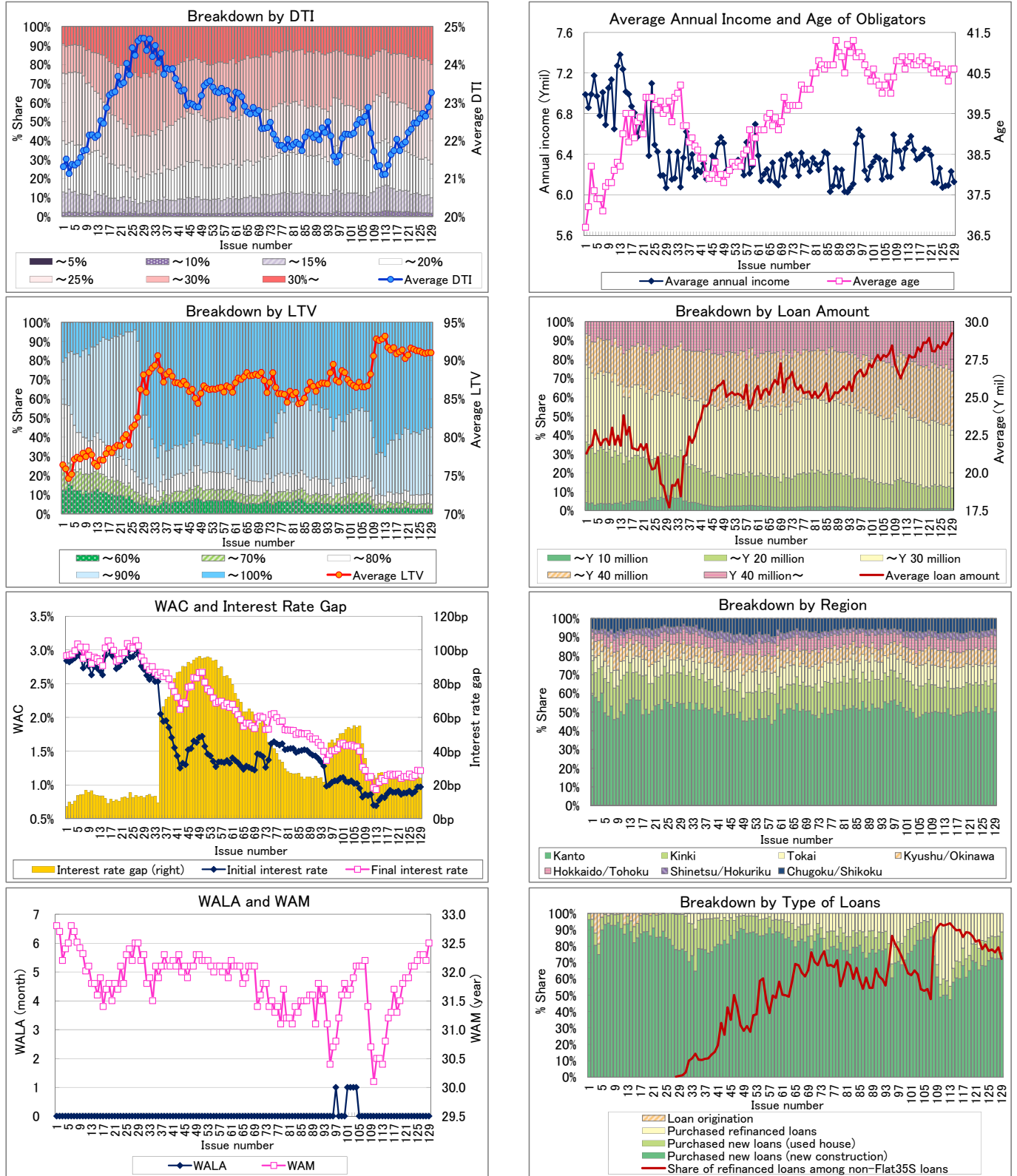
- The No. 128's launch YCS was 22.1bps. Based on the similar YCS, the No. 129's launch spread would be about 38bps and the coupon 0.45%.
- In the secondary market, the No. 128's YCS is 20.6bps. In line with this, the No. 129's launch spread would be about 36-37bps and the coupon 0.43-0.44%.

Demand forecast for No. 129 issue and issuance level

The issuance amount of the No. 129 issue is 14% higher than that of the previous issue. Usually, December shows relatively high growth in usage of housing loans. Reflecting the seasonality, the issuance amount of the No. 129 issue is the third highest in FY17. However, the figure is 10% less than the year-earlier level.

For the No. 129 issue, we think it appropriate that supply and demand will meet at the launch spread of around 36-38bps. If so, the coupon would be 0.43-0.45%.

Characteristics of Underlying Loan Pools for All JHF Monthly MBSs



Source: JHF; compiled by Daiwa Securities.
 Note: Candidate pool used for No. 129 issue.

