

## Developing the Nomura Enterprise Value Allocation Index

EQUITY QUANTITATIVE RESEARCH

### Main features of and idea behind index

#### Focus on stakeholder returns

##### Selecting companies that are proactive in improving stakeholder returns

Reflecting an increasingly heated debate about management's responsibilities to shareholders, much has been made in recent years of the need for companies to take their shareholders into account. However, attention has also been drawn to the negative aspects of a short-term focus on shareholders. Examples of this include the loss of talented employees as a result of wage cuts and excessive restructuring, reputational damage as a result of employee exploitation, and the loss of growth opportunities as a result of excessive cuts in investment. This suggests to us that a clear commitment to other stakeholders and appropriate policies on stakeholder returns may enhance corporate value. The Nomura Enterprise Value Allocation Index has been designed with this in mind in order to include highly profitable companies that have taken proactive steps to improve returns to their various stakeholders.

##### Focus on stakeholder returns where management has considerable discretion

Some stakeholder returns leave management little scope for discretion. In contrast, management has greater discretion in matters such as capex and R&D expenditure, investment in human capital in the form of employment and wages (personnel expenses and labor costs), and dividends. In terms of returns, these items can be seen as returns to business partners, employees, or shareholders, while investment and R&D can be seen as returns to all future stakeholders. We could even see them as returns to the economy as a whole. The Nomura Enterprise Value Allocation Index focuses on such returns. However, capex and R&D and investment in human capital are expenses. We therefore need to ensure that returns are not excessive with respect to profitability. Highly profitable companies with appropriate policies for these returns can be expected to maintain good relations with their various stakeholders and to see their corporate value and share prices rise in the longer term. Furthermore, one of the aims of the government's corporate governance reforms (as one of its growth strategies) in recent years has been to increase corporate value over the longer term by means of "purposeful dialog" between companies and investors. We think we are likely to see a growing number of attractive investment opportunities in the form of companies that take proactive steps to improve returns to their various stakeholders rather than pursuing short-term gains. We hope the index will help readers to invest in such companies.

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26 April 2016

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Japanese version published on April  
18, 2016

# Developing the Nomura Enterprise Value Allocation Index

## 1. Introduction

We have developed an index (the Nomura Enterprise Value Allocation Index) that reflects the performance of the stocks of Japanese companies that have taken proactive steps to improve returns to their various stakeholders. The idea is to focus on those stakeholder returns where a company's management has considerable discretion (especially, shareholder returns (profitability and dividends), employee returns (investment in human capital), and returns to future stakeholders and business partners (capex and R&D expenditure)) and to include companies that have taken proactive steps to improve those returns (increase that investment). This report explains the idea behind the index and its main features. We hope it will give readers a better understanding of the index.

For further details please see the [Nomura Enterprise Value Allocation Index rulebook](#), published on 15 April 2016. Information about the index will be published from time to time on Nomura's website, <http://qr.nomura.co.jp/jp/neva/index.html> (Japanese only).

## 2. Idea behind the index

The Nomura Enterprise Value Allocation Index has been designed to include highly profitable companies that have taken proactive steps to improve returns to their various stakeholders. In this chapter we explain the idea behind the index.

### 2.1 Shift in management focus from shareholders to all stakeholders

Reflecting an increasingly heated debate about management's responsibilities to shareholders, much has been made in recent years of the need for companies to take their shareholders into account. We see developments such as demands from market participants for dividend increases and share buybacks, the publication of the Ito Review<sup>1</sup>, which referred to the need for Japanese-style ROE management, and the launch of the JPX-Nikkei Index 400, which factors ROE into its stock selection, as a reflection of this.

One of the reasons for this focus on shareholders has been the view that if companies take their shareholders into account, their other stakeholders will automatically benefit. The idea is that because net profits attributable to shareholders are what is left after other stakeholders have received their share of the profits, companies that take their shareholders into account are likely to be profitable and their other stakeholders are likely to benefit as a result.

Figure 1 lists the main items on an income statement and alongside them the stakeholders affected by them. Between sales and net profits there are a number of cost items. One of them is COGS. If we think of that item in terms of returns to stakeholders, payment of raw material costs can be seen as a return to business partners, while payment of labor costs can be seen as a return to employees. Similarly, interest payable (one of the main items under nonoperating expenses) can be seen as a return to a company's banks and bondholders, while corporation tax can be seen as a return to the government. The logic is that because what is left after these returns to various stakeholders (net profits) is profits attributable to shareholders, shareholders will only receive such residual profits if other stakeholders have already profited.

**Fig. 1: Income statement and main stakeholders**

Income statement		Main stakeholders
Sales	XXXX	
COGS	XXXX	Business partners and employees
Gross profits	XXXX	
SG&A expenses	XXXX	Business partners and employees
Operating profits	XXXX	
Nonoperating profits	XXXX	
Nonoperating expenses	XXXX	Banks and bondholders
Recurring profits	XXXX	
Extraordinary gains	XXXX	
Extraordinary losses	XXXX	
Pretax profits	XXXX	
Corporation tax, etc	XXXX	Government
Net profits	XXXX	Shareholders

Note: Δ indicates negative value. Only key stakeholders affected by each item are shown.

