What does the 'Dow Jones Sustainability Group Index' tell us?

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Abstract

The Dow Jones Sustainability Group Index (DJSGI) identifies and keeps track of the performance of sustainable driven companies. It is often referred to as an evidence that the integration of economic, environmental and social considerations in company activities and management actions gives increased shareholder value and an increased transparency of business activities (Dobers & Wolff, 2000). A search on the Internet for 'Dow Jones Sustainability' resulted in a good 1000 hits, e.g. on World Business Council of Sustainable Development, Deutche Telekom and the US EPA. However, there are no illuminating studies carried out that determine the design of the DJSG index. This paper investigates the structure and transparency of the DJSGI and compares it with other sector indexes, i.e. the Dow Jones Global Indexes (DJGI). The study shows that the sustainability index to a higher degree focus on the technology community and somewhat lesser on the financial and industrial sectors than the general DJGI. Moreover, the largest difference of these two indexes is the asymmetric distribution of company size. The market capitalisation of the sustainable group is found to be 2.5 times larger than the corresponding average for the general index. Other comparisons show that companies in the technology sector and large multinationals have higher growth of stock value. Consequently; legitimate questions arise. Are we comparing Apples and Oranges? What comes first, the 'Hen or the Egg'? This paper discusses the problem of sectoralisation of environmental performance whether the DJSGI steers companies towards sustainability.

Keywords

Dow Jones Sustainability Group Index, sustainable business, green business, increased shareholder values, asymmetric distribution of industrial sectors and market capitalisation.

1 Introduction

Several attempts to indicate environmental performance of corporations have appeared recently. They include discussion on how environmental reports can guide corporations to learn about their environmental performance (Herremans *et al*, 1999) or how such reports should be formulated regarding their reliability, consistency and relevance (Kolk, 1999; Ljungdahl, 1999). It has also been shown that environmental goal setting (Ransom & Lober, 1999) or environmental auditing (Diamantis, 1999) show processes prior to formulating environmental indicators, and that environmental performance indicators in US industry, if effectively institutionalized, has been rather successful (Stead *et al*, 1998). These processes for assessing sustainability-driven corporations have in common that they are means by which corporations can measure their environmental performance and make it visible and transparent (Ball *et al*, 2000; Bowen, 2000). It can thus be said that they mirror an inside-out attempt towards sustainability. Inside-out changes can also be triggered by explicit motives when individual corporations strive to get licenced to a certain standard according to standardisation like the ISO 14001 or the British Standard 7750 (Robinson & Clegg, 1998).

Whereas inside-out attempts towards sustainability by definition are induced by the corporation and not necessarily include an evaluation of the corporation, an outside-in perspective rests on an independent evaluation of the activities of different corporations and their influences of a particular industrial sector, company size or the type of environmental regulation (Baylis *et al*, 1998; Dobers, 1999). One recent outside-in attempt towards sustainable business processes is the recently launched Dow Jones Sustainable Group Index (DJSGI). It is claimed that the DJSGI – including corporations with an active sustainability record of good social, environmental and economical performance – actually have had a better development than the Dow Jones Global Index (DJGI). A recent article has suggested that the DJSGI will

improve global transparency and benchmarking, thus contributing to better methodologies regarding existing screening processes towards sustainability. It continues:

> "The point is not, that the Dow Jones methodology is perfect or correct. The point is, that one of the global players in the financial market gives legitimacy to issues that were previously treated as “soft”. The new index will contribute to forcing companies to make transparent, report and evaluate continuously, as well as communicate their measures in the sustainable framework." (Dobers & Wolff, 2000:147)

The aim of this paper is to discuss the DJSGI in detail and analyse its structure with particular focus on the market capitalisation, regional allocation and sector allocation with other Dow Jones indexes. Whereas the DJSGI is said to enhance the transparency of sustainability processes of international corporations, we hope that this paper will give highlight the transparency of the DJSGI itself. The paper is structured as such: *First*, the methodology used for compiling the DJSGI is presented. Objectives, concept, key attributes, assessment criteria and evaluation systems of the index are elucidated. *Thereafter*, we take a closer look on the sector allocation, regional allocation and the market capitalisation of the DJSGI and compere those with the corresponding distributions of, first and foremost, the DJ Global Indexes. *Finally*, in our conclusions, the results of this study are discussed.

2 General description of the Dow Jones Sustainability Group Index (DJSGI)

By September 1999, in a partnership of the Dow Jones Indexes and the SAM Sustainability Group, the Dow Jones Sustainability Group Indexes GmbH (DJSGI GmbH) launched the world's first global indexes that track the performance of sustainability-driven corporations world-wide. Corporate sustainability has long been assumed to increase long-term shareholder value. Thereby, the DJSGI is thought to create a "hard" benchmark for corporations interested in sustainability issues, rather than just compete with "soft" issues of sustainable development (Dobers & Wolff, 2000:147f; WCED, 1987). Although the DJSGI is committed to perform the economic, environmental and social elements of sustainability, superior performance of pro-active, cost-effective and responsible corporations is directly related to their commitment to five corporate sustainability principles including the use of *innovative technology* of products and services; *corporate governance* including management, organizational capability, corporate culture and stakeholder relations; *shareholder relations* based on sound financial returns and long-term economic growth; *industrial leadership* by demonstrating commitment; and *social well being* (DowJones, 1999:a). These principles facilitate a certain, and in the financial sector probably necessary, quantification of sustainability performance of corporations that pursue sustainability opportunities and avoid sustainability risk.

The DJSGI is a family of 20 different indexes derived from the DJGI and the DJSGI itself. Five indexes are of geographical character covering the world, Europe, North America, Asia/Pacific region, and the USA. Each geographical index is then crossed with subset indexes excluding stocks involved in tobacco, gambling, alcohol or all of these three.

The different brochures give different numbers of how many corporations are included. Somewhere between 222 and 229 corporations of the 2000 largest corporations of the DJGI have been included in the DJSGI. They have been selected after an analysis and evaluation of information based on questionnaires filled out by top management offices, company policies and reports, and stakeholder relations obtained through a continual review of relevant media. The top scoring 10 per cent in each industry group are included in the DJSGI, whereby the index undergoes an annual review. The sustainability performance of the DJSGI corporations of 1998 have been backcasted to 1993 to receive the historical performance.

3 The Dow Jones Global Indexes (DJGI) structure in brief

The Dow Jones Global Indexes (DJGI), to which the DJSGI is benchmarked, seek a 80 per cent capture market capitalisation of each stock exchange market in the world, which are considered eligible. For instance, if non-residence are prohibited to control more then 25 percent of company stock, only 25 percent of the that market capitalisation is included in the DJGI. The index, which consists of 2899 companies, is divided into various regional indexes, which are crossed by 122 industrial sectors.

4 The Dow Jones Sustainability Group Indexes as a benchmarking tool

The DJSGI is supposed to deliver an index that can be used world-wide as a benchmarking index when financial institutions offer new products and services. Institutions interested in using the DJSGI to compare the performance of their own financial instruments have to pay a fee. Four market-driven attributes of the DJSGI has been developed as a reasoning of why the DJSGI is ideal as a benchmarking tool. The attributes include the *global representation* of sustainability-driven companies of the global DJGI; the *rational assessment* method of a multi-factor analysis including equal weighting of environmental, social and economical criterias; a *consistent method* including an industry specific questionnaire, the analysis of company policies and reports as well as stakeholder relations; and the *flexibility* of certain regions and the exclusion of certain areas (DowJones, 1999:a).

While the aim of the DJSGI is that it should be used as a benchmark of historical performance it is important to note that the corporations included in the DJSGI were chosen based on sustainability analysis and ranking carried out in late 1998 and early 1999. In order to achieve a benchmark for comparing historical performance, the performance of the included corporations were "backcasted" to 31 December 1993. This method was pragmatically chosen to overcome the impossible task of recreating the selection process of sustainability analysis and rankings in past periods. All indexes are monthly price returns in US dollars. Table 1 shows that the DJSGI have had a better historical performance than the DJGI in all regions but in Europe.

Table 1. Comparison of the historical performance of the DJSGI and other benchmarking indexes 3/95 - 3/00 (DowJones, 2000:d).

Index / Region	World	Europe	Americas	Pacific	(*) USA
DJSGI	164,46%	128,22%	312,19%	60,86%	297,78%
DJGI	138,76%	148,71%	221,50%	7,36%	(**) 236,18%

(*) Included in Americas (**) Benchmark in this case is: S&P 500

The allocation of corporations included in the DJSGI can be expressed in regional and in market sector terms. Although the number of corporations of the DJSGI is dominated by European corporations, the market capitalisation as of 31 March 2000 is rather even in the two major regions of the Europe and the USA (see Table 2):

Table 2. Regional allocation of corporations in DJSGI through 31 March 2000 (DowJones, 2000:d).

Regional allocation	Number of corp's	Market capitalization (000's US $)
Americas (excl USA)	18	300 660 858
USA	46	2 006 654 422
Europe (excl. S. Africa)	112	2 296 797 395
Pacific	46	691 894 014
World (excl. S. Africa)	**222**	**5 296 006 689**

When it comes to the allocation of corporations in different market sectors, Table 3 gives a good overview:

Table 3. Market sector allocation of corporations in DJSGI and in DJGI through 31 March 2000 (DowJones, 2000:d).

Market sector allocation	Number of corp's	Market capitalization (000's US $)	% of DJSGI World	% of DJGI World
Basic materials	34	234 459 742	4,42	0,83
Cyclicals	36	738 512 502	13,92	2,69
Non-Cyclicals (incl health care)	30	735 264 261	13,85	2,67
Energy	12	426 303 188	8,03	1,55
Financial	39	777 165 890	14,64	2,83
Industrials	42	334 087 939	6,30	1,22
Technology (incl datacom & biotech)	14	1 351 687 715	25,47	4,92
Utilities (incl. telecom providers)	19	709 699 865	13,37	2,58
Totals	**226**	**5 307 181 103**	**100,00**	**19,32**

5 Sector allocation comparisons

The DJSGI is an index primary meant to be benchmarked to the Dow Jones Global Index (DJGI). As of February 2000, the DJGI incorporates a new global industry classification structure of its business sectors. Consequently, the sectorial division of the DJSGI has also been changed this spring. This paper is, however, focusing on the sector allocation reported by the DJSGI until January 2000. Thus, the pre year 2000 structure is used when estimating impacts from asymmetric sector allocation while the post 1999 data is converted into the old allocation. New sectors, and of us considered important subcategories, are shown in the prior year 2000 sectorialisation groups. Thereby, this assessment is comparable to both the new and the old sector allocation.
The companies within the old, pre 2000 contribution, DJSGI are allocated to 9 economic sectors that, in their turn, are divided into 73 industry groups. Corresponding numbers for DJGI are also 9 economic sectors, but divided into 122 industry groups and subgroups.

It is shown in Table 4 that there exists an asymmetric sector distribution between the two indexes, DJSGI and DJGI. DJSGI has a larger allocation towards Technology (4.7 percent units) and Energy (3.1 percent units). These sectors, with the DJGI performance, have a total 5-year growth of 863 and 188 per cent. DJGI itself, on the other hand, has a larger allocation on Financials (2.3 percent units) and Industrials (5 percent units) with a total 5-year growth, DJGI, of 126 and 95 per cent. These sector distribution differences multiplied with the actual performance of the DJGI illustrates the growth difference - of an index with the same sector allocation as the DJSGI, but with the sectorial performance of DJGI - compared to DJGI. As shown in Table 4, by changing the sector distribution solely such an index would have a 35 percent units higher performance than the DJGI. This difference in growth incorporates large portion of the DJSGI performance surplus, on about 50 percent units.

Table 4. Sector allocation comparisons of DJSGI and DJGI performance when applied to the DJSGI sector allocation (DJGI performances serve as reference base)

Market sector allocation	**C1**	**C2**	**C3**	**C4**	**C5**
	DJSGI Q1: 2000	**DJGI Q1: 2000**	**DJSGI-DJGI allocation difference**	**DJGI per-formance Q1: 1995-Q4: 1999**	**C3*C4**
Basic Materials	4.4%	3.2%	1.2%	15%	0.18%
Cyclicals	13.9%	13.7%	0.2%	42%	0.84%
Non-cyclicals (incl. health care)	13.8%	13.8%	0%	158%	0%
Energy	8.0%	4.9%	3.1%	188%	5.83%
Financials	14.6%	16.9%	-2.3%	126%	-2.90%
Industrials	6.3%	11.3%	-5.0%	95%	-4.75%
Technology (incl datacom & biotech)	25.5%	20.8%	4.7%	863%	40.56%
Utilities (incl. telecom providers)	13.4%	15.2%	-1.8%	259%	-4.66%
Independent/Others	-	-	-	-	-
Total	**99.9%**	**99.8%**	**0.1%**	**24.47%**	(*)**35.10%**

(*) The reported DJSGI-DJGI performance difference is, however, 50.03 percent units.
Information retrieved from: DowJones (2000:d; 2000:c; 1999:c) available at indexes.dowjones.com/djsgi/ and DowJones (2000:b; 2000:a; 1999:b) available at indexes.dowjones.com/djgi/ , as well as the five-year performance data retrieved from DJGI Data Server is.

Furthermore, when exploring the performances of international, Swedish based, technology funds, we can see enormous growth rates during the 90's, outperforming the general funds by far (Dagens Industri/Fondstar, 2000:WWW).

It is in this section indicated, by using DJSGI-DJGI allocation differences multiplied with DJGI sectorial performances, that a large portion of the higher DJSGI performance may herein from the relatively higher market allocation towards sectors with higher growth. The largest difference in sector distribution, which is a DJSGI surplus, is found in the very high performing technology line of businesses.

6 Regional allocation comparisons

The DJSGI is divided into regions that follow the structure of the benchmark index, DJGI. This section of the paper examines the top regional allocation of the two indexes by market capitalisation size and, if differences, exploring how those may affect the index performances.

Table 5. Comparison of regional allocation between DJSGI and DJGI.

Regional allocation	**DJSGI World**	**DJGI World**	**Difference** (% units of total)
Americas (excl USA)	5.67%	3.26%	2.41%
USA	37.81%	49.50%	-11.69%
Europe (excl. S. Africa)	43.28%	29.49%	13.79%
Pacific	13.04%	17.74%	-4.70%
World (excl. S. Africa)	**99.80%**	**99.99%**	

The regional weightings are retrieved from: DowJones (2000:d) available at indexes.dowjones.com/djsgi/ and DJGI regional components weightings, as of July 4, 2000, indexes.dowjones.com/djgi/.

If comparing the performances of the regional indexes over the last 5 years we will retrieve an indication on how these regional allocation differences, shown in Table 5, might affect the outcome of the DJSGI. Thereafter, in Table 6, below, the cumulative returns of regional DJGI are compared over an 5-year time span, as of Q1:1995 - Q4:1999. In order to illustrate how the regional allocation differences may affect the outcome, the regional asymmetries of DJSGI-DJGI are multiplied with the regional performances of DJGI.

Table 6. Regional allocation comparisons of DJSGI and DJGI performance when applied to the DJSGI regional allocation (DJGI performances serve as reference base)

Regional allocation	**DJGI cumulative performance Q1:1995-Q4: 1999**	**DGSI-DJGI difference** (% units of total)	**DGSI-DJGI cumulative returnsdifference** (DJGI performances) Q1:1995-Q4: 1999
Americas (excl USA)	128 %	2.41%	3.08 %
USA	266 %	-11.69%	-31.10 %
Europe (excl. S. Africa)	233 %	13.79%	32.13 %
Pacific	41 %	-4.70%	-1.93 %
World (excl. S. Africa)	**170 %**	**-**	(*) **2.18 %**

(*) The reported DJSGI-DJGI performance difference is 50.03.

Information retrieved from: Table 5 and DowJones (2000:b; 2000:a; 1999:b) available at indexes.dowjones.com/djgi/ , as well as the five-year performance data retrieved from DJGI Data Server is.

Consequently, this section indicates that the asymmetric regional distribution in used in the two indexes DJGI and DJSGI may only account for a small portion of the cumulative world performance difference of the two indexes.

7 Market capitalisation comparisons

The Dow Jones Sustainability Group Index represents 20 per cent of DJGI capitalisation value. There are 2899 companies represented in the DJGI and around 226 of them constitute the DJSGI. By dividing the total capitalisation values of the indexes by their numbers of incorporated companies we will receive the average company capitalization value of each index. For these calculations the data is retrieved from DowJones (2000:c).

Table 7. Average company capitalization value of DJGI and DJSGI.

(Averages)	**DJGI**	**DJSGI** 19.49 % of DJGI Cap.
Market Capitalisation (million USD)	25,120,000	4,896,000
Number of Companies	2899	226
Market Capitalisation (million USD) / Company	8,665	21,664

Hence, there exist an asymmetric distribution of average market capitalisation size of the two indexes' companies. In fact, the average company market capitalisation of the DJSGI is 2.5 times larger than the corresponding DJGI value. The corresponding available data from the same report series (DowJones, 1999:c; 2000:d) is very similar.

In order to find out if these differences in size may affect the performance of index capitalisation value, the growth of the Dow Jones STOXX Index, founded by 'Deutsche Börse AG', 'Dow Jones and Company', 'Paris Bourse SBF SA' and 'SWX Swiss Exchange', will be dis-

played split into different size categories. The Table 8 displays the performances of different capitalisation size companies of the Europen and Nordic areas.

Table 8. Size allocation comparisons of Dow Jones STOXX European and Nordic Indexes' performances.

Return Growth	**Dow Jones STOXX Europe** 1992-01-01 to 2000-07-07	**Dow Jones STOXX Nordic** 1992-01-01 to 2000-07-07
Broad Index	280	585
Blue Chip 50/30	395	680
Large Capitalisation	345	1800
Mid Capitalisation	140	160
Small Capitalisation	45	55

There is, as shown in Table 8, a correlation between large capitalisation and higher performance in both regional markets. Note: The Nordic region is a small subset of the European region and; thus, to some extent affect the outcome of the continental index. The by capitalisation largest companies, the Blue Chip 50 (for Europe) and 30 (for Nordic), have, furthermore, a market capitalisation well above mid and small capitalisation companies.

Dow Jones Global Titans Index (DJGT), representing 50 of the world's 100 largest corporations. The DJGT outperformed DJGI, as of Q1:1993-Q4:1999, by approximately 45 percent units (DJGT, 2000:WWW). This performance is quite similar to the DJSGI surplus to DJGI. The total market capitalisation value of DJGT companies is, by adding the individual company capitalisation USD 6,203,232 million. Thus, individual corporate capitalisation is 124,065 million USD. This is a 5.9 time larger average capitalisation than DJSGI has and 14.3 times larger than corresponding DJGI numbers.

The Carnegie indexes also indicate that there might be a correlation between large corporations and higher growth rates of market capitalisation. The cumulative world market growth rates, as of 2 May 1995 plus five years ahead, were e.g. highest for Carnegie's large companies (370 %) and yet lesser for midsize and small companies (200 %).

This section, thus, indicates, by using performance comparisons to STOXX, Carnegie indexes and DJGT, that there is a correlation between high company market capitalisation and higher growth rates. That is, large and gigantic corporations have higher growth of value than mid and small sized companies. Furthermore, the DJSGI average company's market capitalisation is found to be 2.5 times larger than the average DJGI company. Hence, some of the DJSGI higher performance may result from larger company size.

8 Concluding discussion

Through backcasting to the year of 1993 from 1998, the DJSGI can show a better performance than the DJGI in most regional areas. The exception is Europe, where the DJGI has shown a slightly better performance than the DJSGI. The reason for the performance difference in favour of the DJSGI is, according to the DJSGI GmbH, that those corporations included in the index has been more profitable while dealing with economical, social, and environmental opportunities and risks. We certainly hope this is the case.

However, we have shown in this paper that there might be other factors underlying the DJSGI that positively affects the performance of the index. Our paper shows two such factors. *First*, the DJSGI is to a higher degree focussed on the technology community than the general DJGI. *Second*, the market capitalisation (or the size of the corporations) of the sustainable group is 2.5 times larger than the corresponding average for the general index. Hence, we suggest that size and technology might be two factors that also explain a better performance of the DJSGI than the DJGI for the years between 1993 and 1998, and not only top performance while dealing with economical, social, and environmental opportunities and risks.

This paper is merely a start, and more studies could be done. Whether a large corporate size is a result of sustainability-driven corporations, or whether sustainability-driven business process is enabled by large corporate size, is yet a question to be answered. Other studies in the municipal area show that the larger municipalities have more slack resources tucked away to

become early movers in sustainability (Burström, 2000). Within the electronics industry, smaller companies and smaller units of large corporations are indicated to have lesser resources for environmental analysis (Holgaard & Remmen, 2000; Cerin & Laestadius, 2000).

When backcasting the growth of a cluster of companies back in time there is an inherent risk for erroneous assumptions that may result in an incorrect index growth. Jagrén has analysed how Swedish companies, both large and small, have grown historically (Jagrén, 1988; cf. Eliasson, 1985). He illuminates that the companies constituting the initial foundation of his studies are considerably fewer when compared to 30 or more years later. Growing companies expand not only organically, in fact, company acquisitions are considerable by numbers. Most companies, consequently, in these studies did go bankrupt or where overtaken. Thus, when making such a backcast, as DJSGI is based on, it has to be taken into account that the companies of today are a selection of yesterday's winners. In order to make this index more transparent, it would hence be interesting to study how the backcasting of the DJSGI have influenced the performance, especially the growth of market capitalisation.

Another issue worth mentioning is the fact that the questionnaire is based on company-inherent processes and seems to neglect the products and services that the company sells. It could therefore be questioned whether individual companies of sustainability-problematic industries could be included in such a benchmarking tool as the DJSGI. Is it analytically possible to enclose a life-cycle perspective in such an index? What is measured? It seems like there is not quantitative data on emissions and resources used, regarding companies or their offerings, in the 'sustainability assessment criteria for the DJSGI. Managerial measurements are on the other hand extensively used, keeping account on the number of tools for management and analysis used. We might be comparing apples and oranges and we do not really know what comes first: sustainability-driven companies becoming large or large companies adopting managerial tools for sustainability.

Despite these questions, and despite the bias towards the technology sector and larger corporations, the DJSGI gives an important tool for illuminating world-wide sustainability-driven processes. If the DSGI is to sustain in the long run, however, the index has to become more transparent in making the sustainability of companies transparent.

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