Market consultation

FTSE Russell

FTSE Fixed Income Client Consultation

Securitized products

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Introduction

FTSE Russell is committed to enhancing the strength of our multi-asset benchmark franchise, which notably includes the recent addition of the Citi Fixed Income Index business. It is FTSE Russell's belief that comprehensive client engagement and market education play an important role in evolving and developing our product offering. As part of our commitment to ensuring that our benchmarks remain representative of the markets they are intended to track and continue to address the needs of index users, we would like to consult with market participants on several topics related to the securitized products market. In particular, we would like to solicit feedback as it relates to how our mortgage benchmarks reflect the evolution of the agency mortgage backed securities market and client interest in our development agenda.

The feedback received from this consultation will assist FTSE Russell in making any final decisions related to the topics considered. We value your input and participation.

Responding to the Consultation

The proposals set out in this consultation document are included in order to gather feedback and may or may not result in changes to FTSE Fixed Income Index rules.

Please submit your response to the questions included in this consultation online at https://www.surveymonkey.co.uk/r/MSRXPW7

The consultation will close on June 30. All responses will be treated as confidential. FTSE Russell may publish a summary of the consultation results, but no individual responses will be published and no respondents will be named.

If you have any questions about this survey, or if you encounter any technical issues, please contact rpawson@ftserusssell.com.

Background

Securitized products, which pool cash flows to create investable financial instruments, are a large and important component of the investment choice set for a fixed income manager. Market participants require benchmarks to accurately represent this asset class, as well as complementary analytics to assess their relative value and future cash flows. To consider how our benchmarks reflect the evolution and expansion of these asset types, FTSE Russell would like to formally consult with market participants around a number of topics related to our coverage for securitized products.

In particular, as part of our commitment to ensure that the FTSE US Broad Investment-Grade (USBIG®) Mortgage Index remains representative of the agency mortgage backed pass through market, we would like to review its methodology and inclusion rules with index users, as well as consider how its design may evolve with the implementation of the Federal Housing Finance Agency's Single Security Initiative.

FTSE USBIG Mortgage Index Methodology

The mortgage component of the FTSE USBIG Index tracks 15- and 30-year pass-through mortgage backed securities (MBS) guaranteed by Freddie Mac, Fannie Mae and Ginnie Mae. The index is represented by origination year "cohorts", which are constructed by grouping together thousands of individual, settled MBS pass-through pools by agency, term, coupon and origination year. Each origination year cohort must meet the following criteria to qualify for index inclusion:

- **Coupon**: fixed-rate; hybrid ARMs are not eligible.
- **Maturity**: minimum 1 year, based on weighted average loan age (WALA).
- **Issue size**: minimum $1 billion amount outstanding per origination year cohort when a coupon cohort has a minimum $5 billion outstanding. Individual cohorts exit the index upon falling below the $1 billion minimum. All cohorts within a given coupon cohort will exit the index upon the coupon cohort falling below $2.5 billion amount outstanding.
- **Program Type:** Freddie Mac, Fannie Mae and Ginnie Mae programs eligible for TBA delivery are included. Custom pools originated through the Ginnie Mae 2 program are not eligible[1]. High loan-to-value (LTV) program pools are excluded.

As part of this consultation, we would like to solicit feedback on the appropriateness of continued program inclusion based on TBA eligibility, and in particular the continued exclusion of Ginnie Mae 2 custom pools.

Index Rebalancing

The amount outstanding for an origination year cohort is updated on a monthly basis to reflect the most recent "factor" information, which incorporates net new production and pool balances that have paid down. Factor data captured through the prior month end is updated during the current month to calculate the principal component of total return for the index and provide preview balances as the index is rebalanced for the following month's return weighting.