Characteristics of Underlying Loans: No. 129 Monthly MBS and Last Six Issues (No. 123-128)

	JHF #123	JHF #124	JHF #125	JHF #126	JHF #127	JHF #128	JHF #129	Ave. of previous 6 issues	Change from #128
Loan Pool Selected in	Jun-2017	Jul-2017	Aug-2017	Sep-2017	Oct-2017	Nov-2017	Dec-2017		
Loan Application Started in	Sep-2014	Dec-2014	Mar-2015	May-2015	Sep-2015	Dec-2014	Jun-2015		
Repayment Started in	Jun-2017	May-2017, Jul-2017	Jun-2017~ Aug-2017	Jul-2017, Sep-2017	Sep-2017, Oct-2017	Nov-2017	Dec-2017		
Initial Outstanding Entrusted Assets (Y mil)	210,570	202,268	189,648	216,807	198,865	199,490	228,433	202,941	+28,943
Issue Size (Y mil)	165,900	159,100	150,000	170,800	157,600	158,900	180,800	160,383	+21,900
Excess Collateral (Y mil)	44,670	43,168	39,648	46,007	41,265	40,590	47,633	42,558	+7,043
Overcollateralization	21.2%	21.3%	20.9%	21.2%	20.7%	20.3%	20.8%	20.9%	+0.5%
Number of Loans	7,513	7,113	6,724	7,572	6,989	6,927	7,817	7,140	+890
Average Outstanding Loan	28.027	28.436	28.205	28.633	28.454	28.799	29.223	28.426	+0.424
Average LTV	91.44%	91.26%	91.22%	91.02%	90.91%	91.01%	91.00%	91.14%	-0.01%
Average DTI	22.46%	22.46%	22.57%	22.71%	22.64%	22.88%	23.26%	22.62%	+0.38%
Average LTV for Refinance	87.11%	87.63%	84.89%	85.46%	87.66%	87.19%	88.61%	86.66%	+1.42%
Average DTI for Refinance	19.66%	19.51%	19.34%	19.41%	19.37%	19.37%	20.06%	19.44%	+0.69%
Average Annual Income of Obligor (Y mil)	6.118	6.260	6.070	6.088	6.092	6.229	6.127	6.143	-0.103
Average Age of Obligor	40.7	40.5	40.6	40.5	40.3	40.6	40.6	40.5	+0.0
WAC (Initial Rate)	0.88%	0.88%	0.91%	0.87%	0.90%	0.97%	0.97%	0.90%	+0.00%
WAC (Final Rate)	1.12%	1.12%	1.16%	1.11%	1.14%	1.22%	1.21%	1.15%	-0.01%
WALA (Weighted Average Loan Age)	0	0	0	0	0	0	0	0	+0
WALA for Refinance	74	72	77	76	72	77	79	75	+2
WAM	385	385	386	388	388	386	390	386	+4
Maturity Structure of Loans at Origination (% share)	Up to 10Y	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	+0.1%
	10-20Y	7.9%	7.6%	7.7%	7.4%	7.1%	6.7%	7.5%	-0.4%
	20-25Y	4.2%	3.7%	4.4%	4.0%	4.2%	3.7%	4.2%	-0.9%
	25-30Y	12.8%	14.0%	11.9%	12.0%	12.7%	12.8%	11.3%	-1.5%
	Over 30Y	75.1%	74.6%	75.9%	76.4%	75.9%	75.4%	78.1%	75.6%
% share of loans with bonus payments	(in number)	12.7%	13.5%	14.0%	13.2%	14.2%	12.5%	13.3%	+0.2%
	(in value)	14.4%	15.1%	15.5%	14.9%	16.0%	14.0%	14.9%	+0.3%
Type of Loan	new	83.5%	83.1%	85.2%	86.2%	85.8%	88.7%	85.0%	+2.6%
	refinanced	16.5%	16.9%	14.8%	13.8%	14.2%	11.3%	15.0%	-2.6%
Loan Amount at Origination (% share)	Up to Y10 mil	1.1%	1.1%	1.2%	1.0%	1.1%	1.0%	1.1%	-0.1%
	Y10-20 mil	12.6%	11.7%	12.2%	11.7%	11.2%	10.9%	11.9%	-0.9%
	Y20-30 mil	33.6%	33.6%	32.3%	32.5%	33.8%	30.5%	33.0%	-1.8%
	Y30-40 mil	30.3%	29.3%	31.0%	30.2%	31.3%	31.3%	30.3%	+1.5%
	Y40-50 mil	12.4%	14.3%	13.6%	14.5%	13.8%	13.4%	15.1%	+1.7%
	Over Y50 mil	10.0%	10.0%	9.7%	10.1%	8.8%	11.8%	11.2%	10.1%
Loan Amount by Region (% share)	Hokkaido/Tohoku	5.8%	5.9%	7.2%	5.9%	7.2%	7.1%	6.6%	-0.2%
	Kanto	52.8%	49.8%	50.4%	51.9%	49.1%	50.1%	51.0%	-1.7%
	Shinetsu/Hokuriku	2.6%	3.0%	3.3%	2.8%	3.3%	3.1%	3.0%	+0.6%
	Tokai	9.7%	10.5%	10.1%	9.6%	10.3%	8.5%	9.1%	+0.6%
	Kinki	12.9%	14.6%	14.1%	14.6%	14.7%	15.5%	15.1%	-0.4%
	Chugoku	4.6%	4.8%	4.1%	4.4%	4.7%	3.8%	3.9%	+0.2%
	Shikoku	2.8%	3.0%	2.8%	2.4%	1.9%	1.9%	1.8%	-0.1%
Kyushu/Okinawa	8.8%	8.3%	7.9%	8.5%	8.8%	8.1%	9.2%	8.4%	+1.1%

Source: JHF; compiled by Daiwa Securities.

Note: Candidate pool used for No. 129 issue.

IMPORTANT

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- 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.

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