Nomura Securities Co Ltd, Tokyo
Global Quantitative Research

NOMURA

Russell/Nomura Japan
Equity Indexes (2005 version)

Russell/Nomura Japan Equity Indexes have the following characteristics:

- They are of the top 98% of all listed stocks in terms of float-adjusted market capitalization, thereby offering broad market coverage.
- In addition to stocks listed on the Tokyo Stock Exchange First Section (TSE-1), they also include a diverse array of stocks listed on JASDAQ and other exchanges.
- Since the indexes are float-adjusted, they reflect all the stocks that are actually available for investment.
- There are style indexes for large and small companies and for growth and value stocks.
- A Prime Index structured for passive investment is included.
- Stocks are selected quantitatively based on clearly defined criteria.

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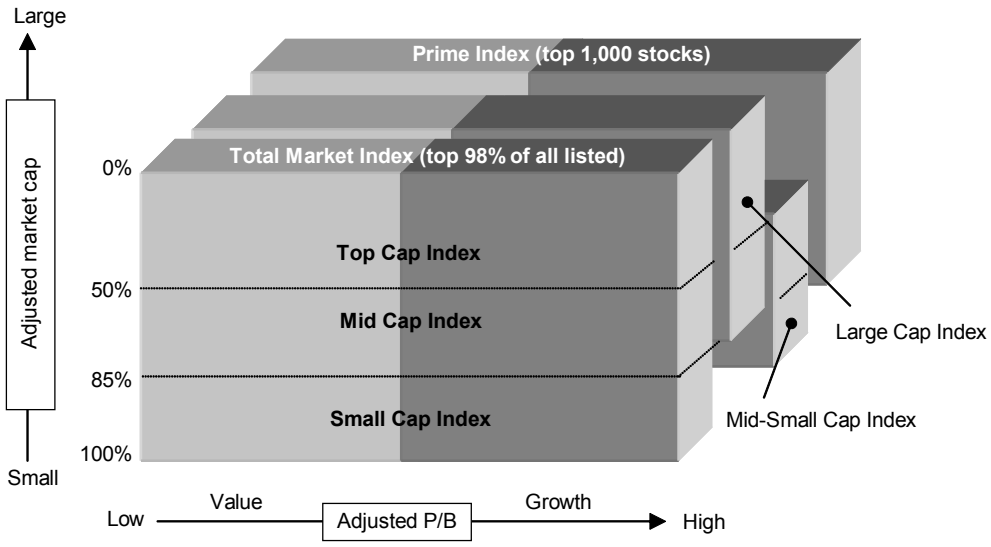
Russell/Nomura Japan Equity Indexes



Contents

■ Summary

Asset management has become increasingly important in recent years, and we have seen the emergence of a variety of management styles tailored to investors' differing needs. Moreover, it is becoming increasingly important for investors to exercise control over their own portfolios. Russell Investment Group and the Financial & Economic Research Center, Nomura Securities, have responded to these trends by developing and publishing Russell/Nomura Japan Equity Indexes, which will act as useful tools for investors employing a variety of different investment styles.

Russell/Nomura Japan Equity Indexes should prove useful in:

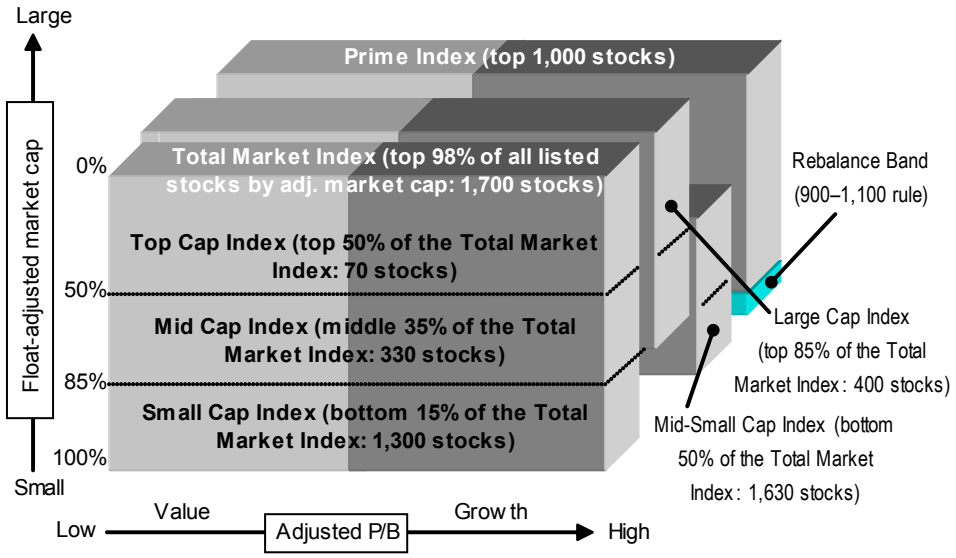
- Determining investment strategies
- Determining manager structures
- Devising asset management benchmarks
- Supporting portfolio management activities
- Evaluating the performance of various investment styles
- Managing risk

Russell/Nomura Japan Equity Indexes have the following characteristics:

- They represent the entire Japanese equity market in that component stocks are selected from among all listed stocks (including those on the JASDAQ market)
- They reflect all the stocks that are actually available for investment as stable shareholdings are excluded from market capitalization figures
- There are subindexes for different sizes of companies based on market capitalization
- There are subindexes for growth and value stocks
- A Prime Index structured for passive investment is included
- The subindexes for growth and value stocks are based on P/B ratios adjusted for hidden assets
- Indexes are calculated using share prices on major markets (Nomura composite index)
- There are equity indexes including and excluding dividends
- Clear definitions mean that there is no arbitrariness in stock selection methods
- The composition of each index is reviewed once a year

■ Russell/Nomura Japan Equity Indexes

1. Russell/Nomura Japan Equity Indexes



Note: No. of stocks as of 1 December 2004.

- The Russell/Nomura Total Market Index contains the top 98% of all stocks listed on Japan's stock exchanges in terms of adjusted market capitalization
- The Russell/Nomura Large Cap Index contains the top 85% of the Russell/Nomura Total Market Index in terms of adjusted market capitalization
- The Russell/Nomura Small Cap Index contains the bottom 15% of the Russell/Nomura Total Market Index in terms of adjusted market capitalization
- The Russell/Nomura Top Cap Index contains the top 50% of the Russell/Nomura Total Market Index in terms of adjusted market capitalization
- The Russell/Nomura Mid Cap Index contains the middle 35% of the Russell/Nomura Total Market Index in terms of adjusted market capitalization
- The Russell/Nomura Mid-Small Cap Index contains the bottom 50% of the Russell/Nomura Total Market Index in terms of adjusted market capitalization
- The Russell/Nomura Prime Index contains the top 1,000 stocks from the Total Market Index in terms of adjusted market capitalization, and taking into account "banding" and the "negative list."
- These indexes are further subdivided into value and growth indexes. The value and growth indexes are determined in such a way that the adjusted market capitalization of the Total Market Index is divided into two. Some companies can be in both the growth and value indexes.

■ Overview of Russell/Nomura Japan Equity Indexes

Number of stocks and market cap

Exhibit 2 shows the number of stocks in the reconfigured Russell/Nomura Total Market Index and in the total market, and their market capitalization, as at the end of November 2004.

2. The Russell/Nomura Total Market Index and the total market

	Number of stocks		Market cap (¥trn)	
	Russell/Nomura Total Market Index	Total market	Russell/Nomura Total Market Index	Total market
TSE-1	1,359	1,593	207	338
Other	341	2,125	6	28
Total	1,700	3,718	213	366

Note: Numbers of stocks, market capitalization, and market breakdown figures are as of 30 November 2004. However, the figures for the Russell/Nomura Total Market are based on the constituent stocks as of 1 December 2004 (after the regular index changes). The market capitalization figures for the total market are for listed stocks, and those for the Russell/Nomura Total Market are adjusted for stable shareholdings.

Exhibit 3 shows the number of stocks in the reconfigured Russell/Nomura indexes, and their market capitalization weightings.

3. Comparison of market cap and no. of stocks

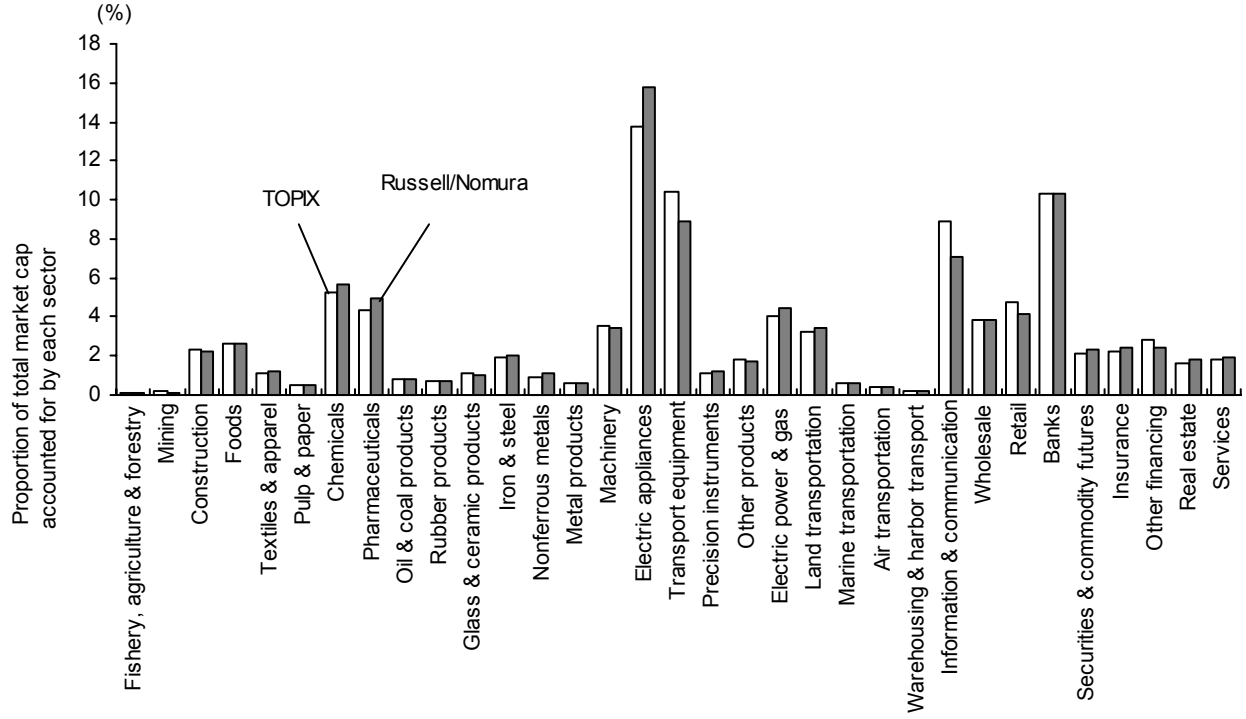
	No. of stocks	% of total market cap
Total	1,700	100.0
Value	1,231	51.9
Growth	796	48.1
Large	400	85.9
Value	271	42.7
Growth	251	43.2
Top	70	51.1
Value	45	24.6
Growth	50	26.5
Mid	330	34.8
Value	226	18.1
Growth	201	16.7
Mid-Small	1,630	48.9
Value	1,186	27.3
Growth	746	21.6
Small	1,300	14.1
Value	960	9.2
Growth	545	4.9
Prime	1,000	96.4
Value	718	49.6
Growth	514	46.8

Note: Data as of 1 December 2004 following the regular reconfiguration, except for market caps, which are as of end-November 2004.