[1] Ginnie Mae guarantees MBS through two programs: Ginnie Mae 1 and Ginnie Mae 2, each with a unique TBA contract. Ginnie Mae 1 pools must be originated and administered by a single issuer, who markets all of the related securities. An issuer may participate in the Ginnie Mae 2 MBS either by issuing custom, single-issuer pools or through participation in the issuance of multiple-issuer pools. Custom pools are originated and administered by a single-issuer. Multi-issuer pools (MIP) are a single pool in which one or more issuers participate. The mortgages submitted by each participating issuer are referred to as a loan package and the combined loan packages are used to back a single issuance of securities. An Issuer that pools a loan package designates at the time of submission that it wishes to participate in a multiple Issuer pool, and each issuer originates and is responsible for administering only the package it submits. Custom pools are not good for TBA delivery into the Ginnie Mae 2 contract.

Float Adjustments

The weights for MBS cohorts in the FTSE USBIG Mortgage Index are not float adjusted, and include both pools that are held in Collateralized Mortgage Obligations (CMOs) and pools held in the Federal Reserve System Open Market Account (SOMA). FTSE Russell does offer, however, the FTSE Mortgage Float-Adjusted Index, a float adjusted version of the FTSE USBIG Mortgage Index, which excludes pools backing CMOs. As of April 2018, $480 billion of pools (by market value) held in CMOs are excluded from the USBIG Mortgage Float-Adjusted Index, equivalent to 9.7% by market value. Figure 1 shows the sector distribution of MBS currently tracked by the flagship FTSE USBIG Mortgage Index and the float adjusted version.

Figure 1. FTSE USBIG Mortgage Index vs FTSE Mortgage Float-Adjusted Index
(excludes CMO holdings only)

	FTSE USBIG Mortgage Index			FTSE Mortgage Float-Adjusted Index			Difference		
	Count	MV	MV%	Count	MV	MV%	Count	MV	MV%
30 Year MBS	198	4,358.5	88.4	157	3,903.9	87.7	-41	-454.6	-0.7
FHLMC	55	919.0	18.6	40	772.7	17.4	-15	-146.3	-1.3
FNMA	69	1,950.1	39.5	58	1,749.5	39.3	-11	-200.6	-0.2
GNMA	74	1,489.5	30.2	59	1,381.8	31.0	-15	-107.7	0.8
15 Year MBS	59	572.8	11.6	58	547.0	12.3	-1	-25.8	0.7
FHLMC	27	191.7	3.9	26	176.4	4.0	-1	-15.3	0.1
FNMA	32	381.1	7.7	32	370.6	8.3	0	-10.5	0.6
Total	**257**	**4,931.3**	**100.0**	**215**	**4,450.9**	**100.0**	**-42**	**-480.4**	**0.0**

Source: FTSE Russell. Data as of April 2018.

We welcome feedback from index users on usage of the float adjusted version and views more generally towards usability of benchmarks that make these types of adjustments as we look to evolve our product suite.

Index Pricing

As we announced in January 2018, since the acquisition of the Citi Fixed Income Index business, the FTSE index team has been working to ensure a smooth integration of the benchmark families. In order to ensure independence of data inputs, we are in the process of undertaking a comprehensive review of all security prices used as an input in the calculation of these indexes.

MBS cohorts tracked by the index are assigned an index price, which is used to represents thousands of pass through securities underlying an index-eligible instrument. This price is derived by assigning a pay-up to the associated TBA based on vintage only, and discounting that price to same day settlement. As part of this consultation, FTSE Russell would like to canvass views on pricing methodologies for MBS cohorts with index users.

Single Security Initiative

The Single Security Initiative represents a change to the underlying market structure of the asset class the FTSE USBIG Mortgage Index is designed to track. Under the direction of the Federal Housing Finance Agency (FHFA), the Single Security Initiative will create a new, common mortgage-backed security (MBS) to be issued and guaranteed by either Fannie Mae or Freddie Mac, and backed by fixed-rate 30-, 20-, 15- and 10-year single-family mortgage loans. The security will be called the “Uniform MBS” or “UMBS” and will be issued through the enterprises' joint venture, Common Securitization Solutions (CSS), using the Common Securitization Platform (CSP). In March 2018, the FHFA announced a June 3, 2019 implementation date for the Single Security Initiative.