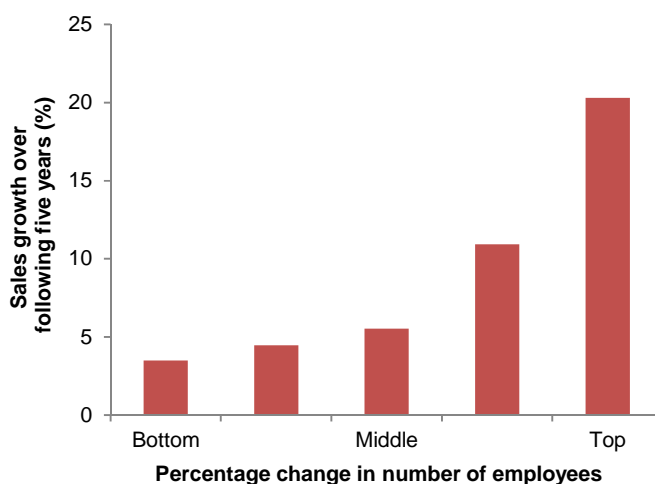
Source: Nomura

<sup>1</sup> The final report, published by METI in August 2014, of the "Competitiveness and Incentives for Sustainable Growth: Building Favorable Relationships between Companies and Investors Project" chaired by Professor Kunio Ito of Hitotsubashi University

This is one of the arguments that has been made as the debate about management's responsibilities to shareholders has heated up. However, another is that this focus on shareholders has led to short-termism. This is because an excessive pursuit of short-term profits and shareholder returns risks damaging relations with other stakeholders, thereby impairing corporate value. Extreme examples of this are companies that carry out excessive restructuring, cut wages, or exploit their employees, a common complaint in recent years. Such problems can impair corporate value by, for example, leading good staff to leave a company, damaging a company's reputation, and posing regulatory or compliance risks, while excessive cuts in investment or R&D in order to reduce expenses in the short term may lead to the loss of growth opportunities in the longer term.

One shareholder return that has attracted considerable interest in recent years is dividend increases. However, excessive restructuring and cost cutting are likely to impair a company's growth prospects even if they enable dividend increases in the short term. Figures 2 and 3 compare the sales growth rates over the following five years of companies that increased their dividends with (1) the percentage change in the number of their employees (Figure 2) and (2) capex plus R&D expenditure divided by total assets (Figure 3) for the same fiscal year. We can see that companies that expanded their workforces or undertook major capex as well as increasing their dividends experienced strong sales growth while those that either reduced their workforces or undertook very little capex subsequently experienced weak growth. While it would probably be mistaken to attribute all of this to excessive restructuring or to cuts in investment, a short-term focus on shareholders and excessive cuts in investment can lead to the loss of growth opportunities in the longer term, thereby impairing corporate value.

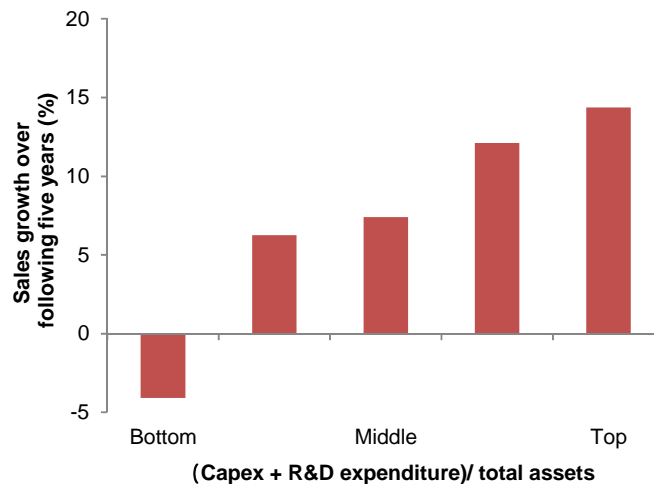
**Fig. 2: Sales growth over following five years at companies that increased their dividend, by change in no. of employees**



Note: Using financial data released every July, we first selected from the companies in the Russell/Nomura Prime Index those that had increased their dividend in the previous fiscal year. We divided these into five groups according to the percentage change in the number of their employees the previous fiscal year and then calculated the median sales growth in each group over the following five years. Data shown are average median sales growth for each group from 1992 to 2009. .

Source: Nomura

**Fig. 3: Sales growth over following five years at companies that increased their dividend, by (capex + R&D expenditure)/total assets**



Note: Using financial data released every July, we first selected from the companies in the Russell/Nomura Prime Index those that had increased their dividend in the previous fiscal year. We divided these into five groups according to (capex + R&D expenditure)/total assets in the previous fiscal year and then calculated the median sales growth in each group over the following five years. Data shown are average median sales growth for each group from 1992 to 2009.