Sector allocation

Exhibit 4 shows the composition of the Russell/Nomura Total Market Index in terms of the 33 industrial classifications in the TSE. As of 30 November 2004, the Russell/Nomura Total Market Index contained a higher proportion of stocks in the electrical appliances sector, and a lower proportion of stocks in the information & communication and transport equipment industries, than the TOPIX.

4. Sector allocation of the Russell/Nomura Total Market Index and the TSE 1st section

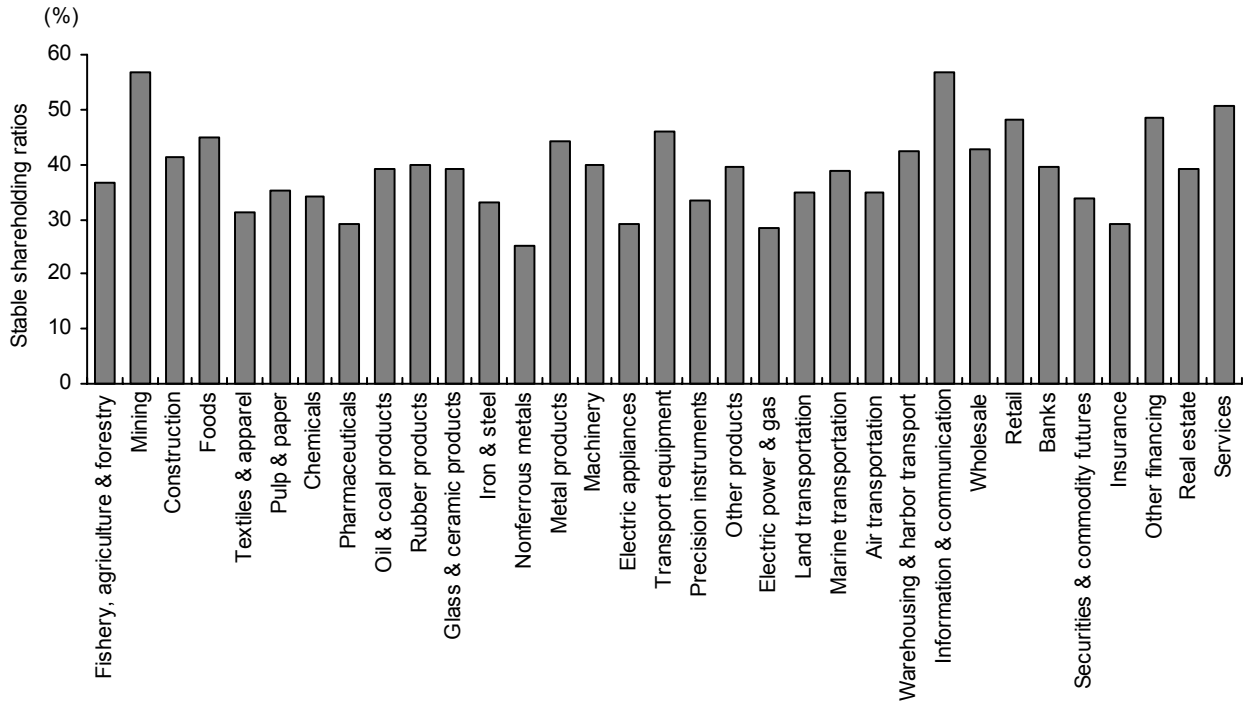


Note: Market capitalization is as of 30 November 2004. Russell/Nomura constituent stocks are as of 1 December 2004 (after the regular index changes).

Stable shareholding ratios

Stable shareholding ratios are high in the information & communication and mining industries, and low in the nonferrous metals and electric power & gas industries.

5. Stable shareholding ratios within each sector of the Russell/Nomura Total Market Index

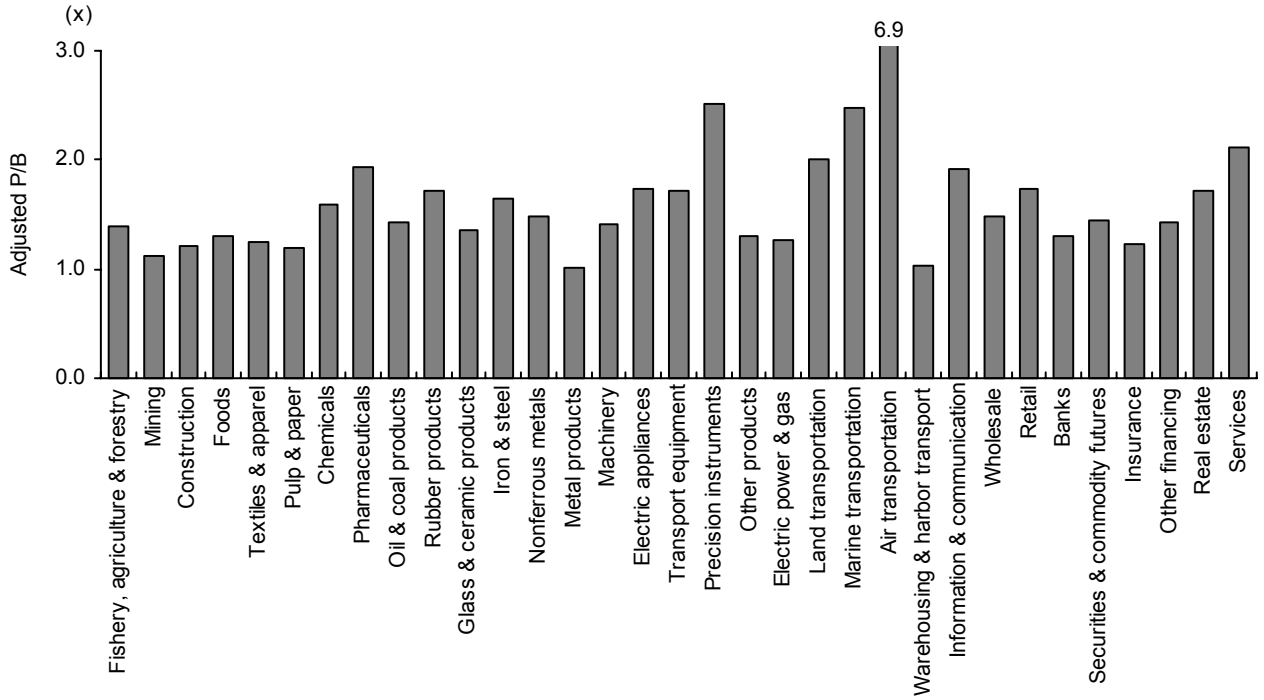


Note: Market capitalization is as of 30 November 2004. Russell/Nomura constituent stocks are as of 1 December 2004 (after the regular index changes); stable shareholding ratio = market value of stable shareholdings/total market capitalization (including stable shareholdings)

Adjusted P/B ratios

The adjusted P/B is high in the air transportation and precision instruments industries, and low in the metal products and warehousing & harbor transport services industries.

6. P/B ratios within each sector of the Russell/Nomura Total Market Index

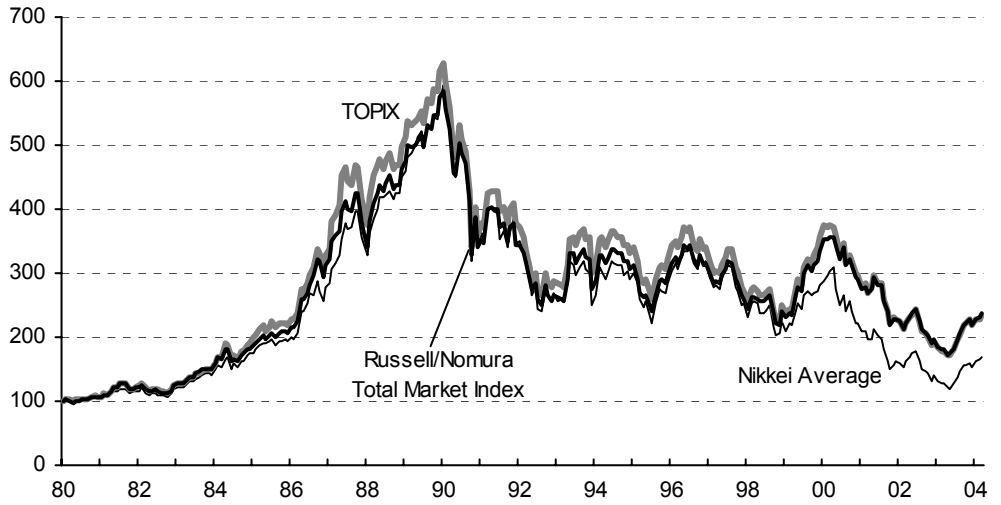


Note: As of 1 December 2004 (after the regular index changes). Adjusted P/B = Σ (stock price of each included stock) / Σ (adjusted BPS of each included stock). The adjusted P/B for the air transportation industry is very high.

