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ESG PRACTICES ACROSS DEVELOPED MARKETS

COMPARISON OF TRENDS ACROSS AMERICAS, EUROPE, AND ASIA

- Measures of ESG (i.e., environmental, social, and corporate governance) risk and accountability are playing increasingly significant roles in investment evaluation processes. Asset managers with a strong ESG philosophy might consider French and British companies as fertile grounds, as our study of ESG ratings in major developed markets ranks them as the No. 1 and 2 countries in this arena. This suggests that French and British firms may experience fewer ESG-cost-related headwinds to their stock prices than companies that are not as far along in implementing ESG practices.

- Based on Thomson Reuters ASSET4's integrated ratings for 2009, Asian markets, in general, and Hong Kong and Singapore in particular, are ESG laggards. This implies few Asia-related opportunities for ESG investors looking for exposure to this region over the short term. However, the region's higher economic growth potential may enable firms to invest more in ESG practices, cushioning ESG-related earnings volatility and cost impact in the long term.

- The level of corporate disclosure of environmental practices is higher for European countries, in general, and for France and Germany, in particular. Countries in North America have the lowest ratings on environmental measures, implying lower disclosure and/or lower adherence to environmental standards.

- UK companies have done well from the corporate governance perspective, helped by a strong regulatory framework and stringent legislation for listed companies, while French companies have shown a greater sense of social responsibility. Japanese companies, however, lag their global peers in developing a strong corporate governance code. Lack of shareholder activism and extensive cross shareholdings among Japanese companies may be impeding strong corporate governance, despite recent reforms.

BACKGROUND

While the idea of socially responsible investing (SRI) has existed for decades, the practice has often fallen short. However, SRI is now gaining renewed vigor in developed economies, as well as making inroads in emerging economies. Sustainability and governance issues are becoming an integral part of asset managers' investment decision-making process. Today, the SRI concept has morphed into "ESG" (environmental, social, and corporate governance), encompassing a much wider agenda. Governments, institutional shareholders, and asset managers, among others, are expressing increasing interest in ESG-conscious investing as environmental concerns rise and as governance issues continue to plague the corporate arena.

Per Exhibit 1, this study examines ESG trends across ten major developed markets. We use ASSET4's company ratings across the Environmental (En), Social (So), and Corporate Governance (CG) pillars for our analysis, and reveal which companies have been the best and worst performers on ESG metrics, based on 2009 data.

Exhibit 1. Country Universe: Developed Markets Covered in This Study

Region	Countries (No. of Companies in Country Universe)
Americas	Canada (250), US (941)
Europe	France (89), Germany (77), Italy (49), UK (592)
Asia Pacific/Oceania	Australia (193), Japan (412), Hong Kong (70), Singapore (39)

Source: Thomson Reuters Proprietary Research.

There are many ways one can use ASSET4 data, including at the company level, sector level, and industry level. In this study, we use the company-level data to analyze differences and similarities across major developed markets.

THE DEVELOPED MARKETS ESG SCORECARD

Exhibit 2 shows performance of the developed markets across the environmental (En), social (So), and corporate governance (CG) pillars, along with an integrated rating (IR) from Thomson Reuters ASSET4. The integrated rating is an equal-weighted score across ASSET4's three ESG pillars, plus an economic pillar, for each of the companies in a nation's universe. The percentages in Exhibit 2 represent the degree to which companies (in aggregate for each country) have implemented ESG policies and initiatives (under each ASSET4 pillar) as identified by ASSET4. The equal-weighted scores for companies are based on their ratings on the En, So, and CG pillars, while the IR rating is the equal-weighted score of all four pillars, including Economic. For example, an IR of 50% for a company shows that it scored 50% based on the ratings on all the four areas mentioned above. The rating is simply the equal-weighted score across the four pillars (see Appendix: Exhibit 1A), with a higher score implying better performance.

Exhibit 2. ESG Performance Across Developed Markets, 2009

Region	Country	IR	En	So	CG
Americas	Canada	39%	32%	32%	63%
	US	48%	40%	43%	54%
Europe	France	74%	77%	77%	51%
	Germany	59%	67%	68%	30%
	Italy	55%	50%	63%	45%
	UK	70%	63%	66%	77%
Asia Pacific/Oceania	Australia	44%	42%	39%	66%
	Japan	40%	63%	50%	12%
	Hong Kong	35%	39%	37%	31%
	Singapore	36%	36%	39%	33%
	Average	**50%**	**51%**	**51%**	**46%**

Source: Thomson Reuters ASSET4. (Data as of July 20, 2010.)

France has the highest 2009 IR (74%) in our developed markets' universe. The French government has played a key role in raising ESG awareness: France's 2001 Law on New Economic Regulations and the 2003 Financial Security Law are some of the country's efforts to strengthen transparency, ethics, and corporate governance. It is not surprising, then, that France tops the list of Europe's largest ESG-conscious markets. Investors seeking ESG-suitable vehicles in European markets may want to consider France, which may have a wider range of such offerings compared to regional peers. The UK is not far behind, with an integrated rating of 70%, and it tops the CG ratings, at 77%.

Viewed at a regional level, Asian markets, in general, and Hong Kong and Singapore, in particular, have been laggards as evidenced from their low and below-average ratings.

On the En pillar, French companies lead the pack, implying higher disclosure. German companies ranked second on this measure. Overall, European markets are ahead of their American and Asian counterparts, spearheading ESG action by enacting some of the more stringent regulations to address growing environmental challenges. For example, the European Commissioner for the Environment plays a key role in initiating and defining new environmental legislation, and ensuring its enforcement among EU members. Investors with a strong environment-friendly investing theme may want to consider this regional difference in their ESG exposure.

Canadian companies rank lowest, at 32%, on the En pillar. The low rating, which largely implies lower disclosure, could be attributed to the lack of legal requirements to disclose environmental data, and the freedom of companies to report on issues "material" to their operations. Further, this low score may stem from the natural resources (a realm rife with pollution-producing activities) orientation of a significant portion of Canadian industry. Also, the relatively large number of smaller companies in ASSET4's Canadian universe is likely to influence the scoring, as small companies, in general, tend to have lower scores than larger companies.

French companies also rank first in better reporting and adherence to socially responsible practices — explaining the country's ranking as Europe's largest SRI-friendly market. The fact that many French companies are committed to the ten principles of the UN Global Compact* also supports our ASSET4 findings.

* The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment, and anti-corruption.

When it comes to corporate governance, UK-based companies top the rankings with a score of 77%. The Financial Reporting Council (FRC) (the UK's independent regulator) has been promoting high-quality corporate governance and reporting to foster investments. The UK Corporate Governance Code, set up by the FRC, applies to all listed companies in the UK and operates on a "comply or explain" basis. In other words, companies either comply with the code or have to explain the manner in which they are acting to promote good governance. This may account for the high rating for UK companies along this pillar.

Japanese companies, on the other hand, score poorly on corporate governance. Compared to other developed markets, Japan has been slow to adopt ESG practices in general. For example, Japanese companies have few independent/outside directors, no standardized guidelines on voting rights/structure of institutional investors, and no formal disclosure of cross-holdings among companies. Hence, Japanese companies have a gap to bridge before they catch up with their global peers in developing a strong corporate governance code. Further, Japan has just 14 signatories to the United Nations Principles for Responsible Investment (UNPRI). This pales in comparison to countries such as the US, UK, and France, which have 111, 97, and 57 signatories, respectively, again highlighting Japan's weak standing on the ESG front. However, Japanese companies have been strong when it comes to reporting environmental data, which is reflected in their higher score on this pillar (as high as the UK).

DEVELOPED MARKETS: ESG AND KEY PERFROMANCE INDICATORS (KPIs)

(*See Appendix: Exhibits 2A, 3A, and 4A for descriptions of the selected KPIs.*)

Developed Markets: Environmental. Exhibit 3 shows the performance of the developed markets by select KPIs under the Environmental (En) pillar, for 2009.

Exhibit 3. Performance Across Environmental KPIs, 2009

		Environmental KPIs				
		Greenhouse Emissions	Waste Recycling Ratio	Energy Use	Renewable Energy Use	Water Use
Americas	Canada	0.00092	0.34	0.00747	0.27	0.01767
	US	0.00105	0.55	0.00354	0.16	0.03106
Europe	France	0.00029	0.60	0.00202	0.04	0.00249
	Germany	0.00026	0.62	0.00191	0.26	0.00416
	Italy	0.00052	0.72	0.00417	0.11	0.03500
	UK	0.00031	0.50	0.00219	0.20	0.00552
Asia Pacific/Oceania	Australia	0.00070	0.56	0.00482	0.14	0.01106
	Japan	0.00026	0.84	0.00356	0.05*	0.00517
	Hong Kong	0.00173	NA	0.00618	NA	0.06194
	Singapore	0.00043	NA	0.00634	NA	NA
	Average	**0.00065**	**0.59**	**0.00422**	**0.15**	**0.01747**

Source: Thomson Reuters ASSET4. (Data as of July 20, 2010.) *Based on data for 5% of sample.
Note: For description of KPIs and their units of measurement, refer to Appendix: Exhibit 2A.

Exhibit 3 reveals the following key points:

Greenhouse Gas Emissions. Hong Kong-based companies are the leading producers of greenhouse gas emissions. On average, companies in Hong Kong release 0.00173 tonnes of carbon dioxide emissions for every dollar of revenue that they generate. The higher emissions may be due to a relatively large number of companies in Utilities in the sample size (about 27% of the total) of Hong Kong companies reporting greenhouse emissions. Further, Hong Kong's high consumption pattern and large volume of imports, in an economy that is predominantly trade-dependent, may also be a contributing factor.

The US takes second place on this KPI. Its high emissions stem mainly from a high level of consumption of petroleum-based fuels, electricity/power generation, and transportation needs. However, the US Climate Change Bill, once approved, could go a long way in curbing these emissions levels and improving energy efficiency.

On the low end of this scale, we see that German and Japanese companies excel in controlling greenhouse gas emissions, each country averaging 0.00026 tonnes of emissions per dollar of revenue.

Waste Recycling Ratio. This metric also gauges the degree to which a nation's corporations are environment friendly. The ratio is calculated by dividing total recycled and reused waste in tonnes by total waste produced in tonnes. The higher the ratio, the more environmentally sound is the reading.

Japan has the highest recycling rate among the developed markets considered in this study. About 84% of total wastes are recycled in Japan, well above the 55% for the US and the 50% for the UK. The higher recycling efforts by the Japanese may be the outcome of the Home Appliances Recycling Law enacted in 2001. Its primary goal is to divert waste from the country's crowded landfills. The law requires retailers and manufacturers to reclaim used air conditioners, televisions, washing machines, and refrigerators, recycle them, and ensure that future products are made from more recycle-friendly materials.

Canadian companies, in aggregate, have the lowest recycling ratio, at 34%.

Energy Use. German companies were the most energy efficient in our universe. They consumed less energy while maintaining high usage of renewable energy sources. For every dollar of revenue they generated, they consumed 0.00191 gigajoules of energy, while their proportion of renewable energy sources (among total energy sources) was the second highest, at 26%. Although Canadian companies also have a relatively high proportion of renewable energy sources (27%), this is offset by a high level of energy consumption (0.00747 gigajoules per dollar of revenue). Canada's higher energy consumption should again be considered in the context of its large mining and resource production, wherein barriers to energy efficiency are inherently higher.

From a regional perspective, Asian companies have, in general, consumed more energy relative to their sales generation, compared to their American and European counterparts.

Water Use. For economical use of water, companies from France take the prize. Their water usage was the most efficient among the countries considered in this study. For every dollar of revenue generated by these companies, their water consumption was 0.00249 cubic meters — while Hong Kong had a high level of water consumption, translating into 0.06194 cubic meters per dollar of revenue.

Developed Markets: Social. Exhibit 4 shows the performance of the developed markets by select KPIs under the Social (So) pillar, for 2009.

Exhibit 4. Performance Across Social KPIs, 2009

Social KPIs						
		Net Employment Creation	**Personnel Turnover**	**Salary Gap**	**H&S Compliance**	**Training Hours**
Americas	Canada	16.24%	11.08%	194	9,949	49
	US	2.03%	11.43%	139	25,532	34
Europe	France	9.52%	13.34%	52	753,564	25
	Germany	14.02%	8.39%	56	2,238	24
	Italy	9.12%	8.95%	93	NA	34
	UK	5.05%	14.84%	56	647,428	26
Asia Pacific/Oceania	Australia	14.44%	18.93%	57	10,537	25
	Japan	4.04%	4.02%*	NA	NA	NA
	Hong Kong	10.45%	6.25%**	127	NA	37
	Singapore	NA	13.58%	NA	NA	NA
	Average	**13.00%**	**11.08%**	**97**	**241,541**	**32**

Source: Thomson Reuters ASSET4. (Data as of July 20, 2010.) *Based on data for 5% of sample; **Based on data for 6.5% of sample.
Note: For description of KPIs and their units of measurement, refer to Appendix: Exhibit 3A.

Exhibit 4 reveals the following key points:

Net Employment Creation. For 2009, Canadian companies led the pack in creating employment opportunities. Net employment created by these companies grew 16.2% over 2008. Australian companies have also done a good job on this measure, achieving 14.4% annual growth. A common feature of these two countries is their rich resource base and commodity-driven economies, which would have largely benefited from a strong revival of demand from emerging markets in 2009, leading to higher job creation. The recession dealt the US a strong blow, as that nation achieved a mere 2% job creation growth in 2009, the year that also saw the US unemployment rate jump to 10%.

Personnel Turnover. Japanese companies show the lowest personnel turnover for 2009, at about 4%, possibly implying better working conditions and job satisfaction, but also possibly reflecting culture. Australia, on the other hand, has a high turnover rate, at 18.9%. Mining operations are especially subject to high turnover, as working conditions can be difficult. The UK also has high turnover (about 15%), possibly suggesting a lack of employee-friendly and talent-retention measures. This is a little surprising, considering that the UK labor market has undergone positive changes in the last few years in terms of increases in employment security, flexible working hours, and improved labor practices. Further, companies in the UK are also characterized by strong labor unions, which make it difficult to terminate employees. The high turnover may therefore reflect a cultural factor in a greater tendency among the British to hop jobs.

Salary Gap. Executive compensation has been a hotly debated topic, with top-level executives often receiving what are perceived to be outsized paychecks and incentives, even during recession. Among the developed markets considered here, North American companies display the widest salary gap, averaging about 170, which means that high-level executives earn about 170 times the pay of the lowest paid worker in these companies. The gap is highest for the Canadian companies, at 194 times, followed by the US, at 139. The high pay rates of many Wall Street and other executives garnered much media attention, particularly when many of these companies resorted to layoffs following the 2007 recession, raising questions about the ethical implications of such pay. French companies, in contrast, have a relatively small salary gap, at 52 times, which may imply higher pay equity and more balanced executive compensation practices. France is the first European country to impose a law curbing bonuses and stock options for executives at companies receiving state aid.

H&S Compliance. Workforce health and safety is another important performance indicator to gauge how employee-friendly and responsible companies are. French companies paid the highest penalties and fines in 2009, amounting to about $753,564, on average, toward settlement of court cases related to workforce health and safety. The country's higher average comes largely on various penalties paid by the French automobile glass-maker Saint Gobain. In 2009, the company paid about $67 million in penalties for workforce health and safety infractions. UK companies, too, have paid high penalties, averaging about $647,428, with the largest offender being BP Plc, and its total penalty of about $189 million, a large part of which went toward the 2005 explosion at its Texas City refinery, an accident that killed 15 workers. BP has been involved in several such incidents over the last few years, most recently in the Gulf of Mexico, suffering an oil spill billed as one of the biggest manmade environmental disasters in history.

Training Hours. Employee training and development forms an integral part of corporate social responsibility. On this front, Canadian companies score highest, with average training hours per employee reaching 49 per year. But the irony is that, as we saw, despite higher training, employee turnover remains fairly high, at about 11%, which, again, may largely be due to the nature of jobs in the natural resources sector. Companies in Germany appear frugal when it comes to employee training, logging only 24 hours per employee per year — perhaps one of the factors in higher employee turnover (14%) at German companies.

Developed Markets: Corporate Governance. Exhibit 5 shows the performance of developed markets for select KPIs under the Corporate Governance (CG) pillar, for 2009.

Exhibit 5. Performance Across Corporate Governance KPIs, 2009

Corporate Governance KPIs						
		Experienced Board	% of Independent Board Members	Total Board Compensation	CG Report	Anti-Takeover Devices
Americas	Canada	7.5	75%	1,222,926	5	1
	US	8.8	79%	1,920,675	3.2	2
Europe	France	6.3	52%	740,028	3.8	3
	Germany	5.1	57%	1,613,610	4.1	1
	Italy	4.3	49%	2,939,944	4	NA
	UK	6	53%	701,350	3.4	2
Asia Pacific/Oceania	Australia	5.8	66%	886,331	2.8	1
	Japan	6.4	10%	637,939	1.7*	1
	Hong Kong	10.1	38%	846,362	4.8	0
	Singapore	7.8	58%	1,576,654	4.3	NA
	Average	**6.8**	**54%**	**1,308,582**	**4**	**1**

Source: Thomson Reuters ASSET4. (Data as of July 20, 2010.) *Based on data for 3.5% of sample.
Note: For description of KPIs and their units of measurement, refer Appendix: Exhibit 4A.

Exhibit 5 reveals the following key points:

Board of Directors Experience. Companies in Hong Kong have boards with highly experienced members, with each board member being on board for an average of ten years. This could be one of the key factors attracting foreign companies to Hong Kong's capital markets, supporting its status as an international financial center. US companies also have fairly highly experienced board members, evident from the nation's long-held status as a global financial power. At the other end of this scale, boards of directors in Italy possess less experience, averaging 4.3 years.

Independent Board Members. US companies have the highest percentage of independent members sitting on boards, at 79%, implying a higher degree of standards and professionalism. In contrast, Japanese companies, on average, have only 10% of board members who are independent, which may largely be due to an existing regulatory framework governing board structure and function. The Corporate Law of Japan, which applies to all listed companies, requires that companies have either a board of auditors or specified committees. And a company with corporate auditors is not required to have outside directors who meet any independence requirements.

Despite recent changes and efforts to improve the regulatory framework and corporate governance code in Japan, a lack of shareholder activism and extensive cross shareholdings seem to be the stumbling blocks in achieving higher corporate governance standards. Further, the definition of "outside director" in Japan's Companies Act is found to be very weak and often confusing. Japan's relatively poor governance practices and weak regulatory framework is well documented in academic research and surveys. The Asian Corporate Governance Association's 2008 white paper notes that Japan is the only major Asian market that does not establish minimum requirements for an audit committee or independent directors. Further, Japan was rated 35th among 39 nations ranked in a 2009 survey by Governance Metrics International (GMI), a corporate governance research and rating firm.

Total Board Compensation. In 2009, boards at Italian companies received the highest compensation, averaging about $2.9 million. This is higher than their American counterparts ($1.9 million), who have traditionally been leading this show. Historically, American boards received hefty pay, with a large part of their compensation tied to stock options and bonuses. Even recessionary periods saw these executives pocketing substantial bonuses and severance packages. The Obama administration imposed restrictions on the executive pay at large companies that were bailed out by the government. This, along with falling stock prices, may have resulted in a fall in US board compensation in 2009. Japanese total board compensation was the lowest in the group, at about $0.6 million, on average, in 2009.

Corporate Governance Reports. Canadian companies have the most established track record in publishing corporate governance reports. These companies have issued such reports continuously over the last five years, indicating better disclosure and reporting practices. Only a few Japanese companies have been reporting on corporate governance for only the last 1.7 years, while, for a majority, disclosure levels remain quite low. Japan's less-developed regulatory framework and weaker law on corporate governance might explain this.

Antitakeover Provisions. Companies in Hong Kong have the fewest antitakeover mechanisms, possibly implying that they are more open to mergers and acquisitions. French companies, on the other hand, have more antitakeover measures, averaging about three, making it more difficult for prospective buyers. French companies have been a little more overt in their economic nationalism rhetoric compared to European counterparts. Further, EU merger regulations, especially pertaining to takeovers, contain exemptions and leeway for member states to adopt various antitakeover defenses. Arcelor's takeover by Mittal Steel in 2005, and the merger of the NYSE and Euronext in 2006, each met with stiff resistance from the French government and company boards, reinforcing France's closed approach to foreign takeovers. This finding could be of interest, particularly to sell-side investment banks advising on M&A deals, and to prospective acquirers/investors interested in buying stakes.

CONCLUSION

Environmental, social, and corporate governance issues are increasingly gaining attention from all types of stakeholders, ranging from government to media to investors and asset managers. As more asset managers assess ESG exposure, and even use it as a basis for investing, it becomes important to understand and evaluate the degree to which ESG efforts can be maintained, creating long-term value, while reducing risk.

Based on our research, we find that France is the most ESG-conscious among the universe of developed markets considered in this study. A strong regulatory framework, along with a greater commitment from French companies to the principles of the UN Global Compact, help make it Europe's largest SRI (socially responsible investing) market, placing it at the forefront for promising ESG-centric investment opportunities. Elsewhere, at a regional level, Asian markets appear laggards from an overall ratings perspective.

The level of reporting and disclosure on environmental practices/standards is higher for European countries, in general, and for France and Germany, in particular. Countries in North America have the lowest ratings (averaging 36% [versus 64% for European countries]) on environmental measures, implying lower disclosure and/or lower adherence to environmental standards. This regional difference may be of importance to fund managers focused primarily on investing in environment-friendly countries/companies.

On corporate governance standards and reporting, UK companies excel relative to global peers, while French companies perform well in terms of reporting and adhering to socially responsible practices. Japanese companies, however, have a long way to go before catching up with their global peers in developing strong corporate governance codes.

When it comes to companies with higher disclosure on ESG practices, the UK tops the list, claiming 50% of the top ten companies. This should come as no surprise, given the fact that European companies, and, in particular, the UK-based ones, have been ESG pioneers, active on this front for some time (Exhibit 6).

Exhibit 6. Top 10 Companies by ESG Rating Among Developed Markets

Top 10		
Company	**Country**	**ESG Score**
Astrazeneca PLC	United Kingdom	96%
Texas Instruments Inc	United States	96%
Glaxosmithkline PLC	United Kingdom	96%
General Electric Company	United States	95%
Australia And New Zealand Banking Group	Australia	95%
RSA Insurance Group PLC	United Kingdom	95%
Cisco Systems Inc	United States	95%
Whitbread PLC	United Kingdom	95%
Stockland	Australia	94%
Sainsbury (J) PLC	United Kingdom	94%

Source: Thomson Reuters ASSET4. (Data as of July 20, 2010.)

Not surprisingly, all ten companies with the lowest ESG scores are from Japan (Exhibit 7), supporting our findings that Japan lags behind in corporate governance and social practices, leaving lot of room for corporate and regulatory overhaul.

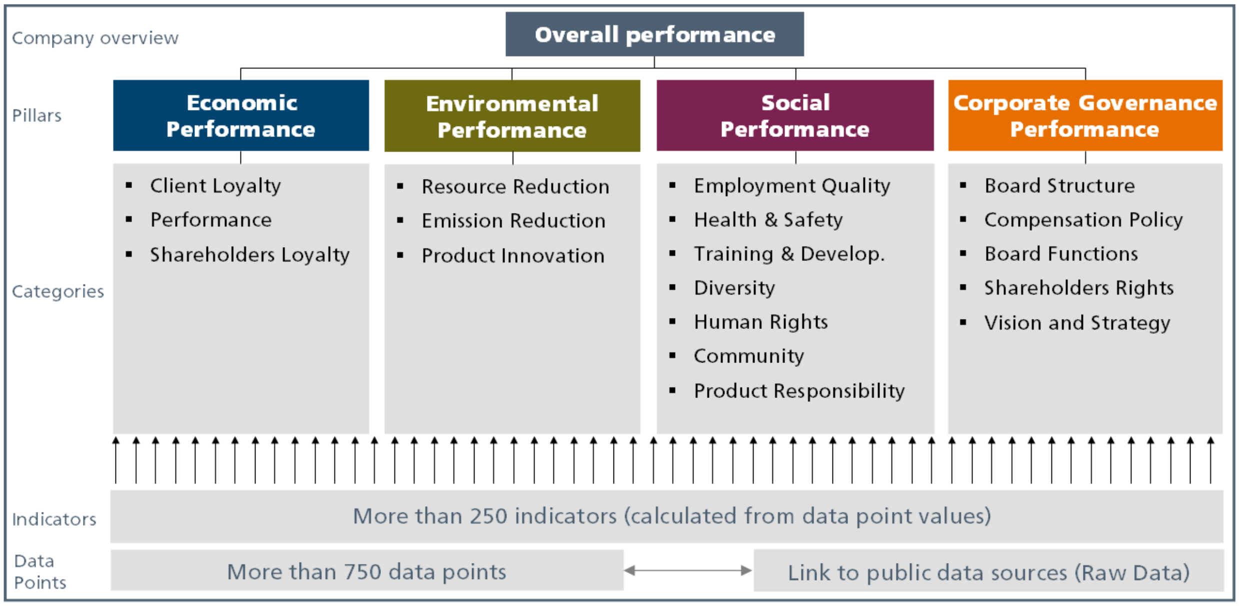
Exhibit 7. Bottom 10 Companies by ESG Rating Among Developed Markets

Bottom 10		
Company	**Country**	**ESG Score**
Marui Group Company Limited	Japan	5%
Shimamura Company Limited	Japan	5%
Shimachu Company Limited	Japan	5%
UNY Company Limited	Japan	5%
Oracle Corp. Japan	Japan	5%
Japan Retail Fund Investment Corp.	Japan	5%
Japan Real Estate Investment Corp.	Japan	5%
Sankyo Company Limited	Japan	5%
Round One Corporation	Japan	5%
Toho Company Limited	Japan	5%

Source: Thomson Reuters ASSET4. (Data as of July 20, 2010.)

APPENDIX

Exhibit 1A. ASSET4 Default Data Structure



Source: Thomson Reuters ASSET4.

Exhibit 2A. Environmental KPI Definitions

Environmental	
KPI	**Definition**
Greenhouse Gas Emissions	Total direct (produced internally) and indirect (from delivered energy) emissions of CO2 equivalents in tonnes divided by net sales or revenue in US dollars. CO2 equivalent from direct emissions in tonnes CO2 equivalent from indirect emissions in tonnes Direct emissions of CO2 in tonnes Direct emissions of CH4 in tonnes Direct emissions of N2O in tonnes Direct emissions of HFCs in tonnes Direct emissions of PFCs in tonnes Direct emissions of SF6 in tonnes Indirect emissions of CO2 in tonnes Indirect emissions of CH4 in tonnes Indirect emissions of N2O in tonnes Indirect emissions of HFCs in tonnes Indirect emissions of PFCs in tonnes Indirect emissions of SF6 in tonnes
Waste Recycling Ratio	Total recycled and reused waste produced in tonnes divided by total waste produced in tonnes.
Energy Use	Total direct (produced internally) and indirect (delivered) energy consumption in gigajoules divided by net sales or revenue in US dollars. Total direct energy consumption in gigajoules= Electricity/heat produced by the company in gigajoules Total primary fossil energy in gigajoules Coal in gigajoules Natural gas in gigajoules Petroleum products in gigajoules Crude oil in gigajoules Total primary renewable energy in gigajoules Biomass in gigajoules Solar in gigajoules Wind in gigajoules Geothermal in gigajoules Hydro in gigajoules Nuclear energy in gigajoules Total indirect energy in gigajoules= Electricity in gigajoules Steam/cooling from district heating plant in gigajoules
Renewable Energy Use	Total of renewable energy sources divided by total energy sources. Total primary renewable energy in gigajoules= Biomass in gigajoules Solar in gigajoules Wind in gigajoules Geothermal in gigajoules Hydro in gigajoules
Water Use	Total water use in cubic meters divided by net sales or revenue in US dollars.

Source: Thomson Reuters ASSET4.

Exhibit 3A. Social KPI Definitions

Social	
KPI	**Definition**
Net Employment Creation	Employment growth over the last year, expressed numerically.
Personnel Turnover	Personnel turnover, expressed numerically. Percentage expressed numerically of personnel leaving the company
Salary Gap	CEO's total salary (or other highest salary) divided by average wage. Highest Salary (US$) / (Salaries and Benefits in (US$) / Total Number of Employees)
Health & Safety Compliance	Total in US dollars of all actual penalties and fines from lost court cases or settlements for current controversies linked to workforce health and safety, as well as, all estimated penalties and fines from such cases not yet settled.
Female Male Ratio	Percentage of women managers.
Donations in Cash	Total cash or in-kind donations divided by net sales or revenue.
Training Hours	Average hours of training per year per employee.

Source: Thomson Reuters ASSET4.

Exhibit 4A. Corporate Governance KPI Definitions

Corporate Governance	
KPI	**Definition**
Experienced Board	Average number of years each board member has been on the board.
Percentage of Independent Board Members	Percentage expressed numerically of independent board members as reported by the company (whereas the company stipulates that there is no significant institutionalized interest link between the company or the executives and the independent board members).
Board Member Compensation	Total compensation of all board members in US dollars.
Corporate Governance Report	Number of years (including the current) the company has published a separate corporate governance report
Anti-Takeover Devices	How many more than two of the following anti-takeover devices has the company put in place? 1) Issue of authorized share capital (shareholder rights plan) as a ?poison pill?, 2) Blank check (right to create a class of un-issued shares of preferred stock), 3) Classified or staggered board structures, 4) Supermajority vote requirement or qualified majority, 5) Dual class stocks with different voting rights, 6) Golden parachute or other restrictive clauses related to changes of control, 7) Limitations of voting rights (control share acquisition provision), 8) "Fair-Price " provisions or amendments (appraisal rights), 9) Anti-greenmail provisions, 10) Limitation of rights to call special meetings, 11) Reduction or elimination of cumulative voting of board members, 12) Granting of additional preemptive rights to existing shareholders, 13) Significant cross shareholding which can prevent takeovers, 14) Companies without confidential voting policy (e.g. management can view the results of shareholder votes), 15) Others (opting out of restrictive takeover laws like control share cash-out provision, reincorporation in regions which discourage takeovers, etc.)

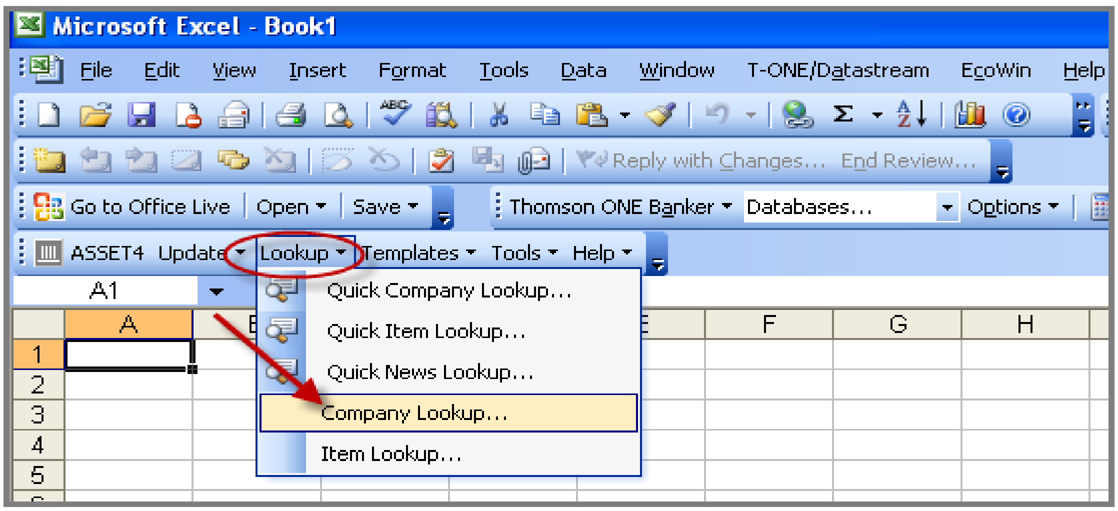
Source: Thomson Reuters ASSET4.

DO IT YOURSELF: RECREATE THIS ANALYSIS IN ASSET4

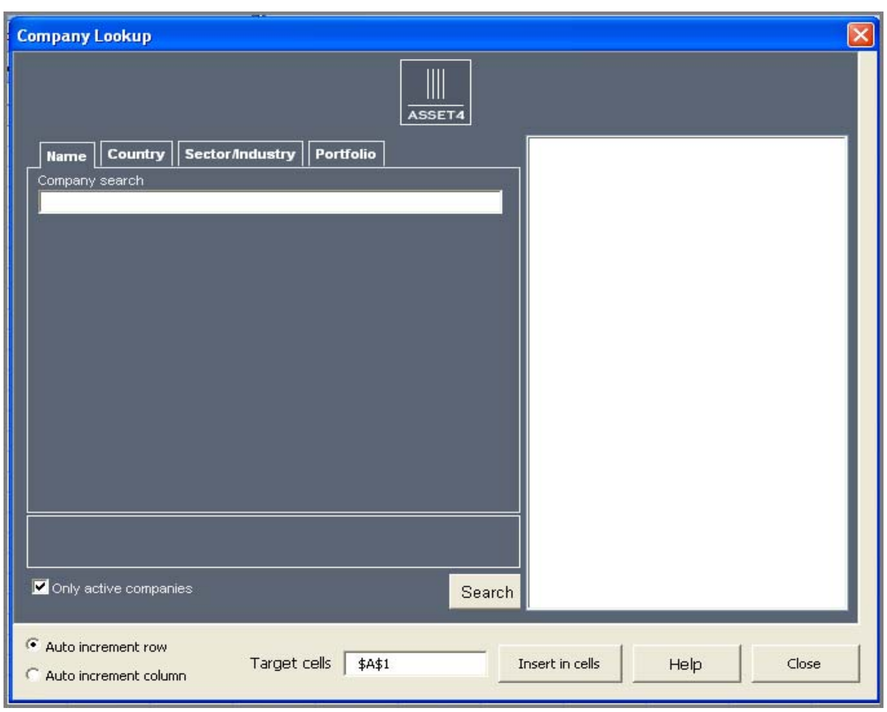
Using ASSET4 data, you can do lot of analysis and comparison, build your own portfolio and company reports among other features. At the foundation of the assetmasterProfessional system are 750+ data points that are gathered and verified for every company in the ASSET4 universe. It is from these data points the 250+ key performance indicators (KPIs), 18-category and 4-pillar structure is built.

You can use ASSET4's web-based application for pulling single-time/static data on company ratings. For historical and time series data, you will have to use the ASSET4 Add-in tools which allows accessing data from the assetmasterProfessional database directly in your Microsoft Excel worksheets. In this section, we will show you how to pull data using Excel add-in functions of ASSET4.

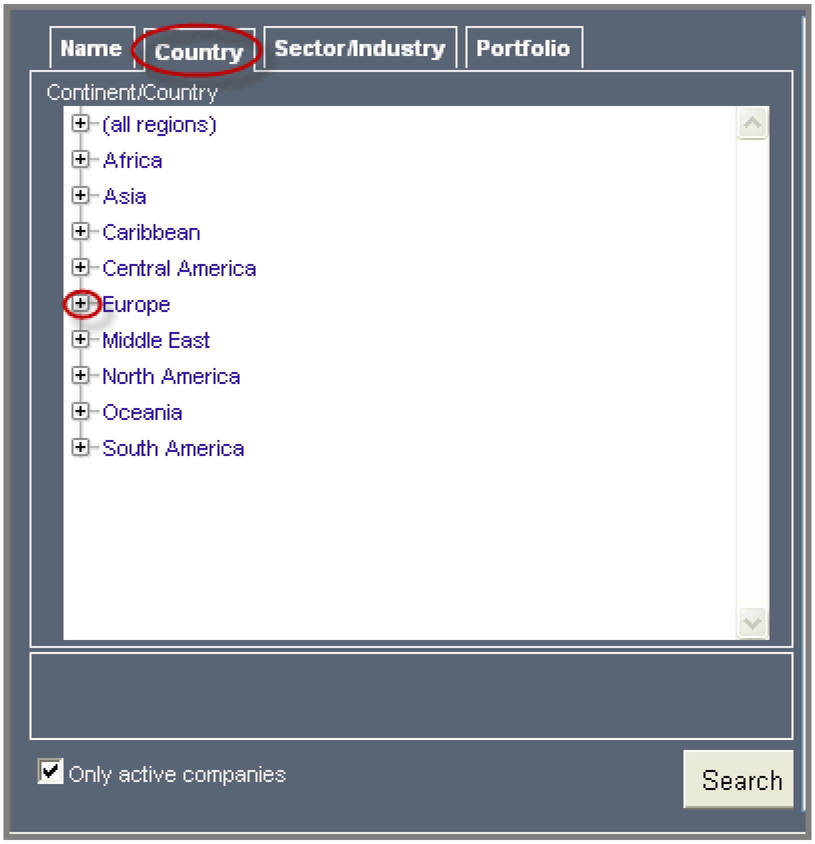
1. First, you will need to download the companies for a particular country, let's say France. To do this, go to the Lookup function on ASSET4 toolbar and from the drop-down menu, choose Company Lookup. See image below.



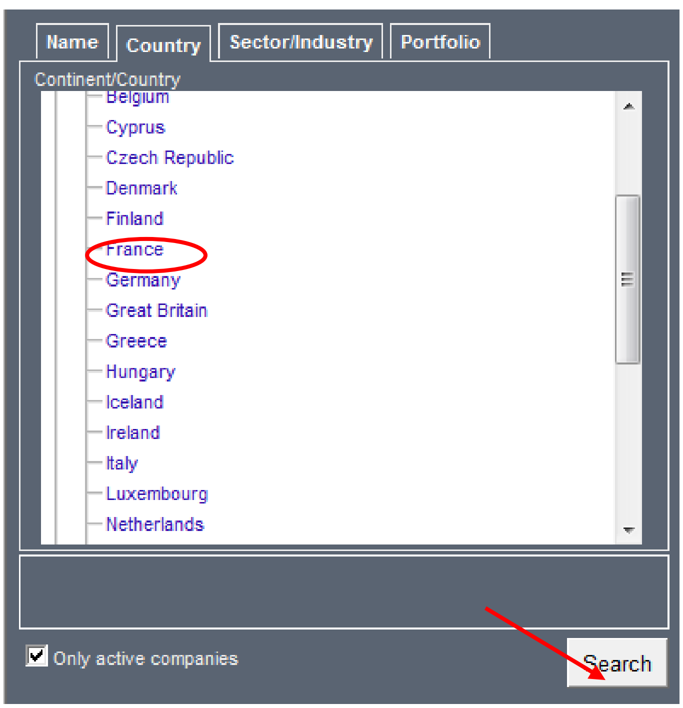
You will now see a window like the one shown below.



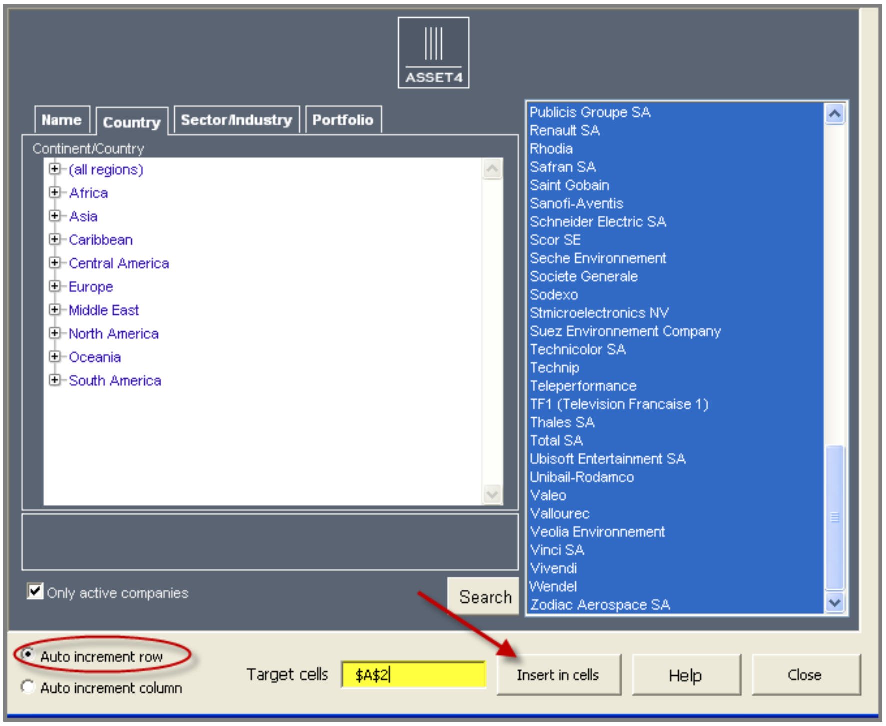
2. Once you see this, click on the Country tab and you will see names displayed by continents. See image below.



3. Now expand on the box with the '+' symbol (see image above) to see the names of countries under a particular continent. Then from the list, click on the country on which you want data for (in this case France). The country name gets highlighted. Next click on Search. See image below.



4. On doing this, it will show the names of all companies belonging to France covered by ASSET4. Select all the companies and then select the target cell where you want to copy these in your worksheet. Make sure that the Auto increment row option is active. Then click on Insert in cells. You can then choose to Close the window.



You now have a list of all companies for which you will have to download the ASSET4 ratings and KPI-level data. You can do these using simple functions through Add-In.

5. We will first show you how to pull ratings data at the pillar level. The Add-In functions recognize codes for each of the pillars, categories, KPIs and data points. As such, you first have to keep the codes ready. The codes for Integrated Rating, Environmental, Social and Corporate Governance pillars are IR, En, So and CG respectively. Enter these in cells D1 to G1. The year considered is 2009, so you will have to fix a cell (C1) for this. Once you have the reference cells ready, you can pull the ratings data and also the names of the company using the functions explained below.

To get the names of the companies, use the function A4GetInfo; this function retrieves information about companies, indicators, data points, rating nodes, portfolios and news channels. The parameters are as below:

code	Company Code , Equal Weighted Rating, Pillar, Category, Indicator, Data Point, Portfolio Code, News Channel Code
property_name	Name of attribute to retrieve, if omitted defaults to *name.* The list of all valid properties is defined below
index	Optional argument; used to retrieve information about a specific list element in a data point closed list

For example,

A4GetInfo ("A4_00372", "name") returns the name of the company with company code "A4_00372" which is Accor. Similarly copy the formula for all the cells that have company codes and then update them using "Update Selected Cells" option on ASSET4 toolbar.

In order to get the pillar-level ratings/scores, you will have to use the function A4GetValue, which returns the value of a rating node, indicator or data point for the specified year and company or portfolio. The parameters of this function are explained in the following table:

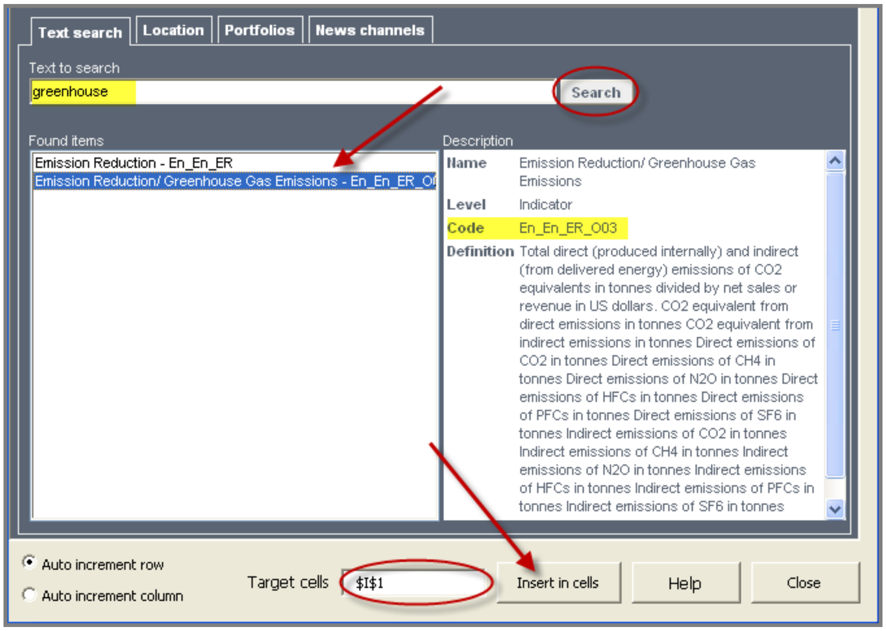
code	ASSET4 Equal-Weighted Rating Code, Pillar Code, Category Code, Indicator Code, Data Point Code, MyRating Node Code or MyIndicator Code
company_code	Company code or Portfolio code
year	Optional: the fiscal year the value belongs to. If it is not specified, the latest available data will be returned.
index	Optional; if specified is used as element index for an open or closed data point list
value_type	Optional; if specified is used to indicate the type of value. The list of all valid value types is defined below.
value_year	Optional; if true, the year of the latest available data will be returned. The default value is false.

For example, using our reference cells, A2 (company code for Accor), C1 (year 2009) and D1 (Integrated Rating code), the formula returns 94%. Likewise, copy and update the rest of the cells.

The function returns the value, the score, the rank, the grade or the number of elements of the specified rating node or data point. In our study since we used scores at the pillar level, remember to choose "score" for the parameter "Value_type".

In a similar manner, download ratings/scores for the three pillars using the codes: En, So and CG.

6. Next, you will have to pull KPI-level data. This is very similar to the procedure involved in pulling pillar-level data, but for the fact that you will now be considering actual "values" as against the "scores" considered at the pillar level. You will need to have the codes for the KPIs that you want to include; you can do this by selecting Item Lookup from the drop-down menu of Lookup on ASSET4 toolbar. This will bring up a window like the one below. Type the name of the KPI in the Text to search box and click Search. For example, if you are looking for greenhouse gas emissions, type one (or all) these words. It will bring up all options containing these words. Select the one that fits your requirements. In this case we select En_En_Er_O03. See image below. Then select the target cell and click Insert in Cells.



Once you have the reference cell with the KPI code, use the function A4GetValue explained in step 5 to get the KPI value. However, since we are taking actual values (and not scores), make sure to leave the "value_type" parameter in the function blank, as it returns to value by default.

Similarly copy and update the formula for all cells containing codes. You now have the KPI value on greenhouse gas emissions for all the French companies for the year 2009.

Likewise, you can download values for other KPIs considered in this report.

ABOUT ASSET4

As the leading provider of ESG information on over 3,200 companies globally, ASSET4's primary mission is to collect materially relevant ESG data, to ensure its consistency and reliability, and to provide investors with a series of tools to benchmark relative performance and thereby integrate the data into their financial valuation models. In providing this, ASSET4 allows investors to understand the impacts that particular ESG variables can have on the financial bottom line and thereby to create screening analysis and frameworks that truly integrate financials and extra financial information determining long-term valuations and risks.

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