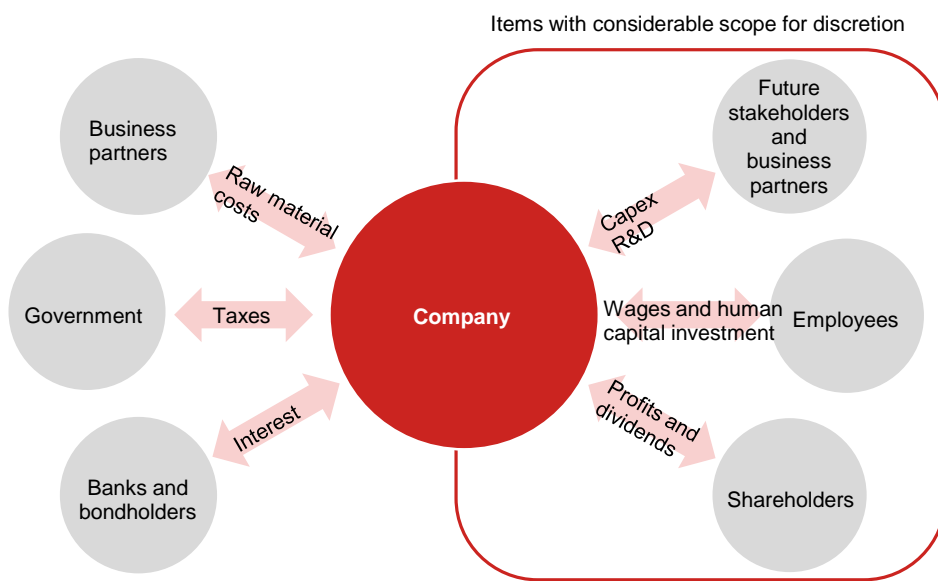
Source: Nomura

This suggests to us that while a short-term focus on shareholders may impair corporate value, a clear commitment to other stakeholders may enhance corporate (shareholder) value.

This is why the Nomura Enterprise Value Allocation Index focuses on companies that take proactive steps to improve returns to all stakeholders and not just shareholders. However, not all of the stakeholder returns in Figure 1 involve considerable management discretion. For example, management has almost no discretion when it comes to

corporation tax, a return to the government. Similarly, raw material costs increase mainly in tandem with sales, with little scope for management discretion. In contrast, management has greater discretion in matters such as capex and R&D expenditure, investment in human capital in the form of employment opportunities and wages (personnel expenses and labor costs), and dividends (Figure 4). In terms of returns, these items can be seen as returns to business partners, employees, or shareholders, while investment and R&D can be seen as returns to all future stakeholders. We could go one step further and see them as returns to the economy as a whole. The Nomura Enterprise Value Allocation Index focuses on items where management has considerable discretion, namely capex and R&D (returns to future stakeholders and business partners), investment in human capital (returns to employees), and dividends (returns to shareholders). Companies with appropriate policies for these returns can be expected to maintain good relations with their various stakeholders and to see their corporate value and share prices rise in the longer term.

**Fig. 4: Relations between a company and its stakeholders**



Source: Nomura

That said, capex and R&D spending and investment in human capital are expenses. Excessive investment and returns can therefore impair profits. Because the ultimate aim and responsibility of companies and their managements is to make profits, we also need to take account of profitability. Similarly, we also need to consider net profits attributable to shareholders in view of management's responsibilities and shareholder returns. Yet another consideration has to be profitability at the operating level, where COGS and SG&A expenses are deducted, in view of our focus in this report on returns in the form of investment in human capital (personnel expenses and labor costs) and capex and R&D expenditure (Figure 5).

**Fig. 5: Profit items to be considered**

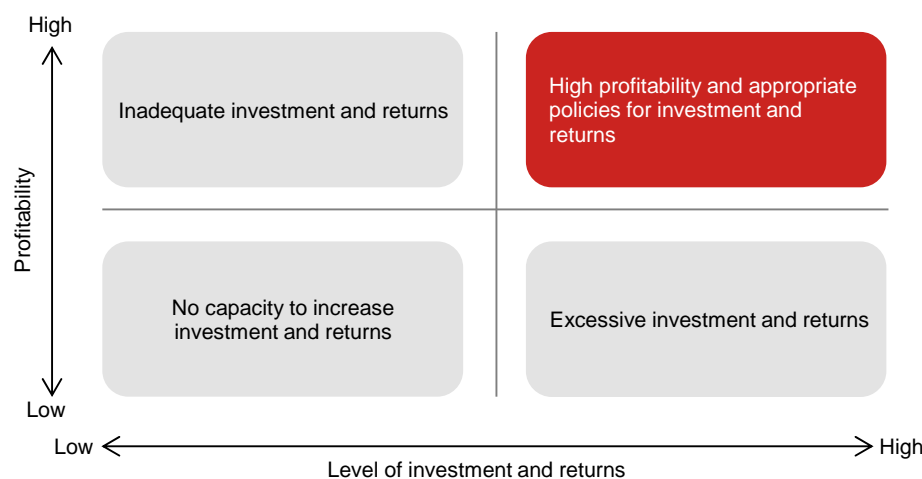
Income statement	
Sales	XXXX
COGS	XXXX
Gross profits	XXXX
SG&A expenses	XXXX
<b>Operating profits</b>	← Profits less personnel expenses, capex, and R&D
Nonoperating profits	XXXX
Nonoperating expenses	XXXX
Recurring profits	XXXX
Extraordinary gains	XXXX
Extraordinary losses	XXXX
Pretax profits	XXXX
Corporation tax, etc	XXXX
<b>Net profits</b>	← Management's aim and responsibility

Note: Δ indicates negative value

Source: Nomura

We take the view that companies that are profitable in terms of their net and operating profits and make appropriate returns to (or investment in) their various stakeholders are likely to maintain good relations with those stakeholders, thereby enhancing their corporate value in the longer term. The Nomura Enterprise Value Allocation Index consists of just such companies (Figure 6).

**Fig. 6: Schematic of companies constituting the Nomura Enterprise Value Allocation Index**

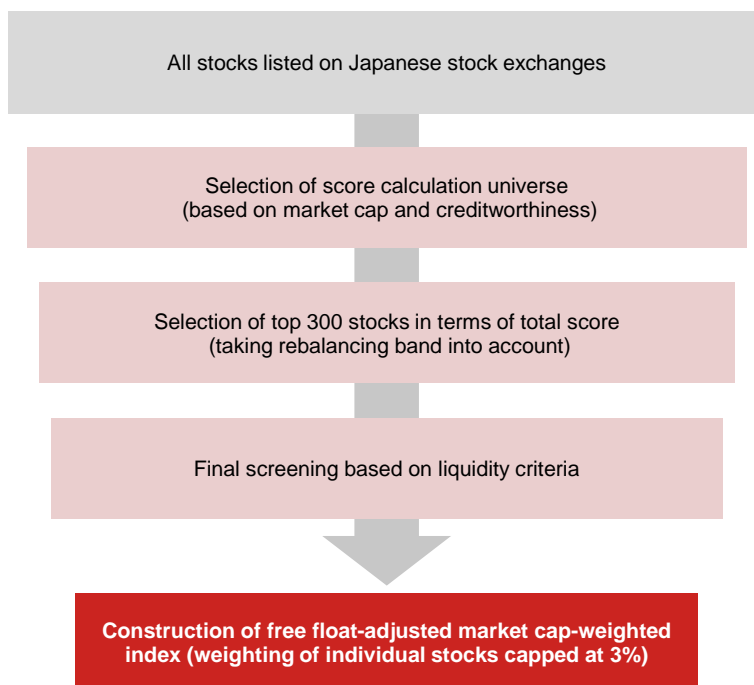


Source: Nomura

## 2.2 Index's main features and performance

We now explain the Nomura Enterprise Value Allocation Index's main features. The Nomura Enterprise Value Allocation Index is a market cap-weighted Japanese equity index (with individual stock weightings capped at 3%) comprising listed common stocks with the highest total scores in terms of profitability and returns. It is reconfigured every August. Figure 7 shows how the index is constructed. Three hundred stocks are selected according to their total scores in terms of profitability and returns from those that meet the market cap and creditworthiness (eg, no net liabilities) criteria (the score calculation universe). These are then screened in terms of liquidity according to criteria such as trading value. The number of constituent stocks therefore varies but is never more than 300. The scores for profitability and returns are calculated in terms of (1) profitability and returns to shareholders, (2) returns to employees, and (3) returns to future stakeholders and business partners, using the nine factors listed in Figure 8 to appropriately reflect the idea behind the index, which is to select highly profitable companies that have been proactive in investing and improving their stakeholder returns by choosing those with a high total score (ie, those with a low average ranking score for each factor).

**Fig. 7: Process of constructing the Nomura Enterprise Value Allocation Index (overview)**



Note: The diagram focuses on the main parts of the process, omitting details of how, for example, creditworthiness criteria are used to whittle down the universe or of special rules such as the rebalancing band. For further details of the rules for constructing the index we refer readers to the next chapter and to the index rulebook published on 15 April 2016.

Source: Nomura

**Fig. 8: List of factors used**

Category	Factor	Basis
Profitability & shareholder returns	Total net profits	3-year total
	Return on assets (ROA)	3-year average
	Dividend on equity (DOE)	3-year total
Returns to employees	Total personnel expenses	3-year total
	(Change in personnel expenses)/sales	3-year average
	Percentage change in number of employees	3-year average
Returns to future stakeholders and business partners	Capex + R&D expenditure	3-year total
	(Capex + R&D expenditure)/total assets	3-year average
	Change in [(capex + R&D expenditure)/total assets]	3-year average

Note: For further details of how the scores are defined and calculated we refer readers to the next chapter and the index rulebook published on 15 April 2016.

Source: Nomura

For further details of how the index is constructed and of the factors used we refer readers to the next chapter as well as the index rulebook published on 15 April 2016 and confine ourselves in the rest of this chapter to a brief explanation of the index's main features and performance.

Figure 9 compares the averages of the nine factors used to calculate the total scores of the index's constituents and the score calculation universe after the index was reconfigured in August 2015. We find that in the case of each factor the average of the index constituents is higher than that of the average of the score calculation universe. We therefore think we can say that, on average, the companies selected reflect the idea behind the index in that they are highly profitable and have been proactive in investing and improving their stakeholder returns.

**Fig. 9: Factor averages of universe and constituent stocks**

	No. of companies	Profitability & shareholder returns			Returns to employees			Returns to future stakeholders and business partners		
		Total net profits (¥mn)	Return on assets (ROA) (%)	Dividend on equity (DOE) (%)	Total personnel expenses (¥mn)	(Change in personnel expenses)/sales (%)	Percentage change in number of employees (%)	Capex + R&D expenditure (¥mn)	(Capex + R&D expenditure)/total assets (%)	Change in [(capex + R&D expenditure)/total assets] (ppt)
<b>Average factor value</b>										
Score calculation universe	981	25,681	6.37	2.36	35,038	0.33	4.75	52,737	5.79	-0.15
Index constituents	265	60,927	8.39	2.98	75,436	0.63	7.04	133,642	8.48	0.07
<b>Average ranking value</b>										
Score calculation universe	981	491.0	491.0	490.8	491.0	491.0	491.0	491.0	491.0	491.0
Index constituents	265	247.9	339.4	332.7	267.1	358.5	370.0	256.3	308.2	441.8

Note: Shows average values of factors used for rebalancing, for stocks in score calculation universe and index constituents at time of August 2015 rebalancing. For further details of each factor's definition we refer readers to chapter 3.2 ("Score definitions") and the index rulebook published on 15 April 2016.

Source: Nomura

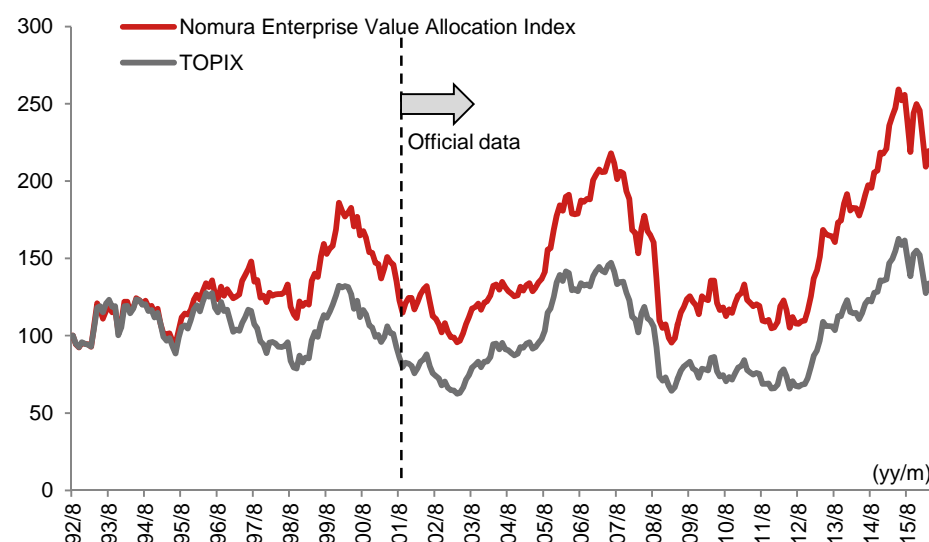
Figure 10 plots the index's performance since 1992. Although the index was officially launched on 17 August 2001, we have plotted it on a monthly return basis from end-August 1992 and joined this up with the official index from end-August 2001 to show its performance over a longer period<sup>2</sup>. Since September 1992, the Nomura Enterprise Value Allocation Index has generated an average annual return of 4.87% on a total return basis, steadily outperforming the TOPIX, which has generated an annual average return of 2.92%. In addition, the standard deviation of returns for the index has been slightly lower than that of the TOPIX, showing that anyone who invested in the index would have achieved a higher return than that of the TOPIX and at lower risk. Figure 10

<sup>2</sup> Official index rebalanced annually on 20 August, but data for 1992–2000 based on annual rebalancing at end-August.

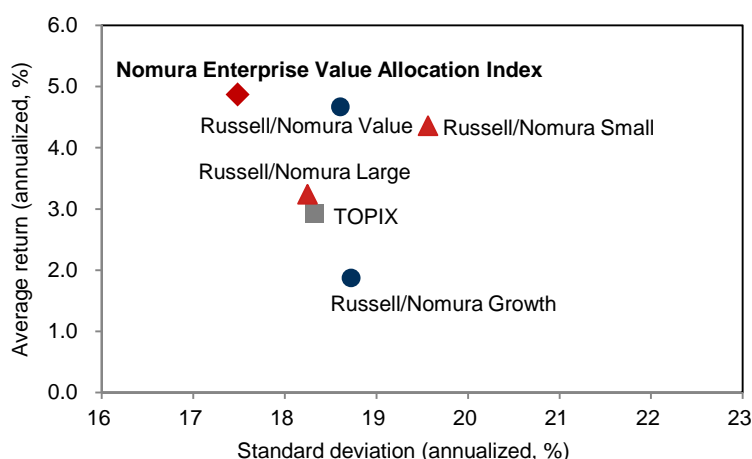


also shows that the index has achieved a stable performance vis-a-vis the Russell/Nomura style indices and at lower risk. It is probably fair to say that highly profitable companies that have been proactive in investing and improving their stakeholder returns have, slowly but surely, increased their corporate value. Furthermore, one of the aims of the government's corporate governance reforms (as one of its growth strategies) in recent years has been to increase corporate value over the longer term by means of a "purposeful dialog" between companies and investors. We think we are likely to see a growing number of attractive investment opportunities in the form of companies that take proactive steps to improve returns to their various stakeholders rather than pursue short-term gains. We hope the index will help readers to invest in such companies.

**Fig. 10: Performance of Nomura Enterprise Value Allocation Index**



Index	Absolute return						Excess returns
	Nomura Enterprise Value Allocation Index	TOPIX	Russell/Nomura Large	Russell/Nomura Small	Russell/Nomura Value	Russell/Nomura Growth	Nomura Enterprise Value Allocation Index vs TOPIX
Return (annualized, %)	4.87	2.92	3.24	4.36	4.67	1.87	1.95
Standard deviation (annualized, %)	17.48	18.33	18.25	19.56	18.60	18.72	4.78
Return / risk	0.28	0.16	0.18	0.22	0.25	0.10	0.41



Note: Returns are total monthly returns, including dividends. Sample period is September 1992 to end-March 2016. Official index used for period from end-August 2001, estimates based on monthly returns used for period through end-August 2001, rebased so that end-August 1992 = 100. Official index rebalanced annually on 20 August, data for 1992–2000 rebalanced annually as of end-August. Transaction costs have not been taken into account. Analysis is based on historical data and does not guarantee future performance.

Source: Nomura

### 3. (Reference) Overview of index construction

We introduced the concept of the Nomura Enterprise Value Allocation Index in the previous chapters. In this chapter, we provide an overview of the method by which the index is built. For precise index construction rules, please see the Nomura Enterprise Value Allocation Index rulebook, published on 15 April 2016.

#### 3.1. Index construction procedure

Stocks are selected for the index based on the score related to returns, a central concept of the index, in accordance with the following procedure: (1) selection of score calculation universe, (2) selection of stocks on the basis of score, and (3) screening based on liquidity criteria. The definition of the score is explained in the next section. First, we look at the steps involved in building the index.

Stocks are added to/deleted from the index on 20 August (reconfiguration date) every year based on data as of end-July (reconfiguration base date) according to the following procedures<sup>3</sup>.

##### (1) Selection of score calculation universe

The top 1,000 stocks in terms of free float-adjusted market cap are selected from among the top 2,000 stocks in terms of monthly average trading value in the past year, based on all common stocks listed in Japan (excluding securities to be delisted, securities on alert, and securities under supervision<sup>4</sup>). The score calculation universe consists of stocks among these 1,000 selected stocks that have disclosed results data for the past three years and meet creditworthiness criteria, including not having liabilities in excess of assets and not having three straight years of losses<sup>5</sup>.

##### (2) Selecting stocks on the basis of score

The top 300 stocks are identified in terms of total score, calculated for all stocks in the score calculation universe on the basis of profitability and returns. In regular reconfigurations in 2016 and beyond, the 300 stocks will be identified after applying a rebalancing band to reduce turnover<sup>6</sup>.

##### (3) Screening based on liquidity criteria

Of the 300 stocks identified in step (2), those that were traded on 200 or more days over the past year and had market turnover of ¥100bn or more over the past year are included in the index.

Because stocks are selected based on the abovementioned procedures, the number of stocks varies and is never more than 300. When market liquidity drops sharply, special rules provide for the easing of scoring criteria to ensure the number of stocks in the index, as selected according to the abovementioned procedures, does not fall below 100. As such, the number of stocks in the index is never more than 300 and never less than 100. As of the latest reconfiguration (August 2015), the special rules have never been applied since the base date for the calculation of the index of 17 August 2001.

The stocks selected according to the procedures described above are put into an index based on their free float-adjusted market cap weighting. The allocation of investment in large cap stocks is prevented from becoming excessive by capping index weighting as of the reconfiguration base date at 3%.

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<sup>3</sup> The stock selection universe is the top 98% of stocks listed in Japan in terms of free float-adjusted market cap as of 15 October of the previous year.

