NOMURA

Nomura Japan Equity TOP400 Ex-Financials Index

EQUITY QUANTITATIVE RESEARCH

New index

Equally weighted index comprising large-cap stocks (excluding financials)

Global Markets Research

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Japan quantitative research

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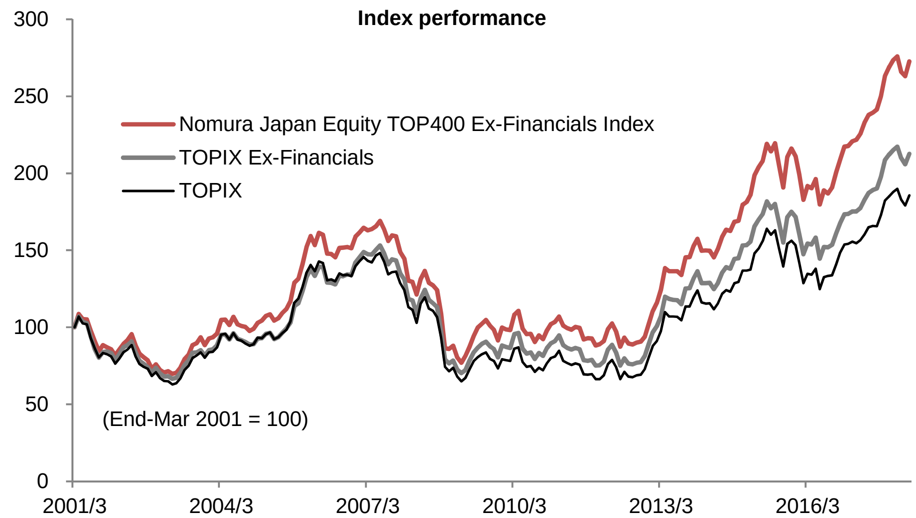
Equal weightings give index benefits in terms of risk/return

Nomura has developed a new index, called the “Nomura Japan Equity TOP400 Ex-Financials Index”. This is an equally weighted index comprising stocks that rank in the top 400 of the First Section of the Tokyo Stock Exchange (the TSE-1) in terms of market capitalization, excluding financial stocks (stocks in the "banks", "securities and commodities futures", "insurance", and "other financing business" sectors, based on the Tokyo Stock Exchange's 33 sector classifications). Index constituents are reviewed once a year, at which point the index weightings of all constituent stocks are also adjusted to ensure that they are equal.

Because the Nomura Japan Equity TOP400 Ex-Financials Index is equally weighted, its risk/return characteristics differ from those of market cap-weighted indices. First, the index invests in all constituent stocks equally, and is therefore able to avoid concentrating its investments excessively in a small number of stocks, an issue that is often noted with respect to market cap-weighted indices. Its equal weightings also reduce the impact of ultra-large-cap stocks on index returns. In addition, even though the index targets highly liquid large-cap stocks, it is also equally weighted, which means that, compared with market cap-weighted indices, it has some small-cap-like characteristics, and is therefore more likely to benefit from the “size effect” (ie, the “small-cap effect”). Size is known to be a factor that is a source of excess returns versus the market over the long term, and it is also widely used in smart beta investment. We expect the Nomura Japan Equity TOP400 Ex-Financials Index to achieve long-term excess returns because of the size effect.

If we look at the performance of the Nomura Japan Equity TOP400 Ex-Financials Index over the past 17 years or so, we see that it has outperformed the TOPIX and the TOPIX Ex-Financials, both of which are market cap-weighted indices (Figure 1).

Fig. 1: Nomura Japan Equity TOP400 Ex-Financials Index performance



Note: Shows data for April 2001 through April 2018. Transaction costs are not included. Analysis is based on past performance and does not guarantee future performance.

Source: Nomura

Japanese version published on May 22, 2018

See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

Introduction

Over the past few years a number of new financial products have emerged that are based on Japanese equities but exclude financial stocks. These new products have been developed in response to the investment needs of financial institutions and other investors wishing to take into consideration the impact of the new capital adequacy requirements introduced in stages for some financial institutions from 13/3 onwards[1]. For example, in September 2013 the Tokyo Stock Exchange started calculating the TOPIX Ex-Financials, a market cap-weighted index comprising all stocks listed on the TSE-1 excluding financial stocks. The Nomura Japan Equity TOP400 Ex-Financials Index was developed in order to provide an index with different risk/return characteristics from market cap-weighted indices that similarly invest in the Japanese equity market excluding financial stocks.

The Nomura Japan Equity TOP400 Ex-Financials Index comprises stocks that rank in the top 400 of the TSE-1 in terms of market capitalization, excluding financial stocks. Index constituents are reviewed once a year, at which point the index weightings of all constituent stocks are also adjusted to ensure that they are equal. Because it is equally weighted, the risk/return characteristics of the index differ from those of market cap-weighted indices.

Some people regard the excessive concentration of investment by market cap-weighted indices in a small number of ultra-large-cap stocks (with these stocks accounting for the majority of constituent stock weightings) as a problem. Conversely, some people might also regard as problematic the fact that, in the case of market cap-weighted indices, stocks with a small market cap have an extremely small impact on index returns and it could therefore be said that there is little point in including them in the index.

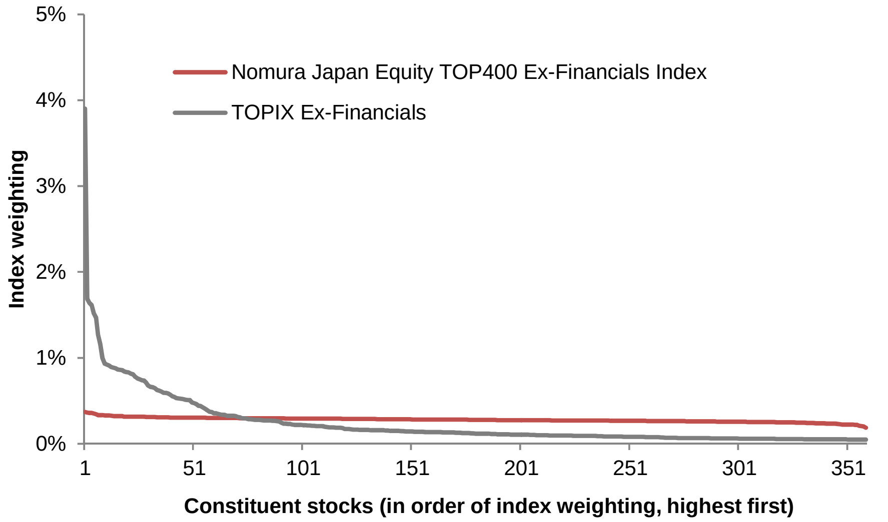
Because the Nomura Japan Equity TOP400 Ex-Financials Index is equally weighted, it invests equally in all index constituents, thus avoiding an excessive concentration of investment in a small number of stocks, and the return on each individual constituent stock is reflected equally in the index. The index is thus able to avoid the above-mentioned problems that are often raised in connection with market cap-weighted indices.

Figure 2 shows the weightings of constituent stocks in the Nomura Japan Equity TOP400 Ex-Financials Index and the TOPIX Ex-Financials. In contrast to the TOPIX Ex-Financials, which is a market cap-weighted index, in which a small number of ultra-large-cap stocks have far higher weightings than other stocks, the weightings of all constituent stocks in the Nomura Japan Equity TOP400 Ex-Financials Index are more or less the same[2].

[1] The new international regulations (Basel III) and the new Japanese regulations stipulate that financial institutions that are subject to these regulations must exclude their holdings of capital, etc, in other financial institutions from their own capital when calculating their capital ratios. Japanese deposit-taking financial institutions with overseas operating bases (overseas branches or overseas local corporations) started to apply the new international standards (Basel III) in stages from 13/3, while Japanese deposit-taking financial institutions with no overseas operating bases started to apply the Japanese standards in stages from 14/3.

[2] The weighting of each constituent stock varies from day to day because of share price fluctuations, so weightings are not perfectly equal.

Fig. 2: Index weightings of constituent stocks



Note: As at end-April 2018. For each index, we listed index constituents by index weighting, starting with the stock with the highest index weighting. Figure shows the index weighting of each index constituent, shown in order of index weighting.

Source: Nomura

Index overview

We will start by explaining how the Nomura Japan Equity TOP400 Ex-Financials Index is constructed. A review of constituent stocks is carried out once a year, at which point the weightings of constituent stocks are adjusted to ensure that they are equal[3].

In these periodic index reconstitutions, the top 400 stocks in the TSE-1 in terms of market capitalization are first selected. The aim of this is to limit the index to stocks that are highly liquid, to facilitate investments that track the index. Next, index constituents are selected by excluding financial stocks. Weightings of individual index constituents are then calculated so that all constituent stocks have the same weighting. However, the weighting of each constituent stock varies from day to day because of share price fluctuations, so weightings are not necessarily always the same.

Figure 3 gives an overview of the Nomura Japan Equity TOP400 Ex-Financials Index and the TOPIX Ex-Financials. What the two indices have in common is that they both comprise TSE-1 stocks excluding financials. However, the Nomura Japan Equity TOP400 Ex-Financials Index differs substantially from the TOPIX Ex-Financials in that it is an equally weighted index based on the top 400 TSE-1 stocks in terms of market capitalization. In the next chapter of this report we will look at how this difference in index design affects the performance of both indices.

Fig. 3: Nomura Japan Equity TOP400 Ex-Financials Index overview

	Nomura Japan Equity TOP400 Ex-Financials Index	(Reference) TOPIX Ex-Financials
Investment universe	All Japanese common stocks listed on the TSE-1	
Periodic reconstitution	Once a year (on the first business day in April)	Not carried out
Stock selection criteria	・Top 400 stocks in terms of market cap ・Financial stocks are then excluded (see note)	・Financial stocks are excluded (see note) ・“Bank holding companies” as defined in Article 2-13 of the Banking Act and “insurance holding companies” as defined in Article 2-16 of the Insurance Business Act are excluded
Weighting method	Equally weighted	Weightings based on free float-adjusted market cap

Note: "Financial stocks" are stocks in the "banks", "securities and commodities futures", "insurance", and "other financing business" sectors (based on the Tokyo Stock Exchange's 33 sector classifications).

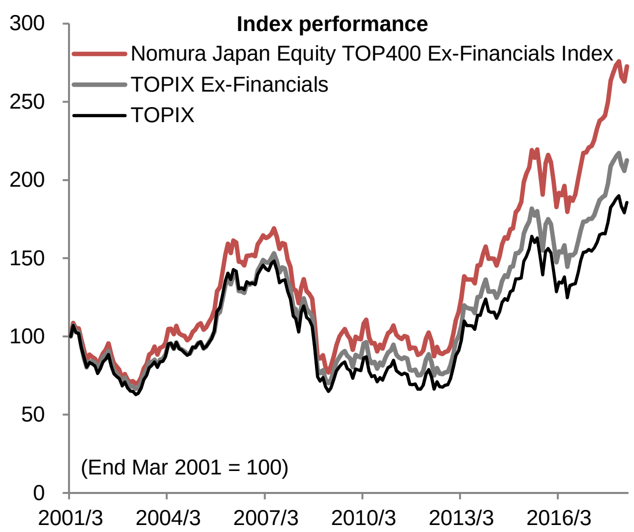
Source: Nomura, based on data published by the Tokyo Stock Exchange

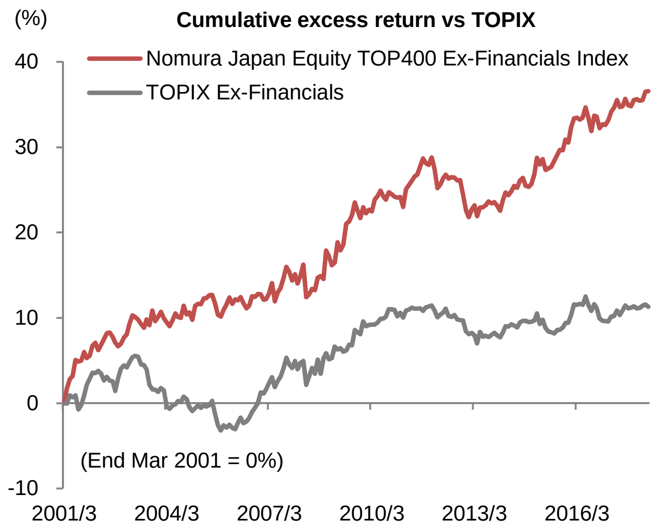
[3] The selection of individual stocks for the index and the adjustment of their weightings, as part of the periodic reconstitution of the index, are based on data as of the last business day of February each year. Please see the index rulebook for more details.

Index performance and characteristics

Figure 4 shows the performance of the Nomura Japan Equity TOP400 Ex-Financials Index over the past 17 years or so. Over this period the Nomura Japan Equity TOP400 Ex-Financials Index has generated an average annual return of +7.3%, outperforming both the TOPIX Ex-Financials (+1.5%) and the TOPIX (+2.1%). As Figure 4 shows, there is a substantial difference between the Nomura Japan Equity TOP400 Ex-Financials Index and the TOPIX ex-Financials in terms of their cumulative excess returns versus the TOPIX. It appears that differences in index design may have had a major impact on the performance of these two indices.

Fig. 4: Nomura Japan Equity TOP400 Ex-Financials Index performance





	Absolute return			Excess return vs TOPIX	
	Nomura Japan Equity TOP400 Ex-Financials Index	TOPIX Ex-Financials	TOPIX	Nomura Japan Equity TOP400 Ex-Financials Index	TOPIX Ex-Financials
Average return (annualized, %)	7.31	5.83	5.17	2.14	0.66
Risk (annualized, %)	16.79	16.70	17.51	3.17	2.39
Return/risk	0.44	0.35	0.30	0.67	0.28

Note: Shows data for April 2001 through April 2018. Based on monthly returns including dividends .Transaction costs are not included. Analysis is based on past performance and does not guarantee future performance.

Source: Nomura

What are the reasons for the difference in performance between the two indices?

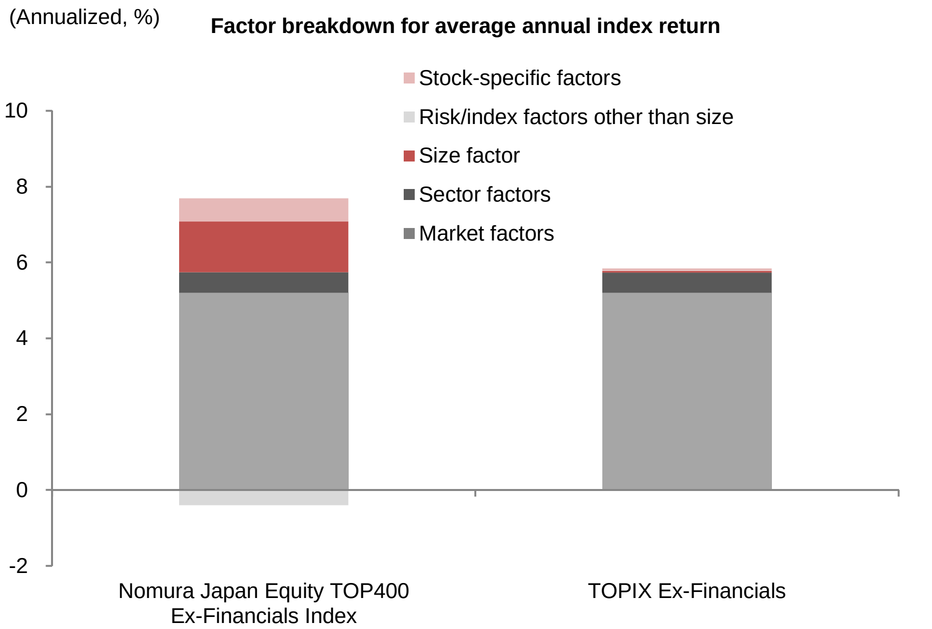
Figure 5 breaks down the average annual return on the two indices over the past 17 years or so into “shared factors”, such as "market factors" and “sector factors", and “stock-specific factors”.

For both indices, "market factors" had the greatest positive impact on the average annual return, and "sector factors" also had a positive impact. Returns on both of these types of factors stem from the fact that both indices invested in Japanese equities excluding financial stocks, and are roughly the same for the two indices.

However, the “size factor” had a large positive impact on annual average return in the case of the Nomura Japan Equity TOP400 Ex-Financials Index. This is because the Nomura Japan Equity TOP400 Ex-Financials Index has more small-cap-like characteristics than the TOPIX Ex-Financials, which is market cap-weighted. Compared with large-cap stocks, small-cap stocks have in the past tended to generate higher average returns over the long term, on stock markets both in Japan and overseas. This is called the "size effect" or the "small-cap stock effect". Size is widely known as a factor that is a source of excess returns versus the market over the long term, and it is also widely used in smart beta investment. We expect the Nomura Japan Equity TOP400 Ex-Financials Index to achieve long-term excess returns because of the size effect.

In addition, “stock-specific factors” also made a positive contribution to the average annual return on the Nomura Japan Equity TOP400 Ex-Financials Index. We think this is partly because the index is equally weighted and the impact of individual constituent stocks that generate high returns was therefore more likely to be reflected in index returns. Weightings of individual constituent stocks in the Nomura Japan Equity TOP400 Ex-Financials Index are adjusted to ensure that they are equal at the time of periodic reconstitutions of the index. This involves reducing the weighting of stocks that have seen a rise in their share price and raising the weighting of stocks that have seen a fall in their share price. If share prices have diverged from fair value, these adjustments have the effect of reducing the index weighting of stocks that are overvalued versus their fair value and increasing the index weighting of stocks that are undervalued versus their fair value. It may therefore be that at least some of the excess returns on the Nomura Japan Equity TOP400 Ex-Financials Index have arisen as share prices have adjusted to their fair value.

Fig. 5: Factor breakdown of index performance



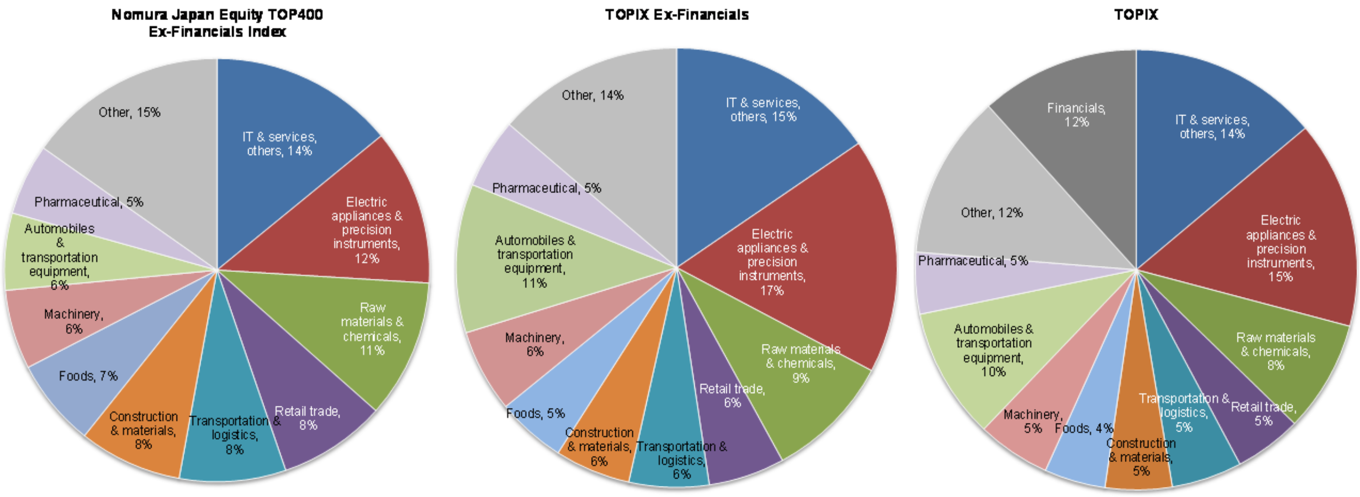
Note: Shows data for April 2001 through April 2018. Figure shows the contributions made by the following factors—market factors (in this case, TOPIX returns), sector factors, risk/index factors, and stock-specific factors—to the average annual return, including dividends, on the two indices, based on MSCI's Barra Japan equity model (JPE4). Among risk/index factors, the "size factor" is the total of "size" and "size (non-linear)".

Source: Nomura

Figure 6 shows the sector weightings of three indices—the Nomura Japan Equity TOP400 Ex-Financials Index, the TOPIX Ex-Financials, and the TOPIX—based on the TOPIX-17 Series sectors.

Because the Nomura Japan Equity TOP400 Ex-Financials Index does not include financial stocks, the weighting of the financials sector, which is 12% in the TOPIX, is 0% in this index. Compared with the TOPIX and the TOPIX Ex-Financials, the Nomura Japan Equity TOP400 Ex-Financials Index shows less bias in terms of sector weightings (based on the TOPIX-17 Series sectors). In particular, the electric appliances & precision instruments and automobiles & transportation equipment sectors have relatively large weightings in the two market-cap weighted indices sectors but smaller weightings in the Nomura Japan Equity TOP400 Ex-Financials Index. Because these sectors contain stocks with extremely large market capitalizations, they have smaller weightings in the Nomura Japan Equity TOP400 Ex-Financials Index, which is equally weighted, than in the market cap-weighted indices, and this has the effect of evening out the sector weightings in the equally weighted index.

Fig. 6: Sector weightings



Note: As at end-April 2018. Shows sector weightings for each index, based on TOPIX-17 Series sectors. For the Nomura Japan Equity TOP400 Ex-Financials Index, figure shows the 10 sectors with the highest weightings. The "financials" sector for the TOPIX is the sum of "banks" and "financials (ex banks)".

Source: Nomura

Appendix A-1

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Investors in the financial products offered by Nomura Securities may incur fees and commissions specific to those products (for example, transactions involving Japanese equities are subject to a sales commission (all figures on a tax-inclusive basis) of up to 1.404% of the transaction amount or a commission of ¥2,808 for transactions of ¥200,000 or less, while transactions involving investment trusts are subject to various fees, such as commissions at the time of purchase and asset management fees (trust fees), specific to each investment trust). In addition, all products carry the risk of losses owing to price fluctuations or other factors. Fees and risks vary by product. Please thoroughly read the written materials provided, such as documents delivered before making a contract, listed securities documents, or prospectuses.

Transactions involving Japanese equities (including Japanese REITs, Japanese ETFs, and Japanese ETNs) are subject to a sales commission of up to 1.404% of the transaction amount (or a commission of ¥2,808 for transactions of ¥200,000 or less). When Japanese equities are purchased via OTC transactions (including offerings), only the purchase price shall be paid, with no sales commission charged. However, Nomura Securities may charge a separate fee for OTC transactions, as agreed with the customer. Japanese equities carry the risk of losses owing to price fluctuations. Japanese REITs carry the risk of losses owing to fluctuations in price and/or earnings of underlying real estate. Japanese ETFs carry the risk of losses owing to fluctuations in the underlying indexes or other benchmarks.

Transactions involving foreign equities are subject to a domestic sales commission of up to 1.026% of the transaction amount (which equals the local transaction amount plus local fees and taxes in the case of a purchase or the local transaction amount minus local fees and taxes in the case of a sale) (for transaction amounts of ¥750,000 and below, maximum domestic sales commission is ¥7,668). Local fees and taxes in foreign financial instruments markets vary by country/territory. When foreign equities are purchased via OTC transactions (including offerings), only the purchase price shall be paid, with no sales commission charged. However, Nomura Securities may charge a separate fee for OTC transactions, as agreed with the customer. Foreign equities carry the risk of losses owing to factors such as price fluctuations and foreign exchange rate fluctuations.

Margin transactions are subject to a sales commission of up to 1.404% of the transaction amount (or a commission of ¥2,808 for transactions of ¥200,000 or less), as well as management fees and rights handling fees. In addition, long margin transactions are subject to interest on the purchase amount, while short margin transactions are subject to fees for the lending of the shares borrowed. A margin equal to at least 30% of the transaction amount (at least 33% for online transactions) and at least ¥300,000 is required. With margin transactions, an amount up to roughly 3.3x the margin (roughly 3x for online transactions) may be traded. Margin transactions therefore carry the risk of losses in excess of the margin owing to share price fluctuations. For details, please thoroughly read the written materials provided, such as listed securities documents or documents delivered before making a contract.

Transactions involving convertible bonds are subject to a sales commission of up to 1.08% of the transaction amount (or a commission of ¥4,320 if this would be less than ¥4,320). When convertible bonds are purchased via OTC transactions (including offerings), only the purchase price shall be paid, with no sales commission charged. However, Nomura Securities may charge a separate fee for OTC transactions, as agreed with the customer. Convertible bonds carry the risk of losses owing to factors such as interest rate fluctuations and price fluctuations in the underlying stock. In addition, convertible bonds denominated in foreign currencies also carry the risk of losses owing to factors such as foreign exchange rate fluctuations.

When bonds are purchased via public offerings, secondary distributions, or other OTC transactions with Nomura Securities, only the purchase price shall be paid, with no sales commission charged. Bonds carry the risk of losses, as prices fluctuate in line with changes in market interest rates. Bond prices may also fall below the invested principal as a result of such factors as changes in the management and financial circumstances of the issuer, or changes in third-party valuations of the bond in question. In addition, foreign currency-denominated bonds also carry the risk of losses owing to factors such as foreign exchange rate fluctuations.

When Japanese government bonds (JGBs) for individual investors are purchased via public offerings, only the purchase price shall be paid, with no sales commission charged. As a rule, JGBs for individual investors may not be sold in the first 12 months after issuance. When JGBs for individual investors are sold before maturity, an amount calculated via the following formula will be subtracted from the par value of the bond plus accrued interest: (1) for 10-year variable rate bonds, an amount equal to the two preceding coupon payments (before tax) x 0.79685 will be used, (2) for 5-year and 3-year fixed rate bonds, an amount equal to the two preceding coupon payments (before tax) x 0.79685 will be used.

When inflation-indexed JGBs are purchased via public offerings, secondary distributions (uridashi deals), or other OTC transactions with Nomura Securities, only the purchase price shall be paid, with no sales commission charged. Inflation-indexed JGBs carry the risk of losses, as prices fluctuate in line with changes in market interest rates and fluctuations in the nationwide consumer price index.The notional principal of inflation-indexed JGBs changes in line with the rate of change in nationwide CPI inflation from the time of its issuance. The amount of the coupon payment is calculated by multiplying the coupon rate by the notional principal at the time of payment. The maturity value is the amount of the notional principal when the issue becomes due. For JI17 and subsequent issues, the maturity value shall not undercut the face amount.

Purchases of investment trusts (and sales of some investment trusts) are subject to a purchase or sales fee of up to 5.4% of the transaction amount. Also, a direct cost that may be incurred when selling investment trusts is a fee of up to 2.0% of the unit price at the time of redemption. Indirect costs that may be incurred during the course of holding investment trusts include, for domestic investment trusts, an asset management fee (trust fee) of up to 5.4% (annualized basis) of the net assets in trust, as well as fees based on investment performance. Other indirect costs may also be incurred. For foreign investment trusts, indirect fees may be incurred during the course of holding such as investment company compensation.

Investment trusts invest mainly in securities such as Japanese and foreign equities and bonds, whose prices fluctuate. Investment trust unit prices fluctuate owing to price fluctuations in the underlying assets and to foreign exchange rate fluctuations. As such, investment trusts carry the risk of losses. Fees and risks vary by investment trust. Maximum applicable fees are subject to change; please thoroughly read the written materials provided, such as prospectuses or documents delivered before making a contract.

In interest rate swap transactions and USD/JPY basis swap transactions ("interest rate swap transactions, etc."), only the agreed transaction payments shall be made on the settlement dates. Some interest rate swap transactions, etc. may require pledging of margin collateral. In some of these cases, transaction payments may exceed the amount of collateral. There shall be no advance notification of required collateral value or collateral ratios as they vary depending on the transaction. Interest rate swap transactions, etc. carry the risk of losses owing to fluctuations in market prices in the interest rate, currency and other markets, as well as reference indices. Losses incurred as such may exceed the value of margin collateral, in which case margin calls may be triggered. In the event that both parties agree to enter a replacement (or termination) transaction, the interest rates received (paid) under the new arrangement may differ from those in the original arrangement, even if terms other than the interest rates are identical to those in the original transaction. Risks vary by transaction. Please thoroughly read the written materials provided, such as documents delivered before making a contract and disclosure statements.

In OTC transactions of credit default swaps (CDS), no sales commission will be charged. When entering into CDS transactions, the protection buyer will be required to pledge or entrust an agreed amount of margin collateral. In some of these cases, the transaction payments may exceed the amount of margin collateral. There shall be no advance notification of required collateral value or collateral ratios as they vary depending on the financial position of the protection buyer. CDS transactions carry the risk of losses owing to changes in the credit position of some or all of

the referenced entities, and/or fluctuations of the interest rate market. The amount the protection buyer receives in the event that the CDS is triggered by a credit event may undercut the total amount of premiums that he/she has paid in the course of the transaction. Similarly, the amount the protection seller pays in the event of a credit event may exceed the total amount of premiums that he/she has received in the transaction. All other conditions being equal, the amount of premiums that the protection buyer pays and that received by the protection seller shall differ. In principle, CDS transactions will be limited to financial instruments business operators and qualified institutional investors.
No account fee will be charged for marketable securities or monies deposited. Transfers of equities to another securities company via the Japan Securities Depository Center are subject to a transfer fee of up to ¥10,800 per issue transferred depending on volume.

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