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BUILDING CLIMATE-RESILIENT PORTFOLIOS

THE CASE OF THE BANK OF JAPAN'S INDEX-LINKED ETF HOLDINGS

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KEY MESSAGES

- **It is in the Bank of Japan's (BoJ) interest to keep climate-related risks in its monetary policy portfolios in check**. Various central banks globally have already started to manage climate risks in their monetary policy portfolios.

- **A key step for the BoJ in taking climate risks into account is to consider these risks in its domestic equities portfolio.** The climate risk analytics for the Japanese equities market that are required for that are well developed.

- **There is a broad offering in climate risk-adjusted Japanese equity indices for the BoJ to address climate risks in its index-linked equities exposure.**

BACKGROUND

"We owe it to [...] taxpayers to keep the financial risks that result from our monetary policy operations in check. [...] That's why central banks, too, should make sure that climate-related financial risks are given due consideration in their own risk management, especially in the securities portfolios held for monetary policy purposes."

Jens Weidmann, former president of the Deutsche Bundesbank[1]

Climate risks are financial risks that must be accounted for across all central bank operations and invested asset classes. Like for any other financial institution, all assets that central banks own – e.g, equities, bonds, and asset-backed securities – are exposed to climate risks. This is true for foreign reserves, as well as for domestic asset holdings in the context of quantitative easing, such as those held by the Bank of Japan.

Central banks have a fiduciary duty to protect their balance sheet and thus to assess and manage the exposure of their holdings to financial risks. This applies irrespective of whether their core mandate focuses on price stability, exchange rate management, or economic growth and employment. The thorough and cautious evaluation of all risks is necessary for the implementation of monetary policy, both through asset purchases and credit operations.

Credibility of the central bank, protection of the public purse, and ultimately the value of a currency depend on keeping balance sheet risks under control. To fulfil their fiduciary duty, central banks must integrate climate risk considerations into the risk management for all their holdings.

[1]Weidmann, Jens (2020). Combating climate change – What central banks can and cannot do, available at: https://www.bundesbank.de/en/press/speeches/combating-climate-change-what-central-banks-can-and-cannot-do-851528.

Against this background, several central banks have started to take climate risks into account in their monetary policy operations. So far, most of these risk management policies remain limited to the corporate portfolios and focus primarily on corporate bonds. For example, the European Central Bank (ECB)[2] and the Bank of England (BoE)[3] have implemented detailed policies on how to manage the climate risk exposure of their corporate bond portfolios.

Accounting for climate risks in central banks' equity holdings is a critical further step in this direction. For example, the Monetary Authority of Singapore (MAS) has started "taking pre-emptive actions to mitigate the impact of climate risks on [its] equities investments from an accelerated low-carbon transition".[4] Its approach includes an overlay program covering its entire equities portfolio as well as allocations dedicated to climate change and broader sustainability strategies. To integrate climate considerations in its equities portfolio, MAS relies on "off-the-shelf" indices as well as bespoke solutions. It is also requiring its external managers to engage portfolio companies and vote on climate risks and is excluding companies that derive more than 10% of their revenues from thermal coal mining and oil sands.[5] The Danish central bank Danmarks Nationalbank also decided in 2022 to shift the underlying ETFs for the corporate equities and corporate bond investments of its foreign exchange reserves to ETFs that take climate considerations into account.[6]

The Bank of Japan's Balance Sheet

The Bank of Japan (BoJ) currently has a balance sheet of more than 745 trillion JPY (approximately 5 trillion USD).[7] This accounts for approximately 133% of the country's GDP based on IMF estimates for 2023.[8] Equity holdings via ETFs amount to 37 trillion JPY, which is equivalent to ca. 5% of the total balance sheet.

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[2] European Central Bank (2022). ECB provides details on how it aims to decarbonise its corporate bond holdings, available at: https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220919~fae53c59bd.en.html.

