

S&P/JPX JGB VIX[®] Update November 2018

JGB VIX Gets a Boost From Overseas Turmoil

Anxiety around global markets provided a boost to S&P/JPX JGB VIX levels heading into the end of the month. It was only this July when benchmark 10-year JGB yields rose significantly, as the market challenged the Bank of Japan (BoJ) over a potential early shift in monetary policy. However, sentiment since that time has changed, with 10-year JGB yields comfortably back below 0.10% and the S&P/JPX JGB VIX at levels not seen since the summer (Nov. 30, 2018, close 1.52). The main drivers this time around have been mostly external, with the global sell-off in equity markets and increasingly threatening U.S. rhetoric around tariffs and the escalation of trade tensions. In Japan, NTT Docomo's 40% rate cut announcement not only shocked the markets and saw the stock plummet, but it also added another potentially damaging hurdle to the BoJ's progress toward its inflation target.

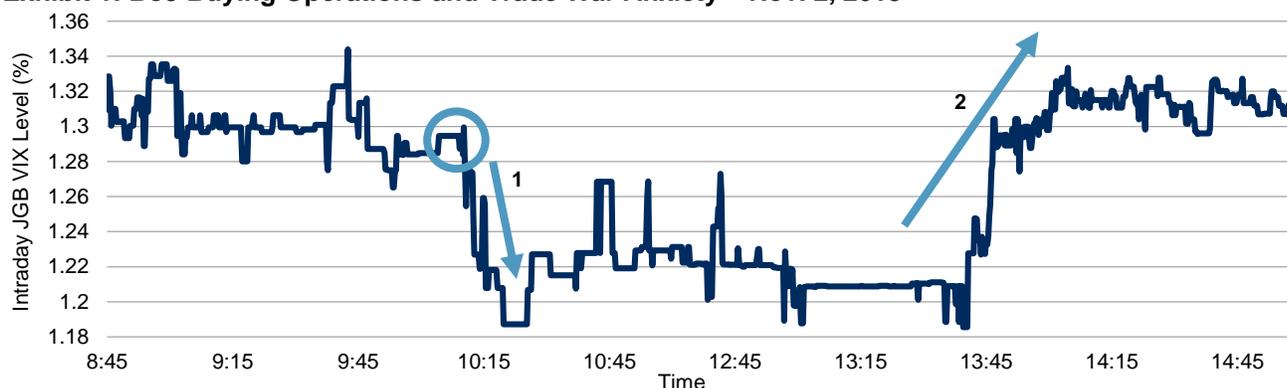
Note: Since we are currently evaluating the S&P/JPX JGB VIX as a real-time index, we wanted to share some examples of particularly interesting intraday movements this month. Exhibits 1 and 2 are purely for illustrative/educational purposes only. Please contact us for more details.

Volatility JGB VIX Versus TYVIX

	SEP 2018	OCT 2018	NOV 2018
JGB VIX	74%	81%	48%
TYVIX	57%	94%	70%

Source: Bloomberg, November 2018.

Exhibit 1: BoJ Buying Operations and Trade War Anxiety – Nov. 2, 2018

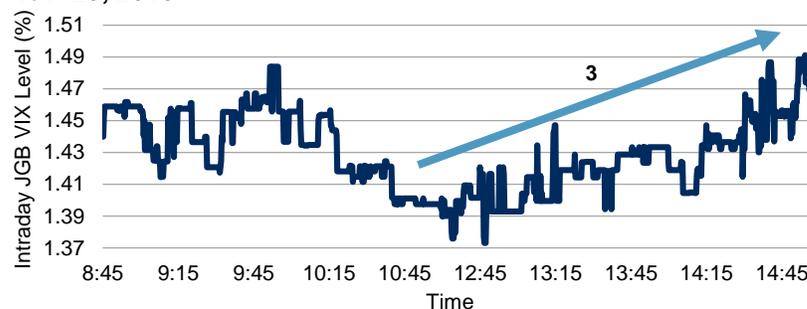


Source: S&P Dow Jones Indices LLC. Data as of November 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

JGB VIX Real-Time Movements:

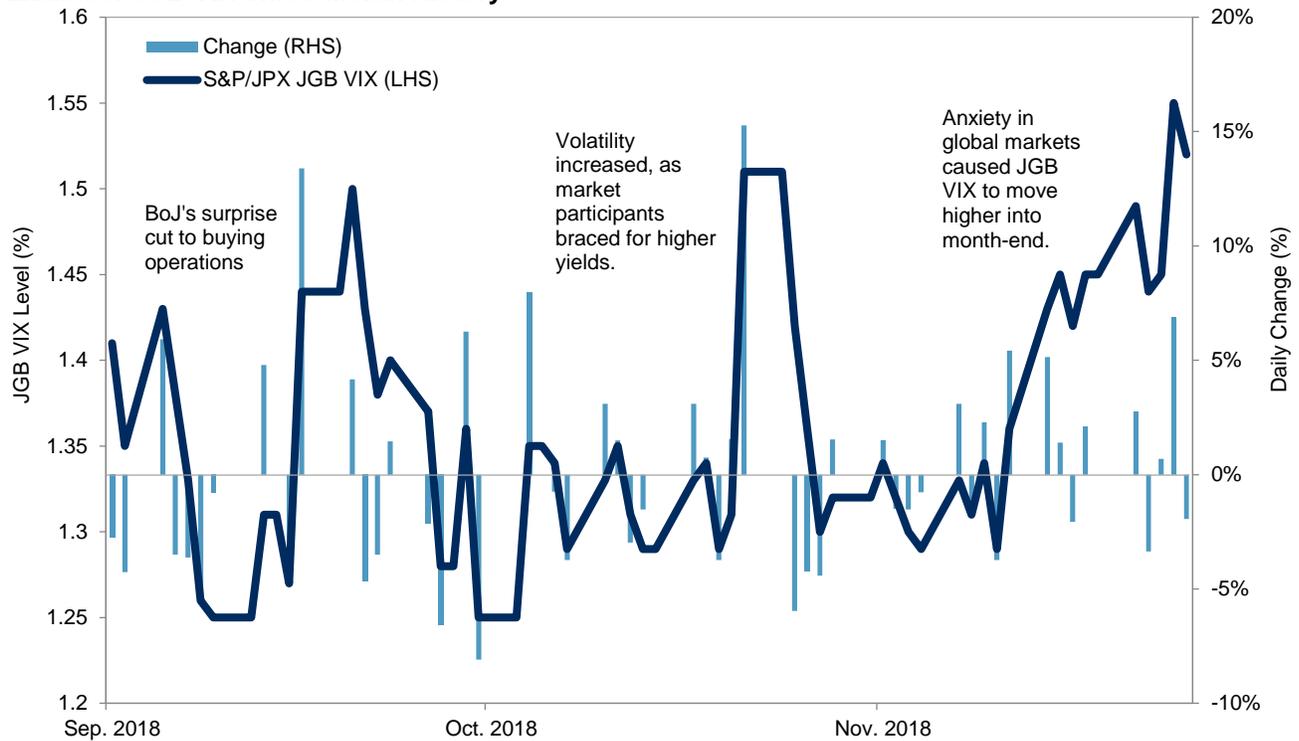
1. Post-BoJ scheduled buying operations announcement sees levels fall.
2. Headlines around China-U.S. trade tensions caused a move higher.
3. Anxiety in global bond markets spilled over into Japan.

Exhibit 2: JGBs Touched Low Yields Not Seen Since August – Nov. 29, 2018



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

Upcoming December Events

Scheduled JGB Purchases

- Dec. 3, 10, 17, 25 (1-5 years)
- Dec. 5, 10, 14, 19, 27 (5-10 years)
- Dec. 5, 14, 25, 27 (10+ years)

Major JGB Auctions

- Dec. 4 (10-year)
- Dec. 11 (30-year)
- Dec. 13 (5-year)
- Dec. 18 (20-year)
- Dec. 26 (2-year)

BoJ Monetary Policy Meeting

Dec. 19-20

Higher JGB VIX Levels Could Be Around the Corner

Despite the numerous headwinds facing the BoJ's push to get inflation off the ground, it still may be forced to more aggressively cut JGB purchase amounts sooner than expected. This would most likely provide a strong counter to the recent downward pressure in yields. However, as we have witnessed from the moves in the S&P/JPX JGB VIX this summer, even the slightest hint that change might be afoot would likely result in increased volatility again. This time, it might prove even more difficult for the BoJ to maintain market control, so the S&P/JPX JGB VIX will be an important way to gauge investor anxiety (not to mention the turmoil in global markets).

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 Dow Jones Indices keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P Dow Jones Indices may have information that is not available to other business units. S&P Dow Jones Indices 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.