Performance summary

Performance trend

7. Performance of main indexes over time (Dec 79–Feb 05)



Note: Cumulative monthly returns (excluding dividends), indexed to end of 1979 = 100.

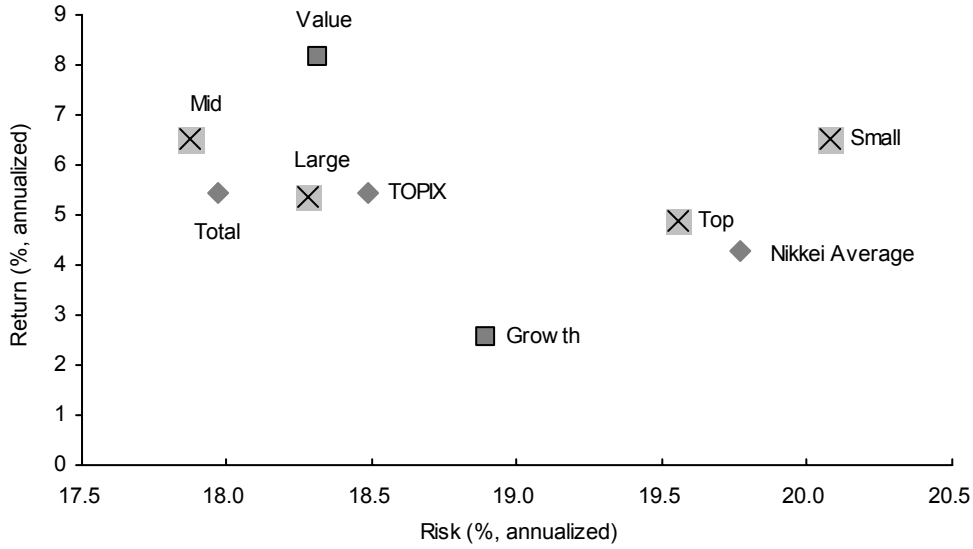
8. Correlation coefficients for monthly returns on main indexes

	Russell/Nomura	TOPIX	Nikkei Average
Russell/Nomura	1		
TOPIX	0.9925	1	
Nikkei Average	0.9566	0.9557	1

Note: Correlation coefficients for monthly returns (excluding dividends), January 1980 to February 2005. Russell/Nomura refers to the Total Market Index.

Risk-return characteristics of individual indexes

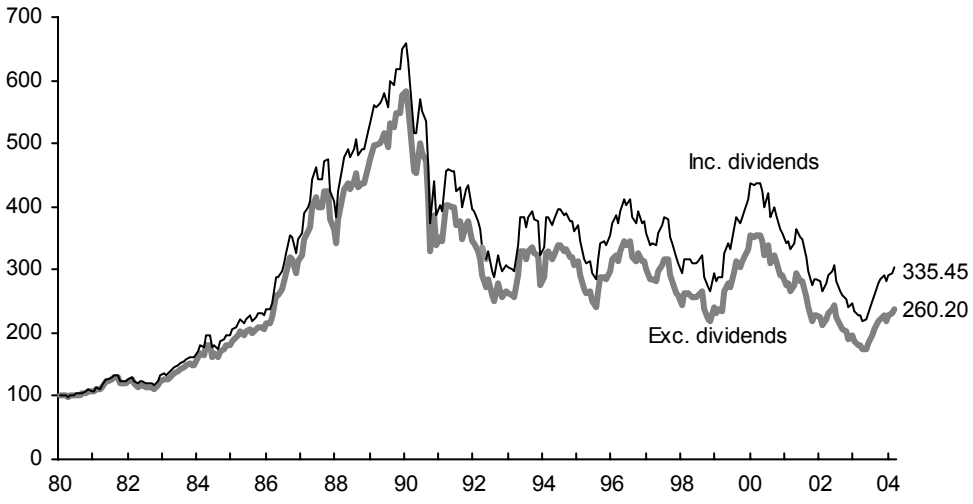
9. Risks and returns of various indices



Note: Monthly returns (excluding dividends), January 1980 to February 2005, annualized.

Impact of dividends

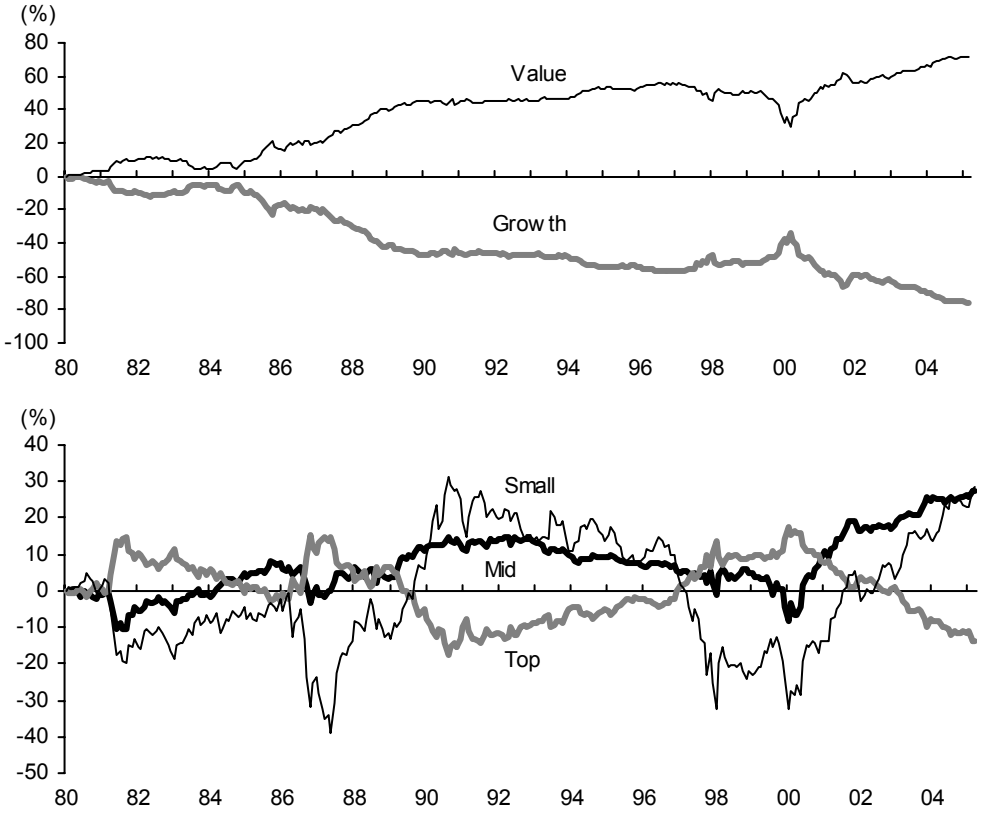
10. Impact of dividends on the performance of the Russell/Nomura Total Market Index



Note: January 1980 to February 2005.

Relative performance of style indexes

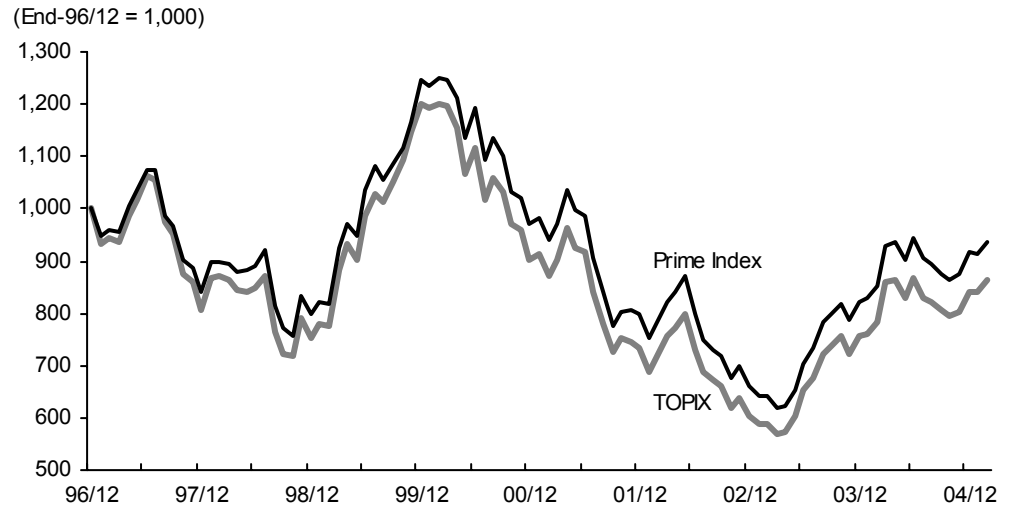
11. Cumulative excess return of style-based and market-cap based indexes relative to the Total Market Index



Note: Excess return of each index relative to the Total Market Index (each index – Total Market Index), including dividends; Jan 1980–Feb 2005.

Performance of Prime Index

12. Prime Index trends



Note: Cumulative monthly returns from Dec 96 through Feb 05, including dividends. The Prime Index start date is end-Dec 96.

Turnover ratio

Exhibit 13 shows the turnover ratio of indexes at the time of regular reconfigurations.

13. Turnover ratios of the Russell/Nomura Total Market Index (in terms of market cap) (%)

	Total			Large	Small	Prime
		Value	Growth			
Jan 81	2.4	11.2	12.9	3.5	13.1	-
Jan 82	2.1	15.7	17.8	3.1	12.1	-
Jan 83	2.1	15.2	15.1	3.1	13.5	-
Jan 84	2.6	14.2	15.6	4.3	16.2	-
Jan 85	2.9	16.3	19.1	4.1	17.5	-
Jan 86	3.7	15.6	16.7	4.8	16.2	-
Jan 87	2.3	17.5	17.7	3.3	18.4	-
Jan 88	3.5	12.4	16.9	5.1	16.8	-
Jan 89	3.7	17.1	22.1	4.9	15.8	-
Jan 90	3.0	15.9	18.2	7.2	27.3	-
Jan 91	3.4	19.0	20.8	4.6	20.9	-
Jan 92	1.9	13.1	13.5	3.1	13.6	-
Jan 93	1.9	12.0	12.8	3.2	13.3	-
Jan 94	1.5	11.7	12.2	2.6	12.0	-
Jan 95	3.3	13.6	17.0	4.0	15.4	-
Jan 96	2.2	13.1	13.6	2.5	9.8	-
Jan 97	2.2	18.0	19.2	2.3	10.7	-
Jan 98	1.4	18.4	14.8	2.5	16.6	1.4
Jan 99	3.1	12.9	14.2	4.1	12.3	3.0
Jan 00	3.4	31.3	25.5	5.4	31.8	3.5
Jan 01	2.8	18.6	21.3	3.8	18.3	2.7
Feb 02	2.5	16.7	16.2	7.6	43.0	2.4
Dec 02	3.3	15.5	13.5	4.7	15.8	2.2
Dec 03	2.5	19.6	20.7	4.6	20.2	2.1
Dec 04	3.5	17.5	20.9	4.9	18.9	3.4
Average	2.7	16.1	17.1	4.1	17.6	2.6

Note: Turnover ratio is [Σ | market cap weighting before the reconfiguration – market cap weighting after the reconfiguration | / 2], and based on the stock price at the end of the previous month. In other words, the figures indicate the one-way turnover in the case of an index fund constructed by actually investing in all of the constituent stocks of the benchmark index. A change in all of the constituent stocks would involve turnover of 100%.

Trends in reconfigurations

Exhibit 14 shows constituent stocks in indexes at the time of regular reconfigurations.

14. Changes in constituent stocks

	Total			Large	Small	Prime
		Value	Growth			
Jan 81	1,091	656	713	400	691	-
Jan 82	1,091	708	642	400	691	-
Jan 83	1,091	766	592	400	691	-
Jan 84	1,091	738	630	400	691	-
Jan 85	1,104	706	672	400	704	-
Jan 86	1,142	733	762	400	742	-
Jan 87	1,142	833	672	400	742	-
Jan 88	1,199	860	765	400	799	-
Jan 89	1,267	877	778	400	867	-
Jan 90	1,381	827	972	500	881	-
Jan 91	1,561	920	1,118	500	1,061	-
Jan 92	1,585	1,017	1,070	500	1,085	-
Jan 93	1,586	1,092	954	500	1,086	-
Jan 94	1,586	1,118	940	500	1,086	-
Jan 95	1,749	1,111	1,090	500	1,249	-
Jan 96	1,754	1,191	1,006	500	1,254	-
Jan 97	1,854	1,251	1,082	500	1,354	-
Jan 98	1,854	1,575	701	500	1,354	1,000
Jan 99	1,854	1,584	616	500	1,354	1,000
Jan 00	1,854	1,551	656	500	1,354	1,000
Jan 01	1,854	1,544	642	500	1,354	1,000
Feb 02	1,853	1,573	578	300	1,553	1,000
Dec 02	1,500	1,225	527	300	1,200	1,000
Dec 03	1,600	1,233	677	350	1,250	1,000
Dec 04	1,700	1,231	796	400	1,300	1,000

■ Russell/Nomura Japan Equity Indexes at a glance

- The Russell/Nomura Total Market Index covers more than 98% of the stocks listed on all markets (after stable shareholdings have been stripped out of market capitalization). The stocks are ranked by capitalization, and accumulated until 98% of total capitalization is fulfilled. The number of accumulated stocks must be a multiple of 100.[1]

  When the Russell/Nomura Total Market Index was reconfigured in December 2004, it included 1,700 stocks.[2] The company with the highest adjusted market capitalization was Toyota Motor (¥8,861.6bn) and the company with the smallest was NIC (¥6.2bn).

Other indexes are defined in terms of market capitalization (excluding stable shareholdings).

- The Russell/Nomura Large Cap Index contains roughly the top 85% of the Russell/Nomura Total Market Index in terms of market capitalization. The number of stocks in the index is a multiple of 50. Top Cap and Mid Cap are subindexes.

  When it was reconfigured in December 2004, there were 350 stocks in the Russell/Nomura Large Cap Index. The company with the largest adjusted market capitalization was Toyota Motor (¥8,861.6bn), and the company with the smallest was Don Quijote (¥79.8bn).

- The Russell/Nomura Small Cap Index contains roughly the bottom 15% of the Russell/Nomura Total Market Index in terms of market capitalization. It consists of those stocks in the Total Market Index, less those in the Large Cap Index.

  When it was reconfigured in December 2004, there were 1,300 stocks in the Russell/Nomura Small Cap Index. The company with the largest adjusted market capitalization was Sojitz Holdings (¥79.4bn), the company with the smallest was NIC (¥6.2bn).

- The Russell/Nomura Top Cap Index contains roughly the top 50% of the Russell/Nomura Total Market Index in terms of market capitalization. The number of stocks in the index is a multiple of 10.

  When it was reconfigured in December 2004, there were 70 stocks in the Russell/Nomura Top Cap Index. The company with the largest adjusted market capitalization was Toyota Motor (¥8,861.6bn), and the company with the smallest was Tohoku Electric Power (¥684.2bn).

- The Russell/Nomura Mid Cap Index represents the Large Cap Index minus the Top Cap Index. In other words, it represents the stocks in the middle of the Russell/Nomura Total Market Index in terms of market capitalization, and is equivalent to roughly 35% of total market capitalization.

(1) Until the 1 February 2002 reconfiguration, the number of stocks was no fewer than in the previous year and covered at least 98% of the market's total capitalization.
(2) Each year, stocks are selected based on data for the end of the calendar month two months prior to the reconfiguration. For instance, the 1 December 2003 reconfiguration was based on data as of the end of October 2003.

When it was reconfigured in December 2004, there were 330 stocks in the Russell/Nomura Mid Cap Index. The company with the largest adjusted market capitalization was Sonpo Japan Insurance (¥658.0bn), and the company with the smallest was Don Quijote (¥79.8bn).

- The Russell/Nomura Mid-Small Cap Index represents roughly the bottom 50% of the Russell/Nomura Total Market Index in terms of market capitalization; it is a combination of the Mid Cap Index and the Small Cap Index.

  When it was reconfigured in December 2004, there were 1,630 stocks in the Russell/Nomura Mid-Small Cap Index. The company with the largest adjusted market capitalization was Sonpo Japan Insurance (¥658.0bn), and the company with the smallest was NIC (¥6.2bn).

- The Russell/Nomura Prime Index is made up of the largest 1,000 stocks in terms of market capitalization, taking into consideration the "negative list" and "banding." The "negative list" takes precedence over "banding." [3]

  When it was reconfigured in December 2004, the company with the largest adjusted market capitalization was Toyota Motor (¥8,861.6bn), and the company with the smallest was Kasumi (¥14.5bn).

  (1) Negative list—this rule is meant to restrict the inclusion of stocks with exceptionally low liquidity. Stocks ranked 2,001st or lower [4] in terms of average monthly trading value in the year to the base date for the regular reconfiguration are excluded.

  (2) Banding method (900–1,000)—this rule is meant to limit the frequent replacement of stocks owing to small changes in market capitalization. Stocks ranked 900 or higher in terms of float-adjusted market capitalization are included in the index, regardless of whether or not they were included in the index prior to the rebalancing. Stocks ranked 901 to 1,100 are included in the index only if they were included in the index prior to the rebalancing, until 1,000 stocks have been selected. If 1,000 stocks have not been selected after going through the 1,100 stocks in this way, stocks ranked between 901 and 1,100 that were not included in the index prior to the rebalancing are selected until a total of 1,000 stocks has been selected.

Value and Growth Indexes are defined in terms of adjusted P/B ratios. Some stocks feature in both indexes.

- The Russell/Nomura Total Market Value Index is composed of stocks in the Russell/Nomura Total Market Index with low adjusted P/B ratios, and includes the Russell/Nomura Large Cap Value Index and the Russell/Nomura Small Cap Value Index.
- The Russell/Nomura Total Market Growth Index is composed of stocks in the Russell/Nomura Total Market Index with high adjusted P/B ratios, and includes the Russell/Nomura Large Cap Growth Index and the Russell/Nomura Small Cap Growth Index.

(3) The negative list and banding are applied only to the Prime Index.
(4) The ranking is based on the sample of stocks eligible for inclusion in the event of a regular reconfiguration of the Russell/Nomura Japan Equity Indexes.

- The Russell/Nomura Large Cap Value Index is composed of stocks in the Russell/Nomura Large Cap Index with low adjusted P/B ratios, and includes the Russell/Nomura Top Cap Value Index and the Russell/Nomura Mid Cap Value Index.
- The Russell/Nomura Large Cap Growth Index is composed of stocks in the Russell/Nomura Large Cap Index with high adjusted P/B ratios, and includes the Russell/Nomura Top Cap Growth Index and the Russell/Nomura Mid Cap Growth Index.
- The Russell/Nomura Small Cap Value Index is composed of stocks in the Russell/Nomura Small Cap Index with low adjusted P/B ratios.
- The Russell/Nomura Small Cap Growth Index is composed of stocks in the Russell/Nomura Small Cap Index with high adjusted P/B ratios.
- The Russell/Nomura Top Cap Value Index is composed of stocks in the Russell/Nomura Top Cap Index with low adjusted P/B ratios.
- The Russell/Nomura Top Cap Growth Index is composed of stocks in the Russell/Nomura Top Cap Index with high adjusted P/B ratios.
- The Russell/Nomura Mid Cap Value Index is composed of stocks in the Russell/Nomura Mid Cap Index with low adjusted P/B ratios.
- The Russell/Nomura Mid Cap Growth Index is composed of stocks in the Russell/Nomura Mid Cap Index with high adjusted P/B ratios.
- The Russell/Nomura Mid-Small Cap Value Index is composed of stocks in the Russell/Nomura Mid-Small Cap Index with low adjusted P/B ratios. It includes the Russell/Nomura Small Cap Value Index and the Russell/Nomura Mid Cap Value Index.
- The Russell/Nomura Mid-Small Cap Growth Index is composed of stocks in the Russell/Nomura Mid-Small Cap Index with high adjusted P/B ratios. It includes the Russell/Nomura Small Cap Growth Index and the Russell/Nomura Mid Cap Growth Index.
- The Russell/Nomura Prime Value Index is composed of stocks in the Russell/Nomura Prime Index with low adjusted P/B ratios.
- The Russell/Nomura Prime Growth Index is composed of stocks in the Russell/Nomura Prime Index with high adjusted P/B ratios.

There are also indices based on the 33 sectors of the TSE, each with their various style indices.

Reference

1. Some of the selection criteria for the market cap-based indexes were changed starting with the 1 February 2002 regular reconfiguration. The previous rules were as follows:

- The Russell/Nomura Large Cap Index contains roughly the top 85% of the Russell/Nomura Total Market Index in terms of market capitalization. The number of stocks in the index is a multiple of 100 and not smaller than the number in the previous year.

- The Russell/Nomura Top Cap Index contains roughly the top 50% of the Russell/Nomura Total Market Index in terms of market capitalization. The number of stocks in the index is a multiple of 10 and not smaller than the number in the previous year.

2. The selection criteria for the Total Market Index were changed starting with the December 2002 reconfiguration. The previous rules were as follows:

- The Russell/Nomura Total Market Index covers more than 98% of the stocks listed on all markets. The number of accumulated stocks must not be less than in the previous year.

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■ Index calculations

Index calculation methods

Russell/Nomura Japan Equity Indexes are share price indexes weighted according to market capitalization, in the following manner.

Calculation of market capitalization

Value inclusion factor = Value probability x (1–stable shareholding ratio)
Growth inclusion factor = Growth probability x (1–stable shareholding ratio)

Value no. of shares included = no. of shares outstanding for index purposes x Value inclusion factor
Growth no. of shares included = no. of shares outstanding for index purposes x Growth inclusion factor
Total no. of shares included = Value no. of shares included + Growth no. of shares included

Value market capitalization = Nomura composite share price x Value no. of shares included
Growth market capitalization = Nomura composite share price x Growth no. of shares included
Total market capitalization = Value market capitalization + Growth market capitalization

Value index market capitalization = Σ each stock's Value market capitalization
Growth index market capitalization = Σ each stock's Growth market capitalization
Total index market capitalization = Σ each stock's Total market capitalization

Calculation of index values

Indexes must be protected from changes in share price and market capitalization not influenced by market fluctuations. This is done by adjusting the base market capitalization as follows:

1. Index excluding dividends

$$\text{Base market capitalisation (t)} = \text{market capitalisation (t-1)} + \text{adjusted market capitalisation (t)}$$

$$\text{Return (t)} = \frac{\text{market capitalisation (t)}}{\text{base market capitalisation (t)}} - 1$$

$$\text{Index (t)} = \text{index (t-1)} \times [1 + \text{return (t)}]$$

2. Index including dividends

$$\text{Base market capitalisation (t)} = \text{market capitalisation (t-1)} + \text{adjusted market capitalisation (t)} - \text{adjusted dividends (t)}$$

$$\text{Return (t)} = \frac{\text{market capitalisation (t)} + \text{total dividends (t)}}{\text{base market capitalisation (t)}} - 1$$

$$\text{Index (t)} = \text{index (t-1)} \times [1 + \text{return (t)}]$$

Base market capitalization is adjusted in the following cases:

- When changes in capital structure for stocks that are constituents of the index cause increases or decrease in market capitalization not due to market changes.
- When changes in the composition of the index cause market capitalization to increase or decrease.

Adjusting the base market capitalization

In the case of changes in a stock's capital structure or in the composition of the index, base market capitalization is adjusted according to the following schedule.

15. Timing of changes to the index as a result of changes to capital structure of constituent issues

Changes in equity capital	Date index changes	Share price used
Rights offering	Ex-rights date	Issue price
Public offering	Business day following payment date (listing date of new shares when settlement is on the issuance date)	Previous day's price
Private placement	Five business days after the placement date	Previous day's price
Conversion of CB Conversion of preferred stock into common stock	Last business day of the month in which the conversion ratio becomes known	Previous day's price
Exercise of bond with warrant Exercise of stock option	Last business day of the month in which the number of shares per warrant becomes known	Previous day's price
Merger	Swap date	Previous day's price
Retirement of shares	Last business day of the month in which the number of shares bought back becomes known	Previous day's price
Right offering refusal	Last business day of the month in which the right offering refusal is announced	Previous day's price
Capital reduction with compensation	Date effective	Previous day's price
Stock swap	Swap date	Previous day's price
Corporate splitup (assuming company's new stock)	Swap date	Previous day's price
Corporate splitup (company that split off division) and spinoff*	Ex-rights date	Not used
Replacement	Replacement date	Previous day's price

Note: * In the case of a corporate splitup (company that split off division) and spinoff, the base market capitalization is adjusted for the reduction in capital, which is defined as follows: (1) When the company that split off the division does not announce the value of the shares of the splitoff division or the spun-off company, the reduction in capital is equal to the amount by which the shareholders' equity of the company that split off the division is expected to be reduced. (2) When the company that split off the division announces the value of the shares of the splitoff division or the spun-off company, the reduction in capital is equal to the value of the splitoff division or the value of the shares of the spun-off company times the total number of shares.

No adjustment is carried out on base market capitalization in the case of issues not requiring payment such as stock splits, dividends, change in par value, capital reductions, because market capitalization is not affected.

In the case of mergers and stock swaps, the merger date (swap date) is usually the listing change date. But in the case of the delisting of a stock of a company that becomes a subsidiary, the listing date of the new shares is sometimes not the merger date (swap date).

Basic data

Determining the Nomura composite price

When stocks are listed on more than one exchange, the Nomura composite price is used as the price. The Nomura composite price adopts the price on the exchange with the most accurate price for that stock, based on the stock's percentage of days traded and total trading volume for the latest 60 days. The exchange is essentially selected daily.

For the acquisition price, the special quotation price on the selected exchange is used. If this is not available, then the trade price on the selected exchange is used. If this is not available, then the standard quotation on the selected exchange is used. If there is absolutely no data available for the day in question, a composite price for the previous trading day is calculated.

Calculating the stable shareholding ratio

In order to reflect the amount of stock that investors can actually invest in, market capitalization in Russell/Nomura Japan Equity Indexes strips out stable shareholdings—shares that are considered to be held on a stable basis and not traded—from outstanding shares. Please see pages 28–30, on adjustments for stable shareholdings, for the stable shareholding ratio calculation method.

Calculating dividends per share

Dividend data is reflected in indexes (indexes including dividends) on an ex rights basis. However, on the date of issue, the amount of the dividend is not yet definite. Russell/Nomura Japan Equity Indexes therefore reflect dividends in the following manner.

First, Nomura forecast dividend data (if unavailable, Toyo Keizai's forecast dividend data) is used to adjust standard market capitalization on the ex rights date. In the event of a difference between the dividend forecast and the actual dividend, the standard market capitalization is readjusted on the first trading day after a company's earnings announcement.

Calculation period for the index

The base period for Russell/Nomura Japan Equity Indexes is end-December 1979, with the exception of the Prime Index, which has a base period of end-December 1996.

■ Selection criteria for Russell/Nomura Japan Equity Indexes

Regular reconfigurations

Schedule

The indexes are reconfigured once a year on the first business day in December. The reconfiguration dates are as follows:

- 2001 and prior: First business day in January
- 2002: First business day in February
- 2003 and on: First business day in December (with the first reconfiguration on this schedule occurring in December 2002)

Universe of stocks

All stocks trading on Japan's various markets at the end of March, plus large-cap stocks that have newly traded since end-March or which have carried out stock transfers (see the section on unscheduled reconfigurations), are eligible for inclusion in the Total Market Index at the time of the regular reconfiguration, with the following exceptions.

- Equities other than common stock

As a rule, only common stock is included in Russell/Nomura Japan Equity Indexes. However, exceptions to this rule will be made if necessary.

- Stocks on the posts for liquidation

Stocks on the posts for liquidation are not included in the universe. [5]

- Listed funds

Stocks included in listed trusts are in some cases already included in indexes. Listed funds are therefore excluded in order to prevent problems with duplication.

- Stocks listed on foreign sections of Japanese exchanges

Stocks regarded as overseas companies (ie, stocks listed on the foreign sections of Japanese exchanges) are excluded.

- Other exceptions

Latent stock, warrants and rights on them are excluded. The Bank of Japan is also excluded.

- Some markets for past data

OTC stocks have been included since January 1989 and stocks listed only on provincial exchanges since January 1991. Prior to that, only stocks listed on the Tokyo, Osaka or Nagoya exchanges as at the end of November were eligible for inclusion in the Total Market Index.

(5) In regular configurations through Dec 2004, stocks on the posts for liquidation and for supervision were not included in the universe.

Selection of stocks

Selection of stocks for the Total Market Index and size-based indexes is made according to adjusted market capitalization (excluding stable shareholdings). Selections are made based on data as of the end of the month prior to the month preceding the regular reconfiguration.

- For the Total Market Index, stocks are ranked according to adjusted market capitalization. Stocks are added to the Total Market Index in descending order of market capitalization until over 98% of total market capitalization is represented and the number of stocks in the index is a multiple of 100. [6]
- Total Market Index stocks are added to the Large Cap Index in descending order of market capitalization until total market capitalization is approximately 85% of the Total Market Index and the number of stocks is a multiple of 50. [7]
- The Small Cap Index contains approximately the bottom 15% of Total Market Index stocks by market capitalization, and excludes the stocks in the Large Cap Index.
- The Top Cap Index contains roughly the top 50% of the Total Market Index stocks by market capitalization. The number of stocks in the Top Cap Index is a multiple of 10. [8]
- The Mid Cap Index contains approximately the middle 35% of the Total Market Index stocks by market capitalization, and consists of Large Cap Index stocks not included in the Top Cap Index.
- The Mid-Small Cap Index contains approximately the bottom 50% of the Total Market Index stocks by market capitalization; it is a combination of the Mid Cap Index and Small Cap Index, and is the Total Market Index less the Top Cap Index.
- The Prime Index contains the top 1,000 stocks in the Total Market Index by market capitalization. However, the Prime Index takes into account the "negative list" and "banding," with the "negative list" taking precedence over "banding." [9]

  (1) Negative list—this rule is meant to restrict the inclusion of stocks with exceptionally low liquidity. Stocks ranked 2,001st or lower [10] in terms of average monthly trading value in the year to the base date for the regular reconfiguration are not included.

  (2) Banding method (900–1,000)—this rule is meant to limit the frequent replacement of stocks owing to small changes in market capitalization. Stocks ranked 900 or higher in terms of float-adjusted market capitalization are included, regardless of whether or not they were included in the index prior to the rebalancing. Stocks ranked 901 to 1,100 are included in the index only if they were included in the index prior to the rebalancing, until 1,000 stocks have been selected. If 1,000 stocks are not selected after going through the 1,100 stocks in this way, stocks ranked between 901 and 1,100 that were not included in the index prior to the rebalancing are selected.

(6) Until the February 2002 reconfiguration, the number of stocks was no fewer than in the previous year and covered at least 98% of the market's total cap.
(7) Prior to the February 2002 reconfiguration, the number of stocks was a multiple of 100, no fewer than in the previous year, and covered at least 50% of the market's total cap.
(8) Prior to the February 2002 reconfiguration, the number of stocks was a multiple of 10, no fewer than in the previous year, and covered at least 85% of the market's total capitalization.
(9) Negative list and banding are applied only to the Prime Index.
(10) The ranking is based on the sample of stocks eligible for inclusion in the event of a regular reconfiguration of the Russell/Nomura Japan Equity Indexes.

See the next chapter for information on how the indexes are divided into value and growth.

Unscheduled reconfigurations

Newly listed stocks [11]

Newly listed stocks for each quarter are determined at the end of the following month, and if they are in the Large Cap Index in terms of market capitalization adjusted for stable shareholdings (the portion in the index in December is the number of stocks after the regular reconfiguration), then they are included in the index as of the first business day of the second following month.

Listing date	Determination date	Inclusion date
Jan–Mar	End of Apr	First business day in Jun
Apr–Jun	End of Jul	First business day in Sep
Jul–Sep	End of Oct	First business day in Dec (including regular reconfiguration)
Oct–Dec	End of Jan	First business day in Mar

If newly listed stocks are in the Top Cap Index in terms of adjusted market capitalization (the portion in the index in December is the number of stocks after the regular reconfiguration), then they are included in the Top Cap index, otherwise they are included in the Mid Cap Index.

Stock swaps and stock transfers [12]

Based on the following rules, changes to stocks in the indexes are made in the event of stock swaps and stock transfers. The objective is to maintain the inclusion of the constituent stocks and avoid temporary exclusions from the indexes.

- Stock swaps, mergers

When a stock is delisted because of a merger or stock swap, it is excluded on the day of the merger. Following delisting, and until exclusion, the company's valuation will be based on the market value of the parent or surviving company multiplied by the merger or exchange ratio. Based on the merger ratio, the stable shareholding ratios of the surviving parent company and the merging company change. On the date of the merger, the surviving parent company or merging company moves to the highest-ranked size-based index to which the companies involved in the capital movement previously belonged.

- Stock transfers

In the case of an unlisted parent company that assumes the operations of another company and becomes listed in a short period of time, the stock of the subsidiary is removed from the indexes on the date of the parent company's listing. The price of the delisted subsidiary used is the price on the day before the delisting. On the date of the listing, the stock of the parent company is included in the highest-ranked size-based index to which the delisted subsidiary previously belonged.

(11) Effective starting with June 2002 inclusions.
(12) Effective starting with changes after April 2002

Removal of stocks

- Liquidation post [13]

Stocks placed on the post of liquidation will be removed from indexes on the second day following the move (the following business day in the event the move to the liquidation post falls on a holiday).

- Delisting

Stocks delisted for any of the reasons other than those noted above are removed from indexes on the date of the delisting.

Announcement of reconfigurations

As a rule, index changes are announced on the web site of Nomura Securities about two weeks before the changes take effect, except but not limited to cases of unforeseen circumstances or when information cannot be confirmed.

Web site: http://www.nomura.co.jp/QR/FRCNRI

(13) Effective starting 29 December 2001; prior to this date, liquidation post stocks were removed on the date of the move.

■ Value/growth style classification

Composition and composition ratios for the value and growth indexes are determined using style probability. Style probability is the ratio of value and growth for each stock, and is calculated based on a non-linear probability function using price adjusted for valuation gain or loss over equity capital (book value)—the adjusted P/B ratio. Excluding classifications outside regular reconfigurations, probability only changes in regular reconfigurations.

Adjusted P/B ratios

Adjusted P/B ratios are used to calculate style probability for value and growth. They are calculated as follows [14]:

$$\text{Adjusted P/B} = \frac{\text{price x number of shares outstanding}}{\text{shareholders' equity (BV) + marketable securities – unrecognized pension liabilities}}$$

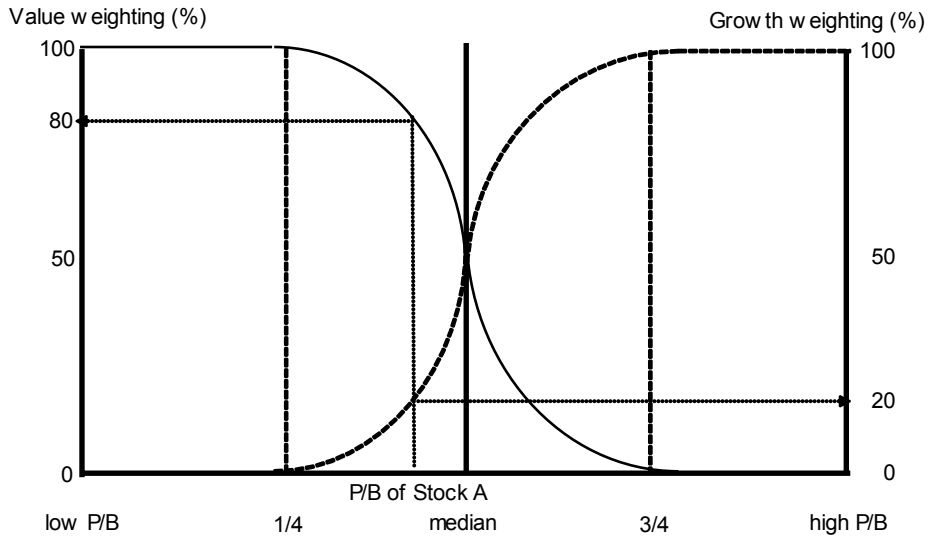
BV = book value

Please see the section on P/B ratio adjustments for details of unrecognized pension liabilities and valuation gain/loss calculations for marketable securities.

Value/growth classification method

Style probability, which is calculated based on a non-linear probability function, is used for value/growth classification. This is the adjusted P/B ratio function, shown in Exhibit 16. Style probability for each stock is determined in such a way that the Total Market Index is evenly divided into value and growth by market capitalization (excluding stable shareholdings).

16. Weightings are based on a non-linear probability function



As shown in Exhibit 16, stocks at the median are divided 50%/50% in each style index. Stocks in the first quartile are 100% in the value index and in the third quartile are 100% in the growth index. Stocks falling between the first and third quartile breaks have both value and growth probability depending on their P/B ratios. The sum of growth and value probabilities must always be 100%.

(14) P/B ratios are not adjusted for stable shareholdings.

Market capitalization of value and growth indexes

Companies with probabilities of 100% growth or 100% value are placed entirely in the growth or value indexes. Stocks that belong to both value and growth are weighted according to their probabilities. For example, Stock A in Exhibit 16 has a 80% probability of being a value stock and would have 80% of its available shares assigned to the value index and the remaining 20% to the growth index.

The market capitalization for the group of stocks between the stock with the lowest (or highest) P/B ratio and the median stock, and that for the group of stocks between the first and the third quartile stocks, are designed to be approximately 50% of overall market capitalization.

5% rule

Stocks with probabilities of 95% or more are assigned to the corresponding style index with a weighting of 100%. Stocks with probabilities of 5% or less are assigned to the corresponding style index with a weighting of 0%. This serves to keep down the number of stocks with small weightings in the indexes. It also means that the proportion of stocks with probabilities of 100% growth or value is greater than the 25% mentioned above.

Style classifications outside of regular reconfigurations

Stock swaps, stock transfers, and mergers

- Stock swaps, mergers

In the case of the stock of an assuming parent company or acquirer, the style probability of the stock with changes in equity capital is changed in light of the allocation ratio or the merger ratio.

- Stock transfers

In the case of a newly added stock of an assuming parent company, the style probability of the subsidiary is determined in light of the allocation ratio or the merger ratio.

Treatment of newly listed stocks

The style probability for newly listed stocks added quarterly is 100% value for the lowest quartile in terms of adjusted P/B, 100% growth for the highest quartile, and 50% value and 50% growth for the remaining two quartiles. For stocks other than newly listed stocks, the adjusted P/B is the value immediately before the regular reconfiguration, and the style probabilities of these stocks are not changed.

■ Stable shareholding adjustments

This adjustment removes from the index stocks that are not traded in the market due to cross shareholdings and stable shareholdings. The calculation for stable shareholdings is as follows. [15]

1) Toyo Keizai's major shareholder data

2) Declarations of marketable securities holdings contained in securities filings

The data used is the latest data available as of the regular reconfiguration date. If there is data overlap, priority is given to the major shareholder data. However, we exclude from stable shareholdings shares thought to be for purely investment purposes. [16] No distinction is made between liquid assets (holdings deemed temporary) and fixed assets (holdings deemed long-term) in the declarations of marketable security holdings.

The stable shareholding ratio is calculated by dividing the number of stably held shares by the number of shares outstanding. The calculation method is explained in the next section. With the exception of adjustments outside of regular reconfigurations, described below, stable shareholdings are adjusted at each regular reconfiguration.

Stable shareholding ratios used in selecting stocks and calculating indexes employ a two-year moving average [17] of the single-year stable shareholding ratios.

Calculation method for stable shareholdings

The number of stable shareholdings is the total of Group 1 and Group 2.

17. Calculation of stable shareholdings

Group 1 = the number of shares held by major shareholders Group 2 = the number of shares recorded in securities filings (excluding Group 1)
Total stable shareholdings = Group 1 + Group 2

The calculation of stable shareholdings was adjusted because of changes in accounting standards. For reference, the previous calculation method is listed in a section below.

Stable shareholding adjustments outside regular reconfigurations [18]

- Third-party placements

The stable shareholding ratio is adjusted as follows on the day in which the number of shares is adjusted owing to a new share issue via a third-party placement (five days after the day in which a stock is moved to a new exchange).

Shares issued in third-party placements are regarded as stable shareholdings. This ensures that the number of shares included in index calculations, which is adjusted for stable shareholdings, remains the same both before and after the third-party placement.

(15) In regular reconfigurations through January 1985, major shareholder data from the *Nihon Keizai Shimbun* was used instead of 1) and 2) above.
(16) Stocks held for purely investment purposes include those in funds managed by domestic trust banks and life insurers (eg, pension funds, investment trusts), as well as those held by foreign banks, venture capital companies, etc.
(17) Three-year moving average used in regular reconfigurations between Jan 1998–Dec 2003; no moving average used before the January 1997 regular reconfiguration.
(18) Applied from December 2004.

- Stock swaps and mergers

The stable shareholding ratios of the wholly owning parent or the merging company are changed based on the merger or exchange ratio.

Ref: Previous calculation method for stable shareholdings

- Non-banking stable shareholdings in regular reconfigurations from Jan 1986–Jan 2001

As for non-banking stable shareholdings in regular reconfigurations from Jan 1986–Jan 2001, Group 1 data is based on the number of shares held by the top 10 shareholders. [19]

- Bank stocks in regular reconfigurations from Jan 1986–Jan 1999

Bank stocks have a large number of stable shareholders but relatively small holdings per shareholder, and declarations of marketable securities holdings could only be obtained for stocks listed on the Tokyo Stock Exchange, so more extensive adjustments were needed. After interviewing banks, we determined that the above estimated values based on Group 1 and Group 2 had not been sufficiently adjusted, and carried out the following further adjustments. Stable shareholdings for bank stocks are the total of Group 1, Group 2, and Group 3.

Group 3 = the number of shares not recorded in securities filings (the average number of shares held by each holder in Group 2 times the estimated number of shareholders not listed in securities filings)

Small shareholder holdings (Group 3) that do not appear in published data are estimated using the following method. First the number of shares included in Group 2 is determined. Next, Group 3 is deduced from Group 1, Group 2, and the stable shareholder ratios obtained from bank interviews. The result is an average value for Group 3 of approximately 50% of Group 2. The average shareholdings in Group 2 are then multiplied by 1.5 [20], producing a combined figure for Group 2 and Group 3. For example, the average holding ratio per share for Group 2 is 1%. If Group 2 subsumes 40 shareholders, the shareholding ratio for Group 2 is 40%. Since the figure for Group 3 is half that of Group 2, 1.5 multiplied by 40 produces 60% as the combined shareholding ratio for Group 2 and Group 3. If Group 1 is 15%, the total stable shareholding ratio is 75%.

This method is not used for non-banking shares, because for non-banking industries most stable shareholdings can be determined from Group 1 and Group 2. Further adjustment is required for banks because grasping their shareholding ratios is difficult.

(19) We count the number of shares held by all shareholders included in declarations of marketable securities holdings, as the number listed in these declarations fell following changes to accounting standards in the financial year ended March 2001.
(20) Adjustments were made using a multiple of 1.5 for data in company reports for TSE-1 and TSE-2 stocks after 1995 and a multiple of 1.6 for TSE-1 company reports in 1994 and earlier. Since 1999, it has been possible to use company reports for all listed and OTC-registered stocks. Using these, stable shareholding ratios were calculated with several patterns, and in light of the results of interviews with banks, the Group 3 adjustment was considered unnecessary and discontinued.

- Regular reconfigurations up to January 1985

Major shareholder data and declarations of marketable securities holdings are only available from 1985. Data through the January 1985 regular reconfiguration is calculated using the following method.

Stocks existing after 1985 for which major shareholder data is available for 1984 and earlier

When a company still exists and the major shareholder data is available for 1984 and earlier, stable shareholding ratios are estimated as follows:

> Stable shareholding ratio = stable shareholder ratio for top n major shareholders x individual stock adjustment multiple

Here, n is the number of stocks (up to 10) at each point in time before 1984. The adjustment multiple is the 1985–1987 average of the ratios of shareholdings of the top n major shareholders to the shareholdings of all stable shareholders.

Stocks not existing after 1985 for which major shareholder data is available for 1984 and earlier

When a company no longer exists but major shareholder data is available for 1984 and earlier, stable shareholding ratios are estimated as follows:

> Stable shareholding ratio = stable shareholder ratio for top n major shareholders x sector adjustment multiple

Again , n is the number of stocks (up to 10) at each point in time before 1984. The sector adjustment multiple is the average, weighted for the number of shares outstanding adjusted for lot size for 1985–1987, of the ratios (of the stable shareholdings of the sector to which the stock in question belongs to the shareholdings of all stable shareholders).

Stocks not existing after 1985 for which major shareholder data is not available for 1984 and earlier

When a company no longer exists and major shareholder data is not available for 1984 and earlier, the average, weighted for the number of shares outstanding adjusted for lot size for 1985–1987, of the stable shareholding ratio for the sector to which the stock in question belongs, is used.

■ P/B ratio adjustments

P/B ratios adjusted for unrealized gains/losses are used to classify value and growth indexes. In Japan, the value of assets on the balance sheet is not necessarily market value. To classify value and growth properly, shareholders' equity is used. Unrealized gains or losses on assets are determined by estimating market value on assets and subtracting book value. For the Russell/Nomura Japan Equity Indexes, P/B ratios are adjusted for unrealized gains/losses on marketable securities and unrecognized retirement benefit obligations.[21] P/B ratios are adjusted according to the following equation.[22]

$$\text{Adjusted P/B} = \frac{\text{price x number of shares outstanding}}{\text{shareholders' equity (BV) + marketable securities (MV-BV) – unrecognized pension liabilities}}$$

Unrealized gains and unrecognized liabilities are after tax. Equity capital adjustments are as follows.

Equity capital (book value)

Equity capital (including interim and quarterly results, excluding new share payments) for the latest fiscal year is used. In terms of priority given to consolidated or parent accounts, first priority is given to the latest Japanese-style consolidated accounts, then the latest SEC-style consolidated accounts, then to the latest parent data. Values are adjusted for changes in capital structure that have arisen between the fiscal yearend and the regular reconfiguration reference date, and used as the equity capital component in the adjusted P/B ratio calculation.

Holdings of marketable securities

Mark-to-market accounting has applied since FY00 financial results. Securities holdings are classified as follows:

Classification	Value on the balance sheet
Trading securities	Market value
Held-to-maturity securities	Amortized cost
Available-for-sale securities	Cost or market (but market value starting with FY01 financial results)

The Russell/Nomura Japan Equity Indexes are not adjusted for unrealized gains/losses on trading securities and held-to-maturity securities. Hence, trading securities are recognized at market value and held-to-maturity securities at the value based on amortized cost. Some available-for-sale securities were valued at cost for FY00 financial results, but for the indexes they are valued at fair market value. Market prices of stocks are adjusted by the return on the TOPIX between the end of the fiscal year and the date the adjusted P/B is calculated (the end of the month before the month prior to the regular reconfiguration date, eg, the end of October 2003 for the December 2003 reconfiguration date). A uniform tax rate of 40% is assumed, and an adjustment is made for 60% of the unrealized gains/losses.

(21) P/B ratios were also adjusted for land valuations gains/losses through the December 2003 regular reconfiguration.
(22) Adjusted P/B ratios are not adjusted for stable shareholdings.

$$\text{Adjusted stock price} = StockMV_{FTERM} \times \left[\frac{TOPIX_{NOV}}{TOPIX_{FTERM}} - 1 \right] \times 60\%$$

$StockMV$ = market value of marketable equities
$OthersMV$ =market value of marketable securities other than equities
$TOPIX$ = the value of TOPIX
NOV =the time when data were gathered (November)
$FTERM$ =the latest fiscal year that has now ended

Ref: Previous calculation methods

A. Treatment of taxes

Previously, the pretax unrealized gains/losses were based on the adjusted P/B calculation. With the application of mark-to-market accounting and tax allocation accounting in recent years, aftertax unrealized gains/losses have been used since the February 2002 reconfiguration.

B. Prior to the introduction of mark-to-market accounting

1) Regular reconfigurations from Jan 1992–Jan 2001

Market value data is used for holdings of marketable securities.[23] When there is a gap between the publication of market value data (the fiscal year-end) and the time of data collection (November of each year), the market value of stocks is adjusted using TOPIX return. Data from the time of publication of market value figures is used for the market value of other assets, as well as the book value of all assets.

$$MV_{NOV} = StockMV_{FTERM} \times \frac{TOPIX_{NOV}}{TOPIX_{FTERM}} + OthersMV_{FTERM}$$

MV =market value of marketable securities
$StockMV$ =market value of marketable equities
$OthersMV$ =market value of marketable securities other than equities
$TOPIX$ =the value of TOPIX
NOV =the time when data were gathered (November)
$FTERM$ =the latest fiscal year that has now ended

2) Prior to the January 1991 regular reconfiguration

- Non-financial stocks

Market value data for holdings of marketable securities has only existed since 1991. Hidden value of marketable securities for 1990 and earlier is calculated only if market value data has been published since 1991 and past marketable securities are contained in the declarations of marketable securities holdings. Otherwise hidden assets are set to zero. For points in time before market value data was published, past values are estimated from current data:

(23) Since only TSE, OSE, and NSE first- and section-section stock data are available for 1999 and earlier, the unrealized gains/losses are assumed to be zero for stocks that trade only on a regional exchange and OTC-registered stocks.

If the book value of marketable securities has increased:

$$MV_{t-1} = (MV_t - (BV_t - BV_{t-1})) \times \frac{StockMV_t}{MV_t} \times \frac{TOPIX_{t-1}}{TOPIX_t}$$
$$+ (MV_t - (BV_t - BV_{t-1})) \times \frac{MV_t - StockMV_t}{MV_t}$$

If the book value of marketable securities has decreased:

$$MV_{t-1} = MV_t \times \frac{StockMV_t}{MV_t} \times \frac{BV_{t-1}}{BV_t} \times \frac{TOPIX_{t-1}}{TOPIX_t}$$
$$+ MV_t \times \frac{MV_t - StockMV_t}{MV_t}$$

MV =market value of marketable securities
$StockMV$ =market value of marketable equities
BV =book value of marketable securities
$TOPIX$ =the value of TOPIX

- Financial stocks

Financial stocks generally have large hidden assets with a major impact on equity capital. For stocks that have published market value data since 1991, book value is estimated even if book value data does not exist for periods before 1991. A backward-looking estimate is carried out using the oldest book value data available prior to 1991. For these estimates, the rate of increase or decrease in individual stocks is assumed to agree with the rate of increase or decrease found in Japan's National Accounts, under the entry for corporate shares (book value) of financial institutions.

Adjustments for unrecognized pension liabilities

New accounting standards for pension liabilities took effect starting with FY00 financial results. Reserves for the unfunded portion of the pension obligation, or the pension obligation minus pension plan assets, are recognized on the balance sheet, as a rule, but can be done so over time. This unrecognized portion is a potential liability that will have to be dealt with in the future. Recognition of the unfunded portion of the pension obligation differs depending on the company, with some having recognized substantial reserves on their balance sheets and others having a large amount of unrecognized pension liabilities. For appropriate value/growth classifications, P/Bs are adjusted for unrecognized pension liabilities (starting with the February 2002 regular reconfiguration since the new pension accounting standards took effect starting with FY00 financial results).

Specifically, the following three unrecognized pension liability items disclosed in securities filings are deducted from shareholders' equity at 60% of their combined book value, on the assumption of a uniform 40% tax rate.

- Unrecognized benefit obligation at transition
- Actuarial assumption adjustment
- Unrecognized prior service costs

Ref: Landholdings (through the December 2003 regular reconfiguration)

The book and market values of land assets have differed greatly in the past, but by how much has varied from company to company. Through the December 2003 regular reconfiguration, unrealized gains/losses on land were calculated using available data, and adjusted P/B ratios were derived via the following formula:

$$\text{Adjusted P/B} = \frac{\text{price x number of shares outstanding}}{\text{shareholders' equity (BV) + land (MV – BV) + marketable securities (MV – BV) – unrecognized pension liabilities}}$$

Through the December 2003 regular reconfiguration, unrealized gains/losses on land were based, when possible, on data from reassessed land market values. When these were not available, they were based on land tax data.[24] However, land taxes have been frozen since 1998, and valuation amount calculations using land tax data since that time may be less accurate. Mark-to-market valuation of real estate available for sale was introduced in FY00 and the early adoption of impaired asset accounting was allowed from FY03. This has meant that mark-to-market values are fully reflected in companies' financial statements. For this reason, P/B ratios were no longer adjusted for land valuation gains/losses as of the December 2004 regular reconfiguration.

Calculations of unrealized gains/losses on land through the December 2003 regular reconfiguration are detailed below.

Calculation method for unrealized gains/losses on land

- Stocks with revalued land

When land is revalued, there is a quasi-tax (there is some debate on whether the tax portion should be included in the hidden value or not, but here the pretax value of the hidden assets is used), and the revaluation gains/losses, with the tax factored in, are calculated as below:

18. Balance sheet impact of reassessed land values

Assets	Liabilities	
Gain/loss on the revaluation of land	Deferred tax liability stemming from the revaluation	
	Revaluation gain/loss	Equity
Book value before reassessment		

The book value before the revaluation plus the gain/loss on the revaluation is the book value after the revaluation. The footnotes of companies' securities filings include the difference in value at the time of the revaluation and at the end of the fiscal year of the filing. The hidden value of the land asset is calculated in the following manner:

> Unrealized gain/loss on land = revaluation difference – difference between the value at the time of revaluation and the end of the fiscal period x 60%

The 60% represents the aftertax adjustment, assuming a 40% tax rate.

(24) In the case of stocks with neither type of data available, unrealized gains/losses were set to zero.

- Calculation method for stocks with no revalued land but with land tax data available

For stocks with no revalued land but with land tax data available, values based on the latest land tax data are used, factoring in the increase or decrease during the period (this figure is disclosed in the fixed assets section, for all industries, and is used to calculate the hidden value of land). A uniform tax rate of 40% is assumed. The details of the calculation are as follows:

$$MV_t = (1 + R_t)MV_{t-1} \times \frac{BV_{t-1} - DV_t}{BV_{t-1}} + AV_t$$

$$\text{Unrealized gain/loss} = (MV_t - BV_t) \times 60\%$$

MV_t = value of land at time t

BV_t = book value of land at time t

AV_t = increase in value over period t

DV_t = decrease in value over period t

R_t = change in land value index at time t

The land price indexes used were as follows:

- For manufacturing, electric utility, and gas utility companies: Land price index for six major cities (industrial land)
- For non-manufacturing companies other than electricity and gas utilities: Land price index for six major cities (commercial land)

These land price indexes are released twice a year by the Japan Real Estate Institute. The calculation of unrealized gains/losses on land was adjusted because of changes in accounting standards. For reference, the earlier calculation method follows.

Earlier calculation method

A. Treatment of taxes

Until the January 2001 regular reconfiguration, adjusted P/B ratios were calculated using pretax unrealized gains/losses.

B. The introduction of land value taxes (from the January 1994 reconfiguration to the January 1999 reconfiguration)

Land has been revalued since FY97. Land value taxes were assessed from 1993 to 1998. Unrealized gains/losses on land were estimated using land tax data for 1993–99.

Land value tax was assessed on the value of land as of 1 January of each year. Land value tax was essentially calculated in the following manner:

> Land value tax = (total market value of land – market value of non taxable portion – basic exemption) x tax rate

The basic exemption for companies with capital of ¥100mn or greater was defined as the greater of taxable land areas x ¥30,000 or ¥1bn. However, because the basic exemption complicates the estimate in question, it is set to zero. The non-taxable portion is also set to zero, except for East Japan Railway, electrical companies, and gas companies. In order to

estimate market value, individual stocks are divided into the following three industry categories:

1) General businesses

2) East Japan Railway, electrical companies, and gas companies

3) Large companies with real estate divisions

1) General businesses

Because general businesses all pay tax at the same rate, if the land value tax the company pays is ($PT_{j,t}$) and the tax rate is (TR_t), the market value of real estate held by each company can be calculated as follows:

$$MV_t = \left[\frac{PT_t}{TR_t} \times (1 + R_t) \right] \div 0.8$$

MV_t = value of land at time t

PT_t = land tax at time t

TR_t = land tax rate at time t

Land tax rates: $TR_{199311} = 0.2\%$, $TR_{199411} = 0.3\%$, $TR_{199511} = 0.3\%$

R_t = percentage change in the real estate price index between the time of land value tax assessment (January of the preceding year) and the time of data acquisition (November each year)

$$R_{199511} = \left[\frac{PRC_{199511}}{PRC_{199401}} - 1 \right] \times 100(\%)$$

PRC_t = value of land price index at time t

199401 = time when land tax was levied (January 1994)

The estimated market value is divided by 0.8 because the value of the land value tax is assessed on is set at 80% of the published standard land value.

2) East Japan Railway, electrical companies, and gas companies

East Japan Railway, electrical companies, and gas companies do not pay taxes on land that is used in the public interest (ie, for railways, power stations, gas manufacturing facilities, etc), and thus pay little land value tax despite the enormous book value of their land. The market value of taxable land, deduced from the land value tax, is added to the book value of the tax-exempt land, to arrive at an estimate of market value. The market value of the land not taxed is thus assumed to be the same as the book value of that land.

Estimated market value is calculated according to the following equation.

$$MV_t = \left[\frac{PT_t}{TR_t} \times (1 + R_t) \right] \div 0.8 + BVnotax_t$$

$BVnotax_t$ = book value (=market value) of untaxed land at time t

3) Companies with real estate divisions

Land value tax was assessed at a lower rate on commercial land held as inventory assets than on fixed-asset land—at generally one-fifth the rate for fixed assets. Companies with real estate divisions have land for sale in inventory, and also superior housing lots taxed at exceptional rates. These two additional factors make deducing market value from the land value tax difficult. Therefore, for 23 particularly large companies of this nature, consideration has also been given to the market value of housing lots. (Note: The 23 companies mentioned here include railroad companies. Naturally, these companies have railroad divisions, and the land directly involved in those operations is not taxed. However, railroad companies included here, in contrast to JR and others, have a relatively small proportion of the market value of their land in their railroad divisions; the non-taxed portion is therefore ignored.)The tax rate is calculated at one-fifth the rate for the housing lot portion of inventory assets. (Note: In fact, not all housing lots are taxed at the exceptional rate, so this method overstates the market value of the inventory assets portion. However, the portion benefiting from a basic exemption and the non-taxed portion of tangible fixed assets is not considered, understating market value. It is thought that these two largely cancel each other out.)

$$MV_t = \left[\frac{PTa_t}{TR_t} \times (1 + Ra_t) + \frac{PTb_t}{TR_t} \times (1 + Rb_t) \times 5 \right] \div 0.8$$

PTa_t = land value tax on land taxable at normal rates at time t

PTb_t = land value tax on land taxable at extraordinary rates at time t

Ra_t = rate of change in land price index (commercial land price index) for land taxable at normal rates at time t

Rb_t = rate of change in land price index (residential land price index) for land taxable at extraordinary rates at time t

4) Calculating land market value for stocks for which land value tax data is unavailable

When the amount of the land value tax is unknown, market value is estimated from the sector average market value multiple for the fiscal year in question. Stocks that have no land book values either are assumed to have little or no land, and hidden value is set at zero.

C. The period before the land value tax was in force and after its repeal (through the January 1993 regular reconfiguration)

Russell/Nomura Japan Equity Indexes were launched in 1995. As such, for periods before the land value tax was in force, unrealized gains and losses are estimated.

When the land book value (BV) at time t is greater than at time t–1, the market value of the land of the company in question is assumed to have grown in value at the rate of the Japan Real Estate Institute's land price index.

If $BV_t > BV_{t-1}$

$$MV_t = (1 + R_t)MV_{t-1} + (BV_t - BV_{t-1})$$

MV_t = price of land at time t

BV_t = book value of land at time t

R_t = rate of change in land price index at time t

If the land book value (BV) at time t is less than at time t–1, the market value of the land of the company is also assumed to have grown in value at the rate of the land price index, but the difference between the book value at time t and t–1 is then subtracted.

That is, if $BV_t < BV_{t-1}$, then

$$MV_t = MV_{t-1} \times \frac{BV_t}{BV_{t-1}} \times (1 + R_t)$$

■ Data publication services

- Daily index values are published in the following media:

* Reuters (FRCNRI)

* QUICK (NRIJ500)

* Our Web site (http://www.nomura.co.jp/QR/FRCNRI)

* Bloomberg (RNJI)

- More detailed data

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