[3] Bank of England (2023). Greening our Corporate Bond Purchase Scheme (CBPS), available at: https://www.bankofengland.co.uk/markets/greening-the-corporate-bond-purchase-scheme.

[4] Monetary Authority of Singapore (2023). Investment Portfolio, available at: https://www.mas.gov.sg/development/sustainable-finance/investments-portfolio.

[5] Menon, Ravi (2023). Remarks at the MAS Annual Report and MAS Sustainability Report 2022/2023 Media Conference on 5 July 2023, available at: https://www.mas.gov.sg/news/speeches/2023/mas-annual-report-and-mas-sustainability-report-2022-2023.

[6] Danmarks Nationalbank (2023). Klima. Danmarks Nationalbank transitioning in line with the rest of society, available at: https://www.nationalbanken.dk/en/topics/climate.

[7] Bank of Japan (2023). Bank of Japan Accounts (October 20, 2023), available at: https://www.boj.or.jp/en/statistics/boj/other/acmai/release/2023/ac231020.htm.

[8] International Monetary Fund (2023). World Economic Outlook Database, available at: https://www.imf.org/en/Publications/WEO/weo-database/2023/October/select-date-range?c=158,&s=NGDP

BoJ's equity ownership currently amounts to nearly 5% of the total market capitalization of the domestic stock exchange.[9] With the exception of its purchases of ETFs to support firms proactively investing in physical and human capital, the BoJ has shifted all its equity purchases to TOPIX-linked ETFs in March 2021.[10] [11] Prior to that, it also allocated some of its purchases to the Nikkei 225 and the JPX-Nikkei Index 400.

ADDRESSING THE BOJ'S CLIMATE RISK EXPOSURE

The BoJ has not yet implemented policies to manage climate-related risks in its equities portfolio. Given its significant exposure of 37 trillion JPY (currently equivalent to 247billion USD) to the Japanese equities market, addressing these risks is urgent and critical.[12]

Using a climate risk-adjusted equity index for its equity holdings provides a path for the BoJ to take a step in this direction. As highlighted above, the BoJ already has experience in integrating specific considerations in its equity portfolio through its index-based purchases of firms that are proactively investing in human and physical capital.[13] The BoJ can follow a comparable approach through a dedicated index or multiple dedicated indexes to reduce climate risks in its equity holdings.

There is already a broad range of climate risk-adjusted indexes available for Japanese equities. We provide an overview on some of the existing offerings in Box 1 below. These or similar indices – also further customized versions to reflect BoJ objectives – can be used for an improved, efficient climate risk management in the BoJ's equity investments.

[9] Japan Exchange Group (2023). Equities Market Summary, available at: https://www.jpx.co.jp/english/markets/equities/summary/01.html.

[10] International Monetary Fund (2022). IMF Country Report: Japan, available at: https://www.imf.org/-/media/Files/Publications/CR/2022/English/1JPNEA2022001.ashx

[11] Bank of Japan (2021). Outline of Purchases of ETFs, available at: https://www.boj.or.jp/en/mopo/mpmdeci/mpr_2021/rel210323d.pdf

[12] Bank of Japan (2023). Bank of Japan Accounts (October 20, 2023), available at: https://www.boj.or.jp/en/statistics/boj/other/acmai/release/2023/ac231020.htm.

[13] Katagiri, Shino, and Takahashi (2022). Bank of Japan's ETF purchase program and equity risk premium: a CAPM interpretation, available at: https://www.bis.org/publ/work1029.pdf.

Box 1:

Illustrative examples of Japanese equity indexes that account for climate risks

FTSE Japan TPI Climate Transition Index
FTSE JPX Net Zero Japan 500 Index
FTSE JPX Net Zero Japan 200 Index

The FTSE Japan TPI Climate Transition Index is based on the FTSE Japan Index, excluding companies with exposures to controversial weapons. The index components are over- and underweighted according to a set of climate-related criteria, including, inter alia, fossil fuel reserves, operational carbon emissions, green revenues as well as current and projected future emission pathways.