We encourage participants in this consultation to reach out to their contacts at the FHFA, Freddie Mac or Fannie Mae for full details. Highlighted below are three key considerations of this initiative from a benchmark perspective:

1. Issuing Entity Post Program Alignment

The single security product will align key components of each enterprise’s current pass-through programs: Fannie Mae’s mortgage-backed securities (MBS) and Freddie Mac’s Participation Certificates (PCs). Among a series of features that will be aligned is the payment delay: Freddie Mac PCs currently have a 45 day delay, which will be lengthened for UMBS to align with the Fannie Mae 55 day delay. Post implementation of the Single Security Initiative, settled UMBS pools that are eligible for index inclusion will have aligned program features, but continue to have a clearly defined issuing entity as either Freddie Mac or Fannie Mae.

2. Exchanges of Legacy Freddie Mac Pools

Investors will be allowed to exchange their legacy 45-day delay Freddie Mac PCs for new 55-day delay UMBS issued by Freddie Mac. The exchange will be non-mandatory and will be initiated at the option of investors at no fee. Investors will receive compensation for the approximate fair value of 10 days’ delay in payment. Freddie Mac will use an option–adjusted spread (OAS) valuation method, leveraging models from dealers and analytics providers, to determine the proposed payments by valuing the difference between the 45-day delay and 55-day delay securities. FTSE Russell do not anticipate that the index will attempt to capture this payment as part of total return.

3. Evolution of the TBA Market:

The Single Security Initiative will allow for a single TBA contract that Freddie Mac and Fannie Mae UMBS can be delivered into. Counterparties in a TBA trade will not know the issuing entity of the pools to be delivered until notification day. Both Fannie Mae and Freddie Mac will use the Fixed Income Clearing Corporation (FICC) matching, netting, allocation and settlement processes for Fannie Mae (“01F”) for TBA contracts. Freddie Mac will continue to use the FICC TBA identifier of “02R” for legacy 45-day delay securities until activity indicates they are no longer needed.

Given its role as a benchmark and analytics provider, FTSE Russell seeks to ensure that it provides the necessary transparency and tools to facilitate a smooth transition as the Single Security Initiative is implemented. This also means ensuring that the benchmark remains relevant and representative of the evolved agency mortgage market structure. As part of this consultation, we would like to solicit feedback on user preferences for UMBS index cohort construction as either separate issuer-specific cohorts or a single combined cohort for both Freddie Mac and Fannie Mae UMBS pools. We would also like to consider the index implications for legacy 45-day delay Freddie Mac pools and their exchanges. The future structure of the TBA market is an important aspect of this review as TBA valuations underpin index cohort prices. Though TBAs are not index eligible, they are often the investment vehicle used to represent mortgage index allocations in investment funds and portfolios.

FTSE Russell will also be engaging with users of the Yield Book to communicate details around our support of the Single Security Initiative transition and enhancements to the manner in which MBS are supported through this platform as they become available.

Securitized Products Benchmark Development and Innovation

In addition to consulting on the evolution of our existing securitized products benchmarks, we would like to solicit feedback on future development and innovation as part of this consultation. Customer engagement (along with more practical considerations such as the provision of reference data, analytics support, availability of pricing, issuance trends, etc.) is vital to setting our development agenda and refining new methods of benchmark construction and design. We discuss several asset classes in the following section for consideration as future index products.

Agency Credit Risk Transfer (CRT) Securities

In 2012, the Federal Housing Finance Agency (FHFA) initiated development of a credit risk transfer program intended to reduce Fannie Mae's and Freddie Mac's overall risk and, therefore, the risk they pose to taxpayers while in conservatorship. Although the program allows for credit risk transfers through a number of different vehicles - including reinsurance transactions, senior-subordinate securitizations, and a variety of lender collateralized recourse transactions - the majority of risk transfer has been through debt issuances. In these instances the agencies act as intermediaries rather than guarantors of the debt. Two such programs are the Freddie Mac Structured Agency Credit Risk (STACR) and the Fannie Mae Connecticut Avenue Securities (CAS). We would like to consider these programs as possible candidates for new benchmarks and are soliciting user views accordingly.

Under both programs, debt notes are unsecured and the principal payments of unguaranteed bonds issued by the agency are determined by the cash flows on a reference pool of recently acquired single family mortgages. Freddie Mac and Fannie Mae hold the senior risk, which is unfunded and not issued, and all, or a portion of, the most junior or first loss portion of the structure. Senior mezzanine and junior mezzanine notes, which are not guaranteed, are sold to investors. The notes are monthly pay and typically have a 10-year final maturity for fixed-rate transactions.[2] The profile for a universe of securities currently tracked in the Yield Book portfolio platform can be found in Figure 2.

Figure 2. Agency Credit Risk Transfer Securities Universe

Sector	Count	AO (000's)	MV (000's)	Coupon	Yield	Effective Duration	Spread Duration
CAS/STACR	**164**	**39,280**	**42,207**	**5.046**	**3.18**	**-0.89**	**3.92**
2013 Issuance	6	1,082	1,228	6.368	2.95	-2.05	3.36
2014 Issuance	24	6,367	6,867	4.750	2.71	-1.41	3.47
2015 Issuance	34	7,728	8,459	5.890	3.14	-1.93	3.43
2016 Issuance	58	11,375	12,586	5.687	3.18	-2.30	3.72
2017 Issuance	42	12,729	13,067	3.997	3.48	1.56	4.73
CAS Deals	68	21,283	22,875	5.145	3.23	-1.01	3.87
STACR Deals	96	17,997	19,333	4.930	3.12	-0.75	3.98

Source: FTSE Russell. Data as of December 2017.

[2] Source: https://www.fhfa.gov/PolicyProgramsResearch/Policy/Pages/Credit-Risk-Transfer.aspx
http://www.fanniemae.com/portal/funding-the-market/credit-risk/conn-ave.html
http://www.freddiemac.com/creditriskofferings/stacr_debt.html

Agency Commercial Mortgage Backed Securities (CMBS)

The market for agency CMBS has grown and evolved to include a variety of issuance programs, structures and bond types. FTSE Russell would like to consider customer interest in a FTSE benchmark that tracks one or all of the following multifamily securitization products offered by Fannie Mae, Freddie Mac and Ginnie Mae:

- **Fannie Mae MBS / DUS:** pass-through pools backed by Fannie Mae Delegated Underwriting and Servicing (DUS) loans. DUS loans are multifamily mortgages originated by a select set of approved private lenders who perform "Delegated Underwriting and Servicing" on behalf of Fannie Mae.
- **Fannie Mae GeMS DUS Megas and ACES:** DUS Megas are passthrough securities backed by groups of outstanding MBS/DUS or other GeMS DUS Megas. Fannie Mae ACES are multifamily REMICs backed by loans originated under Fannie Mae's DUS origination platform.
- **Freddie Mac K-Certificates**
- **Ginnie Mae Project Loans**

In addition to Agency CMBS, we welcome feedback on demand for a standalone benchmark tracking private-label CMBS, as well as the appropriateness of inclusion of these security types in broad-market benchmarks, such as the FTSE USBIG Index.

Fannie Mae Green MBS

As FTSE Russell looks to expand its ESG and green capabilities to fixed income, we are interested in understanding the role securitized products play in green bond portfolios. Introduced in 2012, one such green securitized investment vehicle is Fannie Mae Green MBS; these are issued as multi-family DUS pools. As of January 2018 there are approximate 1,000 deals that have been issued with $25 billion in outstanding issuance.

These single asset security deals are generally backed by one loan and one property, providing the investor insight into both the environmental and financial attributes of the asset. Multi-family properties accessing Fannie Green Financing must meet at least one of two criteria:

1. Possess a nationally recognized current Green Building Certificate, and/or
2. Make property improvements that target reductions in energy and / or water use.[3]

By starting to gauge interest in this asset type, we hope to better understand how the investment choice set for green investors continues to evolve, and how our products can support market innovation.

