

Who does what where? 2012 WDWW Primer Update

An objective, quantitative approach to ESG analysis

In March 2011, we published our first “Who does what where” (WDWW) [Primer report](#), a technical guide for a geographic risk screening tool which matches country risk across long shelf-life ESG (environmental, social, governance) themes with geographic exposure for companies. This 2012 WDWW Primer Update builds on our objective, quantitative approach to ESG analysis with some minor changes including the introduction of a number of new themes (all changes are outlined in the Appendices).

28 long shelf-life risks

We have added seven new or self-standing ESG themes to the existing 21 – all of which we identify as “long shelf life” issues influencing long-term financial risk and performance. The new themes are: 1) *Environmental*: Energy Dependence, Pollution, Resource Depletion; 2) *Social*: Demographics – Life Conditions, Demographics – Dynamics, Labour Issues, Social Protection; and 3) *Governance*: Financial Stability.

Company geographic exposure to ESG risks

The 28 WDWW ESG themes are built upon 172 macro indicators based on publicly disclosed data from a number of international organisations. Using these macro indicators, we have scored and ranked 214 countries globally. We have then matched these country scores across our 28 ESG themes against the geographic breakdown of company sales and assets – and a newly introduced measure of operating income. This allows us to screen and correlate relationships between sales exposure and country risk for c. 5,000+ stocks in our database.

WDWW ESG risk screening

WDWW can be used to screen their portfolios on any combination of our 28 ESG themes, 172 indicators, 214 countries, 54 regions or areas, and sector or benchmark financial index – across the c.5000+ companies, according to various investment perspectives, needs and styles, and risk appetites.

WDWW Primer, a technical guide

In this 2012 WDWW Primer Update report, we present and discuss our updated methodology including our overall objectives, sources, indicators, themes, criteria, scoring process and how we deal with missing country or company data. This report is intended to be used as a methodological tool or technical guide and read in conjunction with future WDWW reports which will build upon the findings across different ESG themes and the impacts that this may have on countries, regions, sectors and stocks.

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Table 1: WDWW – 28 long shelf life issues

ENVIRONMENT	
Climate Change	Pollution
Energy Dependence	Resource Depletion
Energy Efficiency	Water Infrastruct. Needs
Energy Infrastruct. Needs	Water Scarcity
SOCIAL	
Demographics – Life	Human development
Demographics - Dynamic	IT/Telco Infrastruct. Needs
Economic Inequality	Lifestyle Risks
Education	Labour issues
Employment	Social Protection
Food Issues & Needs	Security
Health issues & Needs	Transport Infrast. Needs
Human capital	
GOVERNANCE	
Business Rights	Financial Stability
Corruption	Political Effectiveness
Democratic Life	

Source: BofA Merrill Lynch Global Research

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Refer to important disclosures on page 43 to 44. Link to Definitions on page 42.

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2012 Update of the BofAML “Who does what where” (WDWW) geographic risk screening tool

Important note

This methodology is not designed to produce a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances and objectives before making any investment decisions.

Investors are looking for more quant. ESG analysis

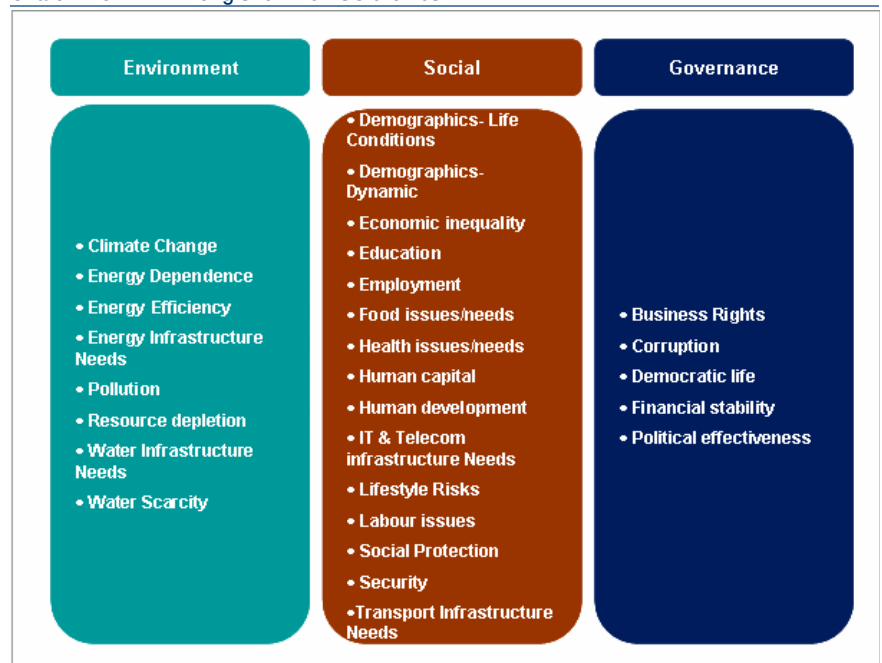
In our view, investors increasingly recognise that ESG (environment, social and governance) factors influence long-term financial performance. We believe that, in addition to qualitative assessments, investors need to move towards more quantitative approaches to ESG analysis

In this “Who does what where” (WDWW) 2012 Primer Update report, we propose an update of the methodology for WDWW, which is part of an on-going series of reports and tools to apply Quant ESG & Sustainability analysis across BofA Merrill Lynch Global Research’s coverage. A summary of the changes can be found in Appendices 1 and 2.

28 long shelf-life ESG risks

We have started with the theme of geographic exposure to ESG risks. We have now identified 28 broad ESG themes: Environmental (x8), Social (x15) and Governance (x5), which we believe are long shelf-life issues which can and will increasingly influence long-term financial risk and performance.

Chart 1: 28 WDWW long shelf life ESG themes



Source: BofA Merrill Lynch Global Research

Company geographic exposure to ESG risks

Our current 28 WDWW ESG themes are built upon 172 macro indicators (vs. 126 in the prior version) using data from a number of international organisations. Using these macro indicators, we have scored and ranked 214 countries globally (vs. 205 in the prior version). We have matched these country scores across our 28 ESG themes against the geographic breakdown of company sales and assets as well as a newly introduced factor of operating income. This allows us to screen, correlate relationships between sales exposure and country risk for the c.5,000+ stocks in our database.

WDWW ESG risk screening

WDWW can be used to screen portfolios on any combination of 28 ESG themes, 172 indicators, 214 countries, 54 regions, sector or benchmark financial index – across the 5,000+ companies, according to any number of investment perspectives, needs and styles, and risk appetites.

2012 WDWW Primer Update

In this 2012 WDWW Primer Update report, we present and discuss our updated methodology including our overall objectives, sources, indicators, themes, criteria, scoring process and how we deal with missing country or company data.

This report is intended to be used as a methodological tool or technical guide and read in conjunction with on-going WDWW reports which will build upon the findings across different ESG themes and the impacts that this may have on countries, sectors and stocks.

WDWW methodology, a 3-step model

The WDWW screening consists of three major steps:

- 1) **Country data compilation on ESG themes** – We identify, collect and assign publicly available data available from a number of international organisations on a country by country basis for 214 countries. We have selected 172 indicators across 28 Environment, Social and Governance themes.
- 2) **Country and region scoring** – Once collected, all of the country ESG data are normalised on a common scale ([0 – 100]) before being aggregated per criteria. Average scorings are also calculated for 54 major geographic areas (i.e. EMEA, Asia Pacific etc.).
- 3) **Matching country and regional scores with companies' geographic sales, assets and operating income breakdown** – The final step involves matching country and region scores across our 28 ESG themes with sales, assets and operating income geographic segments as reported by the companies. We assign a relevant geographic scoring per theme and a final thematic score is calculated, on a sales- asset- and operating income-weighted basis.

1) Country data compilation on 28 ESG themes

Our 28 ESG themes are listed individually in the table below

Table 2: 28 WDWW ESG themes*

ENVIRONMENT	SOCIAL	GOVERNANCE
CLIMATE CHANGE	DEMOGRAPHICS - LIFE CONDIT.*	BUSINESS RIGHTS
ENERGY EFFICIENCY*	DEMOGRAPHICS- DYNAMICS*	CORRUPTION
ENERGY INFRASTRUCT. NEEDS	ECONOMIC INEQUALITY	DEMOCRATIC LIFE
ENERGY DEPENDENCE*	EDUCATION	FINANCIAL STABILITY*
POLLUTION*	EMPLOYMENT*	POLITICAL EFFECTIVENESS
RESOURCE DEPLETION*	FOOD ISSUES & NEEDS	
WATER INFRASTRUCT. NEEDS	HEALTH ISSUES & NEEDS	
WATER SCARCITY	LIFESTYLE RISKS	
	HUMAN CAPITAL	
	HUMAN DEVELOPMENT	
	IT INFRASTRUCTURE NEEDS	
	LABOUR ISSUES*	
	SECURITY	
	SOCIAL PROTECTION*	
	TRANSPORT INFRASTR. NEEDS	

Source: BofA Merrill Lynch Global Research. * Newly introduced or newly self-standing theme.

The 28 themes broadly reflect international commitments like the U.N.'s Millennium Goals (<http://www.un.org/millennium/declaration/ares552e.pdf>).

Selection of data and indicators

In creating this product, we have reviewed data publicly disclosed by various international organisation sources including: Aquastat, the Food and Agriculture Organization (FAO), the International Labor Organization (ILO), the International Monetary Fund (IMF), the United Nations family, the World Bank and the World Health Organization (WHO), among others. However, any and all interpretation and analysis of this data for the WDWW geographic screening model is entirely undertaken by BofA Merrill Lynch Global Research.

With our selection of these 172 indicators, we recognise the potential imperfections in our model – i.e. we know that we have not covered all possible topics, nor have we eliminated partially or fully correlated indicators. However, we believe we have eliminated many redundancies between the sources, selecting the source with the best coverage in terms of year of coverage and number of countries covered.

The list of indicators for each ESG theme may change in time, depending upon availability of data and country coverage. Some indicators may be added, others may be dropped. Most indicators are made available on an annual basis, but without any obligation to make them available in the future. We note that while the “ingredients” may change in time, we do not believe that this will detract from the underlying analysis – and should in fact, facilitate screening for new ESG issues and risks.

Missing data on indicators

The data we have used are not 100% comprehensive for all 214 countries across our 28 ESG themes and 172 indicators. When a piece of data is missing, it is replaced by the average of its broad geographic region (vs. not being replaced by any estimates, as was the case in the previous version). Full disclosure of the proportion of data for each indicator is provided further below.

2) Country and region scoring on ESG Common, harmonised scale

We have translated our 172 indicators into a score ranging from 0 to 100. In our model, zero is used to represent the lowest possible performance (higher ESG risk) and 100 the highest possible performance (lower ESG risk).

Scoring direction

When an indicator is interpreted negatively, the scoring is reversed – i.e., the highest performance (lower ESG risk) scores 100, while the lowest performance (higher ESG risk) is scored 0.

Scoring formula

To keep things simple, we have replaced the previous median formula with a “percentile rank formula”. For instance, a country ranking in the second best percentile will be ranked 99. The [0-100] scale formula that we use for this purpose is:

- If the indicator is interpreted positively, then

$100 * \text{PERCENTILE RANK (Initial Data series for the indicator, initial data point)}$

- if the indicator is interpreted negatively, then

$100 - 100 * \text{PERCENTILE RANK(Initial Data series for the indicator, initial data point)}$

With this formula, we can translate any unit (% , number, US\$, degrees Celsius, mm, km, etc.) into the same common unit. The formula is designed so that:

- The minimum of the sample always gets 0
- The maximum of the sample always gets 100

The percentile rank formula is simpler and gives systematic results: Max at 100, Min at 0, Median at 50, standard deviation at 16, and no gaps in the scoring scale. The one potential concern with the formula is that the scoring distribution does not mirror the raw data distribution. The rankings are maintained but not the distances between the raw data. However we believe that simplicity and systematic use outweighs this limitation.

However, we cannot guarantee with this formula that the distribution of the scores will follow a normal “Gaussian” distribution. The ranks are conserved as well as the gaps, at least between the minimum and the median scores on the one hand and the maximum and the median scores on the other.

Scoring missing data

As a new rule, when any initial country data is missing, we have decided to replace it by the average raw data of the relevant geographic region including the country for which the data is missing. Examples of such geographic regions are North America, South and Latin America, Europe, Asia, Oceania, Africa and the Middle East. In cases where the average of the geographic region is also missing, we use the median of the whole indicator data series to score that country.

We may from time to time revise our judgment on the necessity to assign scorings when data are unavailable.

Country scoring process: theme, criteria & generally

Once all 172 indicators have been scored, they are aggregated into thematic scores, based on the allocation of relevant indicators to each of our 28 ESG themes. This is done through arithmetic averages.

Indicator weighting

All indicators are equally weighted.

Missing indicator scoring

When a country has no scoring for a particular average, the indicator is not taken into account in the average calculation. We believe that there are enough indicators and that the likelihood of having all void indicators for the same theme and the same country is extremely low. However, if and when the case happens, a default aggregated geographic scoring is assigned to the country.

Criterion level

We use three broad themes in our methodology: Environmental, Social and Governance (ESG). All themes are aggregated according to their criterion categorisation and on geometric mean basis. As all countries have at least a by default geographic scoring at sub-indicator level, we do not have to deal with the question of missing data.

Again at criterion level, the three E, S and G scores are each normalised using a percentile rank formula [on a 0-100 basis] so as to guarantee a fair aggregation at the final level.

General level

For all companies, the 3 scorings at criterion level (E+S+G) are aggregated using geometric mean (vs. previous average (equally-weighted) method)).

Finally, the overall score is normalised using percentage formula [on a 0-100 scale] with the same simplified formula.

Results of the scoring aggregation process

Following through with these rules, we arrive at the following results:

- All initial data are translated into scorings on a [0-100] scale
- A higher scoring always represents “better” from an ESG standpoint
- The max and the min scorings are in the [0 – 100] limits
- Average scorings tend to get close to 50 but may vary slightly
- Scorings per theme are done independently but may be inter-correlated to some degree
- Missing data do not prevent scorings, but may have a minor influence on country scoring at a low level
- Scorings can be reversely translated on the original scale, for each indicator

54 regional ESG scorings

Once all 214 countries have been scored as above, we proceed to regional scoring. By regional scoring, we mean scoring for regions – mainly continental areas or sub-areas – according to the scorings of the countries they include. This is necessary as company disclosure of sales, operating income and assets on a geographic basis is not always done on a systematic country by country basis, but frequently on a region or sub-region basis. Country scorings are aggregated on a GDP-PPP (purchasing power parity) based or on a population-based weighting. For Environmental and Governance themes, we have used GDP-PPP as the weighting key, while for the Social theme, we have weighted scores by population.

We have expanded our regional coverage to include the following 54 regions/areas which are the most widely adopted by companies. They allow us to match corporate geographic disclosure when geographical exposure is disclosed on a regional level and not a country level.

54 major regions/areas scored in the WDW model

Americas	Europe	Asia	Other	Other
North America	Europe	Asia Pacific	World	G20
South America				ILO Freedom (Conv. 87 + 98)
Latin America	Western Europe	Asia	ROW	ILO Forced Labour (Conv. 29 + 105)
Central America	EU	Asia Ex Japan	EMEA	ILO Discrimination (Conv. 100 + 111)
Caribbean	Central Europe	Asia ex China	EMEA ex Europe	ILO Child labour (Conv. 138 + 182)
Americas	Eastern Europe	Asia ex India	Middle East	
		Asia ex		
	Latin Europe	India/China/Japan	Arabic World	OECD Tax Havens
Latin America &	Scandinavia	Asia Pacific ex	Africa	OPEC

54 major regions/areas scored in the WDWW model

Americas	Europe	Asia	Other	Other
Caribbean		Australia		
	Baltic	ASEAN	Africa (Sub-Sahara)	Very High Human Development
	Eurozone	Central Asia	OCEANIA	High Human Development
	Central & Eastern Europe	East Asia & Pacific	BRIC	Medium Human Development
		South Asia	BRICSAT	Low Human Development
			Emerging Countries	Arab States
			OECD	EU & Central Asia

Source: BofA Merrill Lynch Global Research

3) Matching country and regional scores with companies' geographic sales, operating income and assets breakdown

Principle: sales-weighted, asset-weighted & operating-income-weighted scoring

Once a country / region is scored on all of our 28 ESG themes, we score companies by linking their sales and assets exposure – and a new operating income exposure measure - to the weighted scores of their geographic footprint. When a company discloses its presence in one specific country, the country specific score is assigned. In other cases, this process will involve aggregating regional or continental geographic scores (i.e. population-weighted or GDP (PPP)-weighted scores for Asia-Pacific, Europe, Latin America etc.) when companies do not systematically disclose sales, assets or operating income data on a country by country basis.

Case study example

In the following table we show how we match country scorings (e.g. France) with a company's breakdown of sales. In this case, France accounts for 15% of the company's sales – and the France score on climate change accounts for 15% of its score on the climate change theme.

Exhibit 1: Illustrative case study example of how we go from country data to company scoring: "Company XYZ", France and climate change

Description	Country Unit	France Initial data	Scoring (/100)
Alternative and nuclear energy	% of total energy use	45,3	98
Combustible renewables and waste	% of total energy	5,8	27
Nuclear Electricity	% of total electricity generation	0,8	100
Hydro Electricity	% of total electricity generation	0,1	22
Non Hydro Renewables (% of total electricity generation)	% of total electricity generation	0,0	60
Fossil fuel energy consumption (% of total)	% of total	51,0	85
Agricultural methane emissions (% of total)	% of total GHG emissions	47,7	37
CO2 emissions (metric tons per capita)	metric tons per capita	6,0	35
Road sector Energy consumption (% of total consumption)	% of total consumption	0,5	5
Transport sector diesel fuel consumption per capita	kt of oil equivalent	15,6	45
Transport sector gasoline fuel consumption per capita	kt of oil equivalent	0,1	50
Vehicles	Vehicles (per km of road)	39,0	41
Country Score			50,48

Name displayed by the company	BAML Name	% of sales	Average Country Score	Sales-weighted contribution
Country/Area1	France	13,5%	50	6,8
Country/Area2	Rest of Middle East	17,0%	27	4,6
Country/Area3	Asia Pacific	16,6%	48	8,0
Country/Area4	United states	10,6%	36	3,8
Country/Area5	Canada	10,0%	43	4,3
Country/Area6	Central/Eastern Eur	6,5%	50	3,2
Country/Area7	Misc Europe	5,8%	50	2,9
Country/Area8	United Kingdom	5,6%	41	2,3
Country/Area9	Egypt	4,4%	34	1,5
Country/Area10	Others	10,1%	46	4,6
Total		100,0%	Company Score	42,2

Source: BofA Merrill Lynch Global Research

Sources of company geographic breakdown data

Companies report sales, assets or operating income on a geographic basis but can use the geographic nomenclature of their choice. Accordingly, company disclosure is the primary source used in our geographic breakdown process. Data is provided by Worldscope (Datastream) which collect data as reported by the companies.

Advantages and limitations of our matching system

The list of regional areas has been designed to match corporate geographic segmentation as much as it is possible and as is feasible. Investors must keep in mind that there is no mandatory format for geographic sales, assets or operating income reporting and that companies are free to report or not, free to set their own geographic nomenclature and free to use their own country/region names.

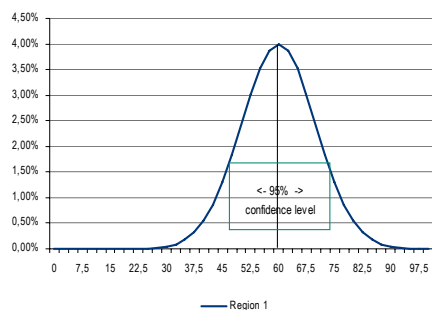
Widest possible coverage

Accordingly, we have used the widest possible remit – expanding our coverage on countries (214) and regions (54) so as to cover all disclosure possibilities. If our WDW system does not recognize a geographic name, the geographic segment is systematically tagged as "ROW" (rest of the world), and the respective weight of this geographic segment, whether sales, assets or operating income, are then dropped from the final corporate aggregated scoring.

Limitations

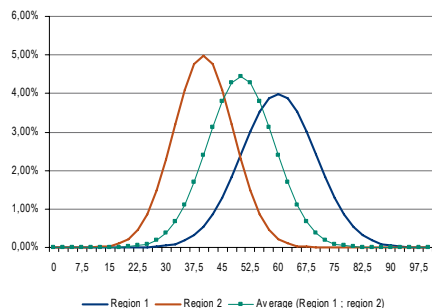
Due to the lack of universal and mandatory reporting standards, we acknowledge that companies' use of regional and supra-national geographic categories requires a level of approximation on our part that may at times represent a best guess. In extreme cases, it may happen that:

Chart 2: 95% confidence-level range: average at 60, standard deviation at 10



Source: BofA Merrill Lynch Global Research

Chart 3: Illustrative example



Source: BofA Merrill Lynch Global Research

- A company does not disclose any geographic breakdown of sales, assets and operating income
- A company may disclose its geographic implementation but not the relevant percentages

In those cases, where a company does not disclose the geographic figures, it does not receive any scoring.

Upper & lower limits of estimated scoring

In most cases, multinational companies report on a limited number of geographic segments (e.g., Worldscope currently uses 10 geographic segments) and then aggregates results at regional levels, when appropriate. Regional aggregation is, by definition, less precise than country scoring. However in this updated WDW model, we have added an additional piece of information to compensate - for each company, we have calculated the upper and lower limits of the estimated scoring, with an estimated level of reliability of 95%.

For each aggregated geographic segment, we estimate not only the average score, but also the range of scorings for which there is a 95% likelihood that the real score belongs to. This 95% confidence level range is mathematically determined by average score ± 2 standard deviations. We have calculated these confidence ranges at 95% level for:

- every theme and criteria, and
- every geographic aggregated area (50+)

In the chart on the left, we illustrate how for a region with an average scoring of 60 and a standard deviation of 10, the density of scores might evolve around the average.

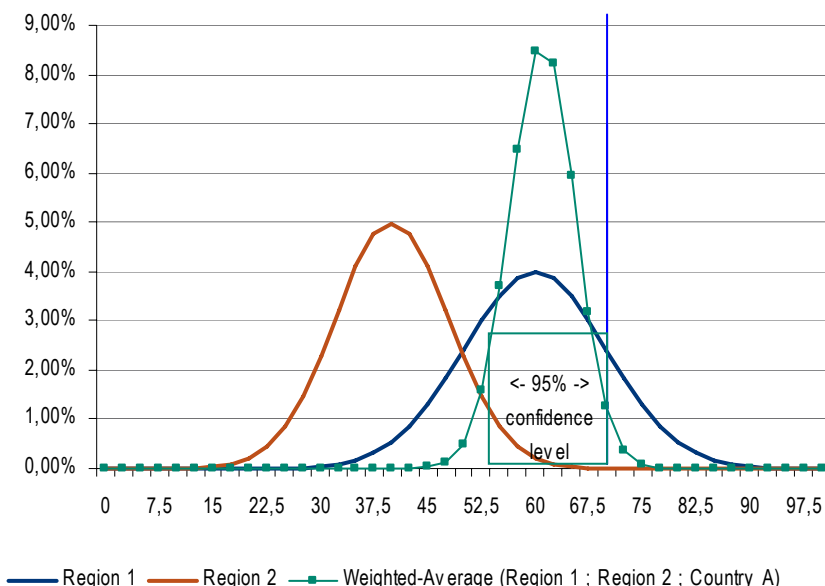
After this, we apply this new information at company level, knowing that company scorings are sales/assets/operating-income based – and that with independent Gaussian distributions, the “average of the Gaussian average is the average of Gaussians”. In other words, if X_1 and X_2 are two independent variables with (m_1, s_1) and (m_2, s_2) as respective (average, standard deviation) couples, and if N is the average of X_1 and X_2 , then:

$$N(\text{average}; \text{standard deviation}) = ((m_1 + m_2)/2; (s_1 + s_2)/2)$$

Then, we can define every company scoring as a sales/assets/operating-income weighted Gaussian variable of 10 independent Gaussian variables (m_i, s_i) . If instead of a disclosing a region the company discloses a country, it is still an independent variable with $m = \text{country_scoring}$ and $s = 0$ (standard deviation = zero, as there is only one country).

In the following chart, we take the example of a company operating in 3 areas - two regional areas with respective averages and standard deviations at (60;10) and (40;8), and one country with a scoring at 70. Respective weighing are 30%, 20%, and 50%. Then, the final company's average scoring, scoring distribution and 95% confidence-level range are as below:

Chart 4: Illustrative example



Source: BofA Merrill Lynch Global Research

Moving forward, if we take back our previous example of “Company XYZ” on its French climate change scoring, we are then in a position to calculate the confidence range (upper and lower limits) – which is 95%. With a confidence level of 95%, we see that this company has a score on climate change varying from 33.1 to 51.2, with an average of 42.2. With a confidence range of only 68% (+/- 1 standard deviation), the range of variation would be [37.6; 45.7].

Exhibit 2: Scoring and confidence range (upper and lower limits)

BAML Name	% of sales	Average Country Score	Upper Limit	Lower Limit	Sales-weighted contribution	Upper Limit Sales Contribution	Lower Limit Sales Contribution
France	13,5%	50,5	50,5	50,5	6,8	6,8	6,8
Middle East	17,0%	27,1	37,7	16,5	4,6	6,4	2,8
Asia Pacific	16,6%	48,5	68,7	28,2	8,0	11,4	4,7
United States	10,6%	35,8	35,8	35,8	3,8	3,8	3,8
Canada	10,0%	43,2	43,2	43,2	4,3	4,3	4,3
Central and Eastern Europe	6,5%	50,3	62,7	38,0	3,2	4,0	2,4
Europe	5,8%	50,4	66,8	34,0	2,9	3,9	2,0
United Kingdom	5,6%	41,2	41,2	41,2	2,3	2,3	2,3
Egypt, Arab Rep.	4,4%	34,2	34,2	34,2	1,5	1,5	1,5
ROW	10,1%	45,8	67,1	24,5	4,6	6,8	2,5
Total	100,0%				42,2	51,2	33,1

Source: BofA Merrill Lynch Global Research

Advantages & limitations of system

Furthermore, as it is impossible to differentiate the exact meaning (and geographic inclusion parameters) of a region for one company versus another, we have to make certain assumptions. Here is a non-exhaustive list of examples of advantages and limitations of our matching system in this regard:

- Example 1: whether the country is spelled USA, US or United States of America or U.S.A. by a company, the country will be identify in our database under the “United States” ID.

- Example 2: if a company discloses sales, operating income or assets under Europe/Middle East/Africa or E.M.E.A., it will be identified in our database as EMEA.
- Example 3: if a company discloses the following segments: “UK” and “Western Europe”, it will be identified as “United Kingdom” and “Western Europe” in our database. However, the calculation for Western Europe scoring has necessarily integrated UK scoring as part of it, even though here the company splits its sales / assets between UK and the rest of Western Europe.
- Example 4: a company might disclose 10% of sales in Asia, when by Asia it means only 3 specific Asian countries. However, the Asia scoring assigned will not be detailed and will encompass all Asian countries.
- Example 5: if a company – as it happens quite frequently in the US – only disclose sales, operating income or assets held in its home/domestic country of origin and uses Rest of the World for the remaining part of its sales, assets and operating income, our system will use Rest of the World as calculated (actually, the World scoring), whether it might have operations in only 5 countries.
- Example 6: if a company discloses its activities under the tag “Domestic”, the country used identified as domestic will be the one where the stock is primarily listed.

Frequency of updates

On the country analysis side of the WDW model, most of the underlying data are updated on a yearly basis. Updates however, are not synchronised between the different sources, so in our view there is no perfect timing for updating our country scorings. We think that a yearly interval is appropriate, especially when taking in account the long-term nature of many of the ESG issues.

On the company analysis side of the WDW model, data are also disclosed once a year at the very least, mostly when the annual report and accounts are published. We think that annual corporate updates are necessary, and will be sufficient in most cases. The ideal time to do this is after the most common annual reporting period, around mid-calendar year. For this our second WDW report, data were collected as of Dec 2011.

However, despite our best efforts, we cannot guarantee that at any one time, we will use the last available data for every country and every company, with regards to the normal inertia of any data collecting process.

Consequently, we would not expect to update the detailed information in this Primer paper at more than an annual frequency.

Our 28 long shelf-life ESG risks and 172 indicators

In the following section we detail the various parameters for our 28 ESG themes and 172 indicators used in our WDW model. For our 8 environmental themes, 15 social themes, and 5 governance themes we have provided the following overview:

- Indicator
- Direction (how to read it, e.g. in which direction)
- Primary data source
- Unit
- Most recent year of data availability
- % missing data (countries)
- BofA Merrill Lynch Global Research scoring scale
- Scoring formula
- Interpretation (e.g. 0-100)
- Explanatory notes on the indicators

BofAML Global Research analysis of data and indicators

In creating this product, we have reviewed data provided by international organisation sources including: the Food and Agriculture Organization (FAO), the International Labor Organization (ILO), the International Monetary Fund (IMF), the United Nations family, the World Bank and the World Health Organization (WHO), among others.

However, any and all interpretation and analysis of this data for the WDW geographic screening model is entirely undertaken by BofA Merrill Lynch Global Research.

1) ENVIRONMENT

The following tables provide an overview of our 8 WDW environmental themes: climate change, energy dependence, energy efficiency, energy infrastructure needs, pollution, resource depletion, water infrastructure needs, and water scarcity.

Climate Change

Table 3: Climate Change

Indicator	Direction	Unit	Most Recent Year	% Missing BAML Data scoring (countries) scale	Scoring Formula	Interpretation
Alternative & nuclear energy (% of total energy use)	High = Better	%	2008	45.07% [0-100]	% rank formula	0 = Bad ; 100= Good
Combustible renewables and waste (% of total energy)	High = Better	%	2008	41.31% [0-100]	% rank formula	0 = Bad ; 100= Good
Nuclear Electricity (% of total electricity generation) (New)	High = Better	%	2010	87.32% [0-100]	% rank formula	0 = Bad ; 100= Good
Hydro Electricity (% of total electricity generation) (New)	High = Better	%	2010	38.50% [0-100]	% rank formula	0 = Bad ; 100= Good
Non Hydro Renewables (% of total electricity generation) (New)	High = Better	%	2010	63.38% [0-100]	% rank formula	0 = Bad ; 100= Good
Fossil fuel energy consumption (% of total)	High = Worst	%	2008	36.15% [0-100]	% rank formula	0 = Bad ; 100= Good
Agricultural methane emissions (% of total)	High = Worst	%	2005	37.09% [0-100]	% rank formula	0 = Bad ; 100= Good
CO2 emissions (metric tons per capita)	High = Worst	Tons	2007	7.51% [0-100]	% rank formula	0 = Bad ; 100= Good
Road sector Energy consumption (% of total consumption)	High = Worst	%	2008	40.38% [0-100]	% rank formula	0 = Bad ; 100= Good
Road sector diesel fuel consumption per capita (kt of oil equivalent)	High = Worst	kt of oil equivalent	2008	36.15% [0-100]	% rank formula	0 = Bad ; 100= Good
Road sector gasoline fuel consumption per capita (kt of oil equivalent)	High = Worst	kt of oil equivalent	2008	36.15% [0-100]	% rank formula	0 = Bad ; 100= Good
Vehicles (per km of road)	High = Worst	#	2008	60.56% [0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 4: Climate Change

Indicator	Explanatory Note of Climate Change Indicators
Alternative & nuclear energy (% of total energy use)	Clean energy is non-carbohydrate energy that does not produce carbon dioxide when generated. It includes hydropower and nuclear, geothermal, and solar power, among others.
Combustible renewables and waste (% of total energy)	Combustible renewables and waste comprise solid biomass, liquid biomass, biogas, industