

## S&P/JPX JGB VIX<sup>®</sup> Update October 2018

### JGB VIX Exhibits Sensitivity to BoJ Rumors

While S&P/JPX JGB VIX levels have remained below the highs witnessed in July and August of this year, the JGB market has continued to exhibit heightened sensitivity to rumors related to possible changes to the Bank of Japan (BoJ) JGB purchases. The S&P/JPX JGB VIX reached intramonth highs after news reports that some at the BoJ would be comfortable seeing 10-year yields move higher and beyond their perceived upper band limit of 0.20%.

As expected, JGB futures reacted negatively to the news, though the impact was short-lived. With decreased liquidity becoming an increasing concern for market participants, the BoJ is expected to consider ways to boost JGB trading activity. These discussions, centered on possible tweaks to current operations, were to be held at its regular two-day monetary policy meeting at the end of the month (Oct. 30-31, 2018).

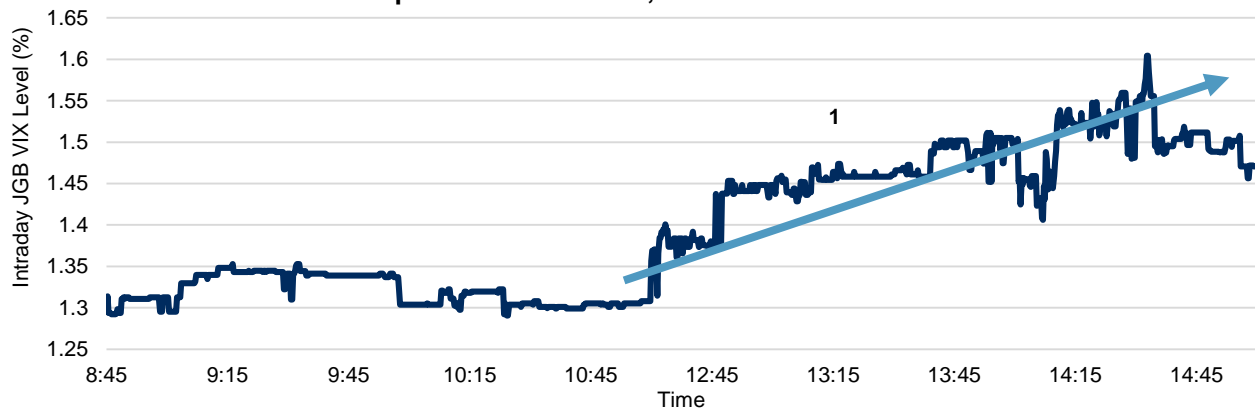
Volatility JGB VIX Versus TYVIX

	AUG 2018	SEP 2018	OCT 2018
JGB VIX	126%	74%	81%
TYVIX	63%	57%	94%

Source: Bloomberg, October 2018.

**Note:** Since we are currently evaluating the S&P/JPX JGB VIX as a real-time index, we wanted to share some examples of particularly interesting intraday movements this month. Exhibits 1 and 2 are purely for illustrative/educational purposes only. Please contact us for more details.

### Exhibit 1: Yields Rise on BoJ Speculation – Oct. 26, 2018

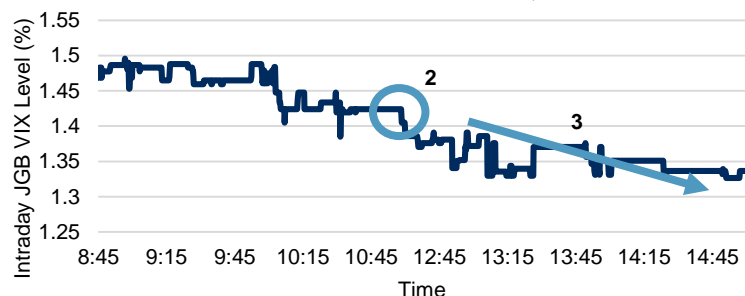


Source: S&P Dow Jones Indices LLC. Data as of October 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

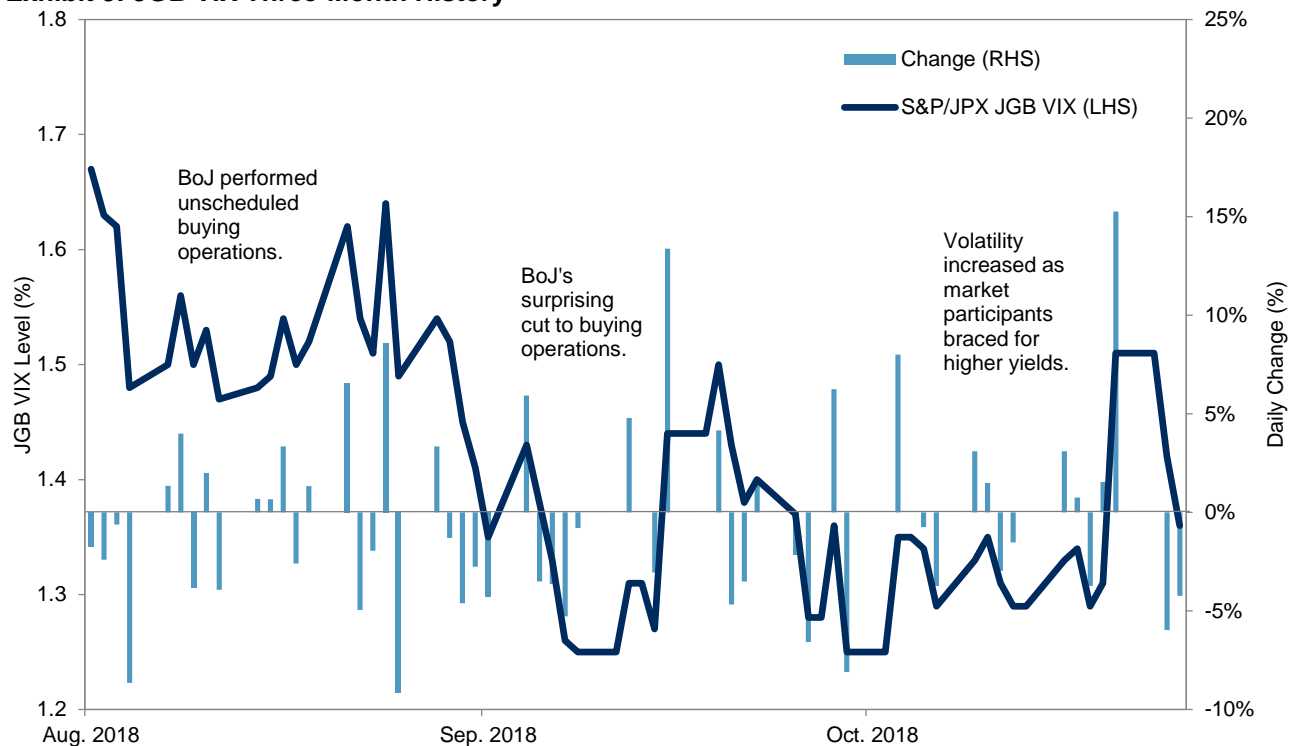
### JGB VIX Real-Time Movements:

1. Moved higher after reports that some at BoJ would be comfortable with higher yields.
2. BoJ monetary policy decision announced.
3. With no changes to policy, levels moved lower into the market close.

### Exhibit 2: BoJ October Decision – Oct. 31, 2018



Source: S&P Dow Jones Indices LLC. Data as of October 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

**Exhibit 3: JGB VIX Three-Month History**

Source: S&P Dow Jones Indices LLC. Data as October 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

### Upcoming November Events

#### Scheduled JGB Purchases

Nov. 2, 9, 19, 28 (1-5 years)  
 Nov. 2, 12, 16, 26, 30 (5-10 years)  
 Nov. 5, 9, 16, 26, 30 (10+ years)

#### Major JGB Auctions

Nov. 1 (10-year)  
 Nov. 6 (10-year inflation-indexed)  
 Nov. 13 (30-year)  
 Nov. 15 (5-year)  
 Nov. 20 (20-year)  
 Nov. 27 (40-year)  
 Nov. 29 (2-year)

### Geopolitical/Fiscal Factors Could Take Center Stage

Aside from being a crucial way to measure investor sentiment regarding potential changes to the BoJ's current JGB purchase program, the S&P/JPX JGB VIX should be closely monitored for other factors as well. The midterm election results in the U.S. could spill over and affect global markets if the outcome causes increased uncertainty. Additionally in Japan, all signs are pointing to a consumption tax hike to 10% in October 2019. The government may propose a stimulus package to counter possible negative economic effects of the hike, but the BoJ would be limited in its ability to offer any additional support via easing. In fact, if inflationary pressures continue, the BoJ might need to consider exiting policy sooner than it wants.

## GENERAL DISCLAIMER

Copyright © 2018 by S&P Dow Jones Indices LLC. All rights reserved. Standard & Poor's®, S&P 500® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"), a subsidiary of S&P Global. Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"). Trademarks have been licensed to S&P Dow Jones Indices LLC. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, Dow Jones, S&P or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. All information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties. Past performance of an index is not a guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other vehicle. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

JPX is a trademark of Japan Exchange Group, Inc. and has been licensed for use by S&P Dow Jones Indices.

VIX is a trademark of Chicago Board Options Exchange, Incorporated and has been licensed for use by S&P Dow Jones Indices.