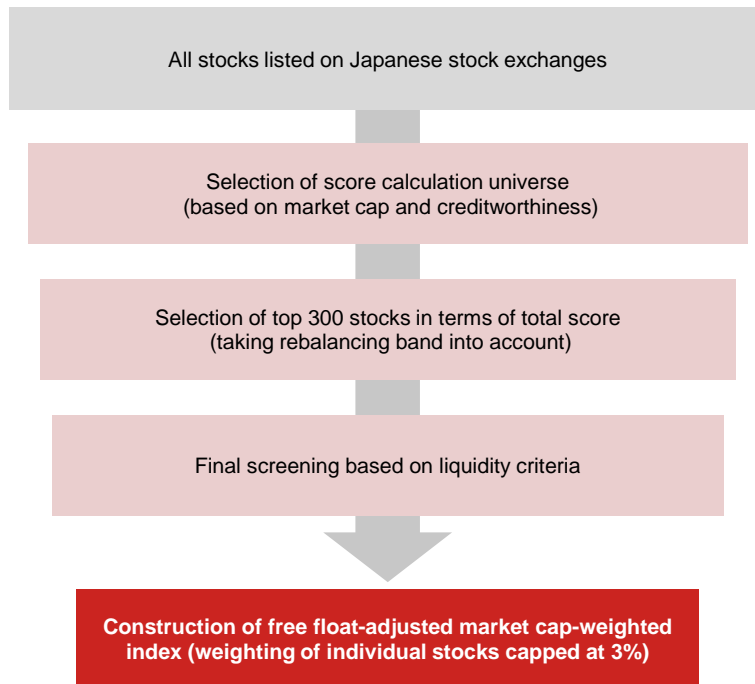
<sup>4</sup> Securities under supervision are included in the score calculation universe if they are in the index prior to reconfiguration.

<sup>5</sup> Creditworthiness criteria are availability of financial data for the past three years, (a) liabilities not exceeding assets in any of the past three years, and (b) operating losses or net losses not continuing for the past three years.

<sup>6</sup> The rebalancing band rules are as follows:

- a. Stocks in the top 250 in terms of total score are included unconditionally.
- b. Of stocks in the index prior to reconfiguration, those in the top 350 in terms of total score are selected in the order of their total score ranking until 300 stocks are included in the list for liquidity screening.
- c. If the number of stocks in the list for liquidity screening does not come to 300 following steps a and b, stocks are included in the list in order of total score until the list has 300 stocks.

**Fig. 11: Process of constructing the Nomura Enterprise Value Allocation Index (overview) (restated)**



Note: The diagram focuses on the main parts of the process, omitting details of how, for example, creditworthiness criteria are used to whittle down the universe or of special rules such as the rebalancing band. For further details of the rules for constructing the index we refer readers to the next section and to the index rulebook published on 15 April 2016.

Source: Nomura

### 3.2 Score definitions

The scores used to select stocks are calculated using nine factors related to profitability and returns. These factors can be broadly divided into three categories: (1) profitability and shareholder returns, (2) returns to employees, and (3) returns to future stakeholders and business partners (Figure 12).

#### (1) Profitability and shareholder returns

Because profits ultimately are attributed to shareholders, we have treated profitability and shareholder returns as a single category consisting of three factors: net profits, operating profits, and dividends.

- Total net profits
- Return on assets (operating ROA)
- Dividend on equity (DOE)

We gave our reasons for using net profits and operating profits (return on assets) to measure a company's profitability in chapter 2 ("Idea behind the index"). Also, because capex, one of the features the index tries to capture, is generally considered to lead to an increase in total assets, we have used return on assets to measure a company's profitability relative to its assets in order to include companies whose capex is likely to generate high returns. Finally, we have used dividend on equity (DOE) as an explicit measure of shareholder returns. Because the factor value increases as a result of dividend increases, via an increase in the numerator (dividends), and also as a result of share buybacks, via a decrease in the denominator (shareholders' equity), the effect of this factor is to include companies that raise dividends and carry out share buybacks.

#### (2) Returns to employees (investment in human capital)

The index uses total personnel expenses (personnel expenses + labor costs) and the number of employees to capture returns to employees. This category consists of the following three factors.

- Total personnel expenses
- (Change in personnel expenses)/sales
- Percentage change in number of employees

While total personnel expenses favors the inclusion of companies that already invest heavily in human capital, the y-y change in total personnel expenses and the percentage change in the number of employees capture companies that have been increasing their investment in human capital.

#### (3) Returns to future stakeholders and business partners (capex)

This category focuses on capex and R&D expenditure and consists of the following three factors.

- Capex + R&D expenditure
- (Capex + R&D expenditure)/total assets
- Change in [(capex + R&D expenditure)/total assets]

While total capex and R&D expenditure or their ratio to total assets favor the inclusion of companies that already invest heavily in capex and R&D, the y-y change in the ratio captures companies that have been increasing such investment. In the first case, the total for the past three years is used, while in the second and third cases, the average is used. However, a weighted average of 3:2:1 is used to reflect the greater importance of the most recent year.

**Fig. 12: List of factors used (restated)**

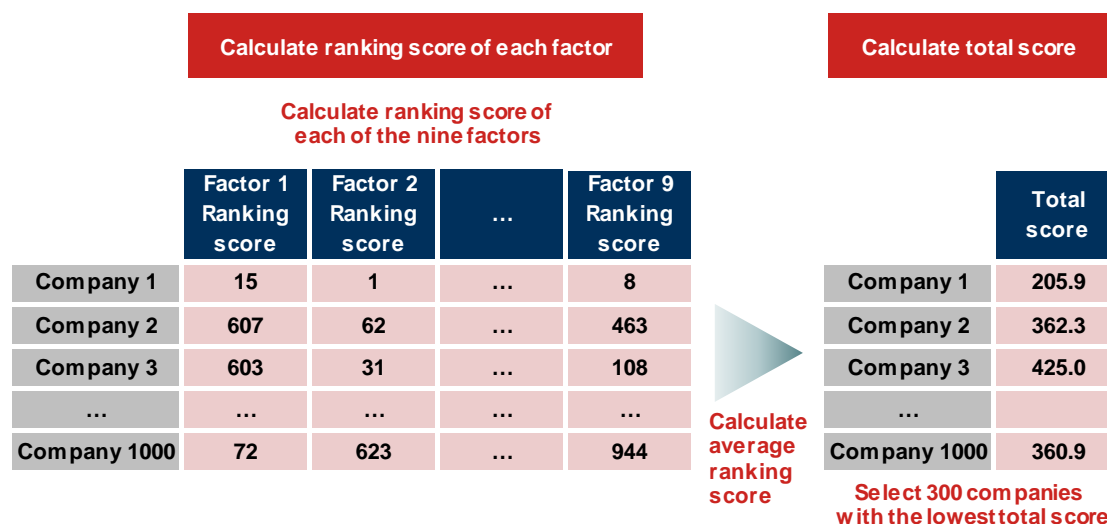
Category	Factor	Basis
Profitability & shareholder returns	Total net profits	3-year total
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	Dividend on equity (DOE)	3-year total
Returns to employees	Total personnel expenses	3-year total
	(Change in personnel expenses)/sales	3-year average
	Percentage change in number of employees	3-year average
Returns to future stakeholders and business partners	Capex + R&D expenditure	3-year total
	(Capex + R&D expenditure)/total assets	3-year average
	Change in [(capex + R&D expenditure)/total assets]	3-year average

Note: For further details of how the scores are defined and calculated we refer readers to the index rulebook published on 15 April 2016.

Source: Nomura

The final score (total score) is the average ranking score for the nine factors within the score calculation universe. This means that the smaller a company's total score, the more proactive it has been in investing and improving its stakeholder returns. As we explained in the previous chapter, the Nomura Enterprise Value Allocation Index normally selects the top 300 stocks in terms of their total score (ie, those with the lowest score) as potential constituents (Figure 13).

**Fig. 13: Method of calculating total score**



Source: Nomura

# Appendix A-1

## Analyst Certification

We, Yasuhiro Shimizu, Sayuri Otsuka and Kai Hattori, hereby certify (1) that the views expressed in this Research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of our compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

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The rating system is a relative system, indicating expected performance against a specific benchmark identified for each individual stock, subject to limited management discretion. An analyst's target price is an assessment of the current intrinsic fair value of the stock based on an appropriate valuation methodology determined by the analyst. Valuation methodologies include, but are not limited to, discounted cash flow analysis, expected return on equity and multiple analysis. Analysts may also indicate expected absolute upside/downside relative to the stated target price, defined as (target price - current price)/current price.

## STOCKS

A rating of **'Buy'**, indicates that the analyst expects the stock to outperform the Benchmark over the next 12 months. A rating of **'Neutral'**, indicates that the analyst expects the stock to perform in line with the Benchmark over the next 12 months. A rating of **'Reduce'**, indicates that the analyst expects the stock to underperform the Benchmark over the next 12 months. A rating of **'Suspended'**, indicates that the rating, target price and estimates have been suspended temporarily to comply with applicable regulations and/or firm policies. Securities and/or companies that are labelled as **'Not rated'** or shown as **'No rating'** are not in regular research coverage. Investors should not expect continuing or additional information from Nomura relating to such securities and/or companies. Benchmarks are as follows: **United States/Europe/Asia ex-Japan**: please see valuation methodologies for explanations of relevant benchmarks for stocks, which can be accessed at: <http://go.nomuranow.com/research/globalresearchportal/pages/disclosures/disclosures.aspx>; **Global Emerging Markets (ex-Asia)**: MSCI Emerging Markets ex-Asia, unless otherwise stated in the valuation methodology; **Japan**: Russell/Nomura Large Cap.

## SECTORS

A **'Bullish'** stance, indicates that the analyst expects the sector to outperform the Benchmark during the next 12 months. A **'Neutral'** stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next 12 months. A **'Bearish'** stance, indicates that the analyst expects the sector to underperform the Benchmark during the next 12 months. Sectors that are labelled as **'Not rated'** or shown as

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## Explanation of Nomura's equity research rating system in Japan and Asia ex-Japan prior to 21 October 2013

### STOCKS

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Target Price - Current Price) / Current Price, subject to limited management discretion. In most cases, the Target Price will equal the analyst's 12-month intrinsic valuation of the stock, based on an appropriate valuation methodology such as discounted cash flow, multiple analysis, etc. A **'Buy'** recommendation indicates that potential upside is 15% or more. A **'Neutral'** recommendation indicates that potential upside is less than 15% or downside is less than 5%. A **'Reduce'** recommendation indicates that potential downside is 5% or more. A rating of **'Suspended'** indicates that the rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the subject company. Securities and/or companies that are labelled as **'Not rated'** or shown as **'No rating'** are not in regular research coverage of the Nomura entity identified in the top banner. Investors should not expect continuing or additional information from Nomura relating to such securities and/or companies.

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### Target Price

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