Alternative Mortgage Index Structure

Since its inception, the FTSE USBIG Mortgage Index has represented the agency MBS market with index cohorts constructed by aggregating individual pass-through pools based on agency, program, coupon and vintage. As the market has evolved, other characteristics, such as average loan balance and geography, have become relevant in the trading of what is referred to as the "specified pool" market. We would like to solicit feedback from index users on an alternate structure of the index that incorporates additional granularity for specified pool characteristics. Users of The Yield Book can already view "CMO generics" that are produced in collaboration with the Citi MQA team and provide such additional granularity for specified pools. One potential benchmark innovation could be to extend this cohort construction structure to form the basis of a more granular MBS Index; this in turn could lend itself to more sophisticated smart beta type benchmark construction.

[3] Source: https://www.fanniemae.com/multifamily/green-initiative-green-mbs#

Figure 3 provides a sample segmentation for 30-Year Fannie Mae and 30-Year Freddie Mac specified pools by loan balance, with the buckets defined as follows:

- **Low Loan Balance (LLB):** average loan balance of less than $85k at origination
- **Medium Loan Balance (MLB):** average loan balance of between $85k – $110k at origination
- **Medium High Loan Balance (MHLB):** average loan balance of between $110k – $125k at origination
- **High Loan Balance (HLB):** average loan balance of between $125k – $150k at origination
- **High High Loan Balance (HHLB):** average loan balance of between $150k – $175k at origination

Figure 3. Loan Balance Breakout for FNMA and FHLMC 30-Year Universe

	Total Cohort		WTD/ Other Spec		LLB		MLB		MHLB		HLB		HHLB	
	AO $bn	% Cpn	AO $bn	% Cpn	AO $bn	% Cpn	AO $bn	% Cpn	AO $bn	% Cpn	AO $bn	% Cpn	AO $bn	% Cpn
30-Year FHLMC														
Coupon 2.5	5.7	100.0%	5.5	97.1%	0.0	0.3%	0.0	0.4%	0.0	0.4%	0.1	1.1%	0.0	0.7%
Coupon 3	339.3	100.0%	309.3	91.2%	2.1	0.6%	4.3	1.3%	2.6	0.8%	12.7	3.7%	8.2	2.4%
Coupon 3.5	449.4	100.0%	368.9	82.1%	6.9	1.5%	12.8	2.9%	6.9	1.5%	32.5	7.2%	21.4	4.8%
Coupon 4	254.2	100.0%	181.6	71.4%	8.7	3.4%	13.2	5.2%	6.2	2.4%	28.4	11.2%	16.0	6.3%
Coupon 4.5	90.3	100.0%	61.7	68.4%	5.4	6.0%	6.4	7.1%	2.1	2.3%	10.2	11.3%	4.4	4.9%
Coupon 5	35.1	100.0%	25.6	73.1%	2.0	5.8%	2.3	6.5%	0.5	1.6%	3.8	10.8%	0.8	2.2%
Coupon 5.5	22.4	100.0%	13.2	59.0%	2.4	10.7%	1.9	8.3%	0.7	3.1%	3.6	16.0%	0.7	3.0%
Coupon 6	14.1	100.0%	6.2	44.3%	2.4	17.1%	1.7	12.3%	0.5	3.4%	2.5	17.9%	0.7	5.0%
Coupon 6.5	4.8	100.0%	1.6	32.7%	1.2	24.7%	0.7	13.6%	0.2	5.0%	0.9	18.1%	0.3	5.9%
30-Year FNMA														
Coupon 2.5	13.1	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.2%	0.0	0.2%
Coupon 3	497.6	100.0%	454.8	91.4%	3.0	0.6%	6.1	1.2%	3.9	0.8%	16.8	3.4%	13.0	2.6%
Coupon 3.5	675.2	100.0%	556.1	82.3%	10.4	1.5%	19.0	2.8%	10.8	1.6%	48.4	7.2%	30.6	4.5%
Coupon 4	443.2	100.0%	314.5	71.0%	15.2	3.4%	23.1	5.2%	11.9	2.7%	50.2	11.3%	28.3	6.4%
Coupon 4.5	153.7	100.0%	99.8	65.0%	9.4	6.1%	11.6	7.5%	5.1	3.3%	19.7	12.8%	8.2	5.3%
Coupon 5	54.9	100.0%	39.4	71.9%	3.5	6.4%	3.6	6.6%	1.3	2.4%	5.5	10.0%	1.5	2.7%
Coupon 5.5	37.7	100.0%	23.6	62.5%	3.9	10.2%	3.4	9.0%	1.0	2.7%	4.7	12.4%	1.2	3.1%
Coupon 6	23.2	100.0%	11.7	50.6%	3.3	14.3%	2.6	11.1%	0.8	3.4%	3.7	15.8%	1.1	4.8%
Coupon 6.5	8.4	100.0%	3.0	36.0%	2.0	24.0%	1.0	12.5%	0.4	4.7%	1.4	16.3%	0.5	6.4%

Source: FTSE Russell. Data as of April 2017.

In addition to loan balance, segmentation is also possible across a number of other pool characteristics such as servicer, FICO and state / geography. We would look to users for feedback around other specified pool cohorts that we may want to reflect in alternative benchmark designs.

Consultation questions

FTSE USBIG Mortgage Index – Single Security Initiative

The Single Security Initiative will create a new mortgage-backed security to be issued and guaranteed by either Fannie Mae or Freddie Mac called the "Uniform MBS" or "UMBS." The single security product will align key components of each enterprise's current pass-through programs: Fannie Mae's mortgage-backed securities (MBS) and Freddie Mac's Participation Certificates (PCs). Among a series of features that will be aligned is the payment delay; Freddie Mac PCs currently have a 45 day delay, which will be lengthened for UMBS to align with the Fannie Mae 55 day delay. FTSE Russell would like to solicit feedback from index users as to how to best reflect the transition and reflect the investment opportunity set for agency UMBS investors.

1. **What do you believe is the most appropriate inclusion criterion for legacy 45-day Freddie Mac pools that are not exchanged into UMBS?**

   ☐ Continue to include the legacy 45-day Freddie Mac pools provided they meet the minimum outstanding criterion of the index

   ☐ Continue to include provided the sum of their balance and the adjacent coupon / vintage 55-day delay UMBS pools' balance meets the minimum outstanding criterion of the index

   ☐ Continue to include provided their TBA market exists

   ☐ Exit immediately at the next month-end post Single Security Initiative implementation

   ☐ Other

Please enter your comments here:

2. **What is your preference for how the FTSE USBIG Mortgage Index cohort construction will reflect new UMBS issuance?**

   ☐ UMBS issuance from Fannie Mae and Freddie Mac should be tracked by the same cohort

   ☐ Fannie Mae UMBS and Freddie Mac UMBS should be tracked as separate cohorts by issuer initially (in line with current index construction) but with the option to combine into a single cohort in the future subject to governance and ongoing review of the market

   ☐ Other

   Please enter your comments here:

3. **If Fannie Mae and Freddie Mac UMBS were tracked by the same cohort, what is your preference for implementation?**

   ☐ Freddie Mac UMBS pools should contribute to existing Fannie Mae cohorts, allowing for time series continuity for Fannie Mae cohorts

   ☐ Fannie Mae UMBS and Freddie Mac UMBS should be tracked together in an entirely new cohort, which would not comingle Fannie Mae securities issued pre and post Single Security Initiative implementation

   ☐ Other

   Please enter your comments here:

4. **If Fannie Mae UMBS and Freddie Mac UMBS were tracked by separate cohorts, do you believe it would be appropriate to track legacy 45-day Freddie Mac pools in the same cohort as new issue 55-day Freddie Mac UMBS?**

   ☐ Yes

   ☐ No

   ☐ Other

   Please enter your comments here:

5. **How important is it for the index to provide more frequent daily previews of exchanges of Freddie Mac 45-day PCs for UMBS post implementation?**

   ☐ Extremely important

   ☐ Helpful, but not required

☐ Not required

Please enter your comments here:

FTSE USBIG Mortgage Index Construction

Two key index design features for the FTSE USBIG Mortgage Index are program eligibility and the float adjustment of cohort balances. The index currently includes only those programs that are good for TBA delivery, and does not float adjust holdings to exclude pools backing Collateralized Mortgage Obligations (CMOs).

6. **Do you support the existing FTSE USBIG Mortgage Index eligibility requirement that agency MBS programs be TBA eligible?**

☐ Yes, the index should track TBA eligible MBS programs only

☐ No, program inclusion should include Ginnie Mae 2 custom pools

☐ No, program inclusion should include Ginnie Mae 2 custom pools, and other programs, such as high LTV programs

Please enter your comments here:

7. **The USBIG Mortgage Index includes bonds that back Collateralized Mortgage Obligations (CMOs). Do you believe the standard index should be float adjusted to exclude pools held in CMOs?**

☐ Yes, the flagship index should be float adjusted for CMO holdings

☐ No

Please enter your comments here:

8. **If a change were implemented to float adjust the standard FTSE USBIG Mortgage Index for pools backing CMOs, what amount of lead time would you need?**

☐ 1 month

☐ 3 months

☐ 6 months

☐ Other

Please enter your comments here:

9. **As FTSE Russell looks to review the sources of index cohort prices, please provide any feedback on the preferred MBS cohort pricing methodology and sources.**

Please enter your comments here:

FTSE Securitized Products Development and Innovation

Please provide your feedback on the extension of securitized products asset class coverage and product innovation within the FTSE Fixed Income benchmark suite.

10. How interested would you be in a benchmark that tracked Agency Credit Risk Transfer (CRT) securities?

☐ Very interested, for benchmarking purposes

☐ Very interested, but only for informational purposes

☐ Somewhat interested

☐ Not interested at all

Please enter your comments here:

11. How would you characterize your interest in a benchmark that tracked US Commercial Mortgage Backed Securities?

☐ High, as a tool for dedicated CMBS or securitized products funds

☐ High, as a way to facilitate broader asset allocation decisions

☐ Somewhat interested, but for informational purposes only

☐ Not interested at all

Please enter your comments here:

12. Which security types do you believe are appropriate for a US Agency Commercial Mortgage Backed Securities Index? Please select only one option for Fannie Mae to avoid double counting.

☐ Fannie Mae CMBS - GeMS DUS Megas and ACES only

☐ Fannie Mae CMBS - DUS pools only

☐ Freddie Mac K-certificates

☐ Ginnie Mae Project Loans

☐ Other / not sure

Please enter your comments here:

13. If your firm has a green bond portfolio, are green securitized products, such as Fannie Mae Green MBS, part of your investment choice set?

- ☐ Yes, we currently include securitized products
- ☐ No, we do not yet invest in securitized products as part of our green bond portfolio, but we are looking to do so in the near future
- ☐ No, we do not yet invest in securitized products as part of our green bond portfolio, but we do have a green bond portfolio or allocation
- ☐ No, we do not have a green bond fund or allocation
- ☐ Other / not sure

Please enter your comments here:

14. How would you characterize your interest in an alternative version of the FTSE MBS Index that used specified pool characteristics such as loan balance in cohort construction in addition to existing agency, coupon and vintage characteristics?

- ☐ Very interested, as a replacement for the mortgage component of a broad-based index
- ☐ Very interested, to incorporate as part of a smart beta design
- ☐ Somewhat interested, but for informational purposes
- ☐ Not interested at all

Please enter your comments here:

For more information about our indexes, please visit ftserussell.com.

About FTSE Russell

FTSE Russell is a leading global index provider creating and managing a wide range of indexes, data and analytic solutions to meet client needs across asset classes, style and strategies. Covering 98% of the investable market, FTSE Russell indexes offer a true picture of global markets, combined with the specialist knowledge gained from developing local benchmarks around the world.

FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. For over 30 years, leading asset owners, asset managers, ETF providers and investment banks have chosen FTSE Russell indexes to benchmark their investment performance and create investment funds, ETFs, structured products and index-based derivatives. FTSE Russell indexes also provide clients with tools for asset allocation, investment strategy analysis and risk management.

A core set of universal principles guides FTSE Russell index design and management: a transparent rules-based methodology is informed by independent committees of leading market participants. FTSE Russell is focused on index innovation and customer partnership applying the highest industry standards and embracing the IOSCO Principles. FTSE Russell is wholly owned by London Stock Exchange Group.

For more information, visit ftserussell.com.

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