The FTSE JPX Net Zero 500 Index is based on the TOPIX 500. The starting universe for the FTSE JPX Net Zero 200 Index comprises the largest 200 companies from that index. Both indexes apply exclusions covering tobacco, controversial weapons and violations of the UN Global Compact principles. The index components are over- and underweighted compared to their reference benchmarks according to several climate-related criteria, including carbon emissions, fossil fuel reserves, green investment opportunities, and climate governance management quality.

Further details:
https://www.jpx.co.jp/english/markets/indices/net-zero/index.html
https://www.lseg.com/en/ftse-russell/indices/tpi-climate-transition
https://www.lseg.com/en/ftse-russell/indices/jpx-netzero

MSCI Japan Climate Action Index
MSCI Japan Climate Change Index
MSCI Japan Climate Paris Aligned Index

The MSCI Japan Climate Action Index, MSCI Japan Climate Change Index and MSCI Japan Climate Paris Aligned Index are all based on the MSCI Japan Index as their starting universe.

The MSCI Japan Climate Action Index applies exclusions covering, inter alia, controversial weapons, tobacco, thermal coal mining, nuclear weapons, as well as high intensity greenhouse gas emissions. Index constituents are selected from the remaining eligible universe based on their greenhouse gas emissions intensity relative to their sector. Their weighting is based on free float market capitalization.

The MSCI Japan Climate Change Index applies exclusions covering, inter alia, controversial weapons, environmental controversies, tobacco, as well as thermal coal extraction and mining. The remaining constituents are over- and underweighted compared to the parent index based on a low carbon transition risk assessment that covers, inter alia, current risk exposures and efforts to manage the risks and opportunities presented by the low carbon transition.

The MSCI Japan Climate Paris Aligned Index applies exclusions covering, inter alia, controversial weapons, environmental controversies, tobacco, thermal coal mining, oil and gas, as well as power generation based on thermal coal. The remaining constituents are over- and underweighted compared to the parent index based on a low carbon transition risk assessment as well as targets in terms, inter alia, transition and physical climate risks.

Further details:
https://www.msci.com/our-solutions/indexes/climate-indexes

Nikkei Climate 1.5°C Target Index

The Nikkei Climate 1.5°C Target Index comprises the companies in the Nikkei 225 Index accounting for exclusions related to, inter alia, controversial weapons, tobacco, violations of the UN Global Compact and the OECD Guidelines for Multinational Enterprises, as well as fossil fuels. The remaining constitutions are over- and underweighted compared to the Nikkei 225 Index based on greenhouse gas emissions.

Further details:
https://indexes.nikkei.co.jp/climate/index_en.html

S&P Japan LargeMidCap Net Zero 2050 Climate Transition ESG Index
S&P/JPX Carbon Efficient Index

The S&P Japan LargeMidCap Net Zero 2050 Climate Transition ESG Index is based on the S&P Japan LargeMidCap Index. Exclusion screens include, inter alia, controversial weapons, tobacco, violations of the United Nations Global Compact (UNGC) principles as well as electricity generation from thermal coal and extraction of oil sands. The remaining constituents are over- and underweighted compared to the parent index based on their transition and physical risks and related index targets.

The S&P/JPX Carbon Efficient Index comprises all companies from the TOPIX, provided that high carbon emitters who are deemed to not sufficiently disclose their greenhouse gas emissions, as well as companies who are deemed to be exposed to a certain level in environmental, social and governance risks are ineligible. The constituents of the index are over- and underweighted based on, inter alia, their scope 1 and 2 greenhouse gas emissions.

Further details:
https://www.jpx.co.jp/english/markets/indices/carbon-efficient/index.html
https://www.spglobal.com/spdji/en/indices/esg/sp-japan-largemidcap-net-zero-2050-paris-aligned-esg-index
https://www.spglobal.com/spdji/en/indices/esg/sp-jpx-carbon-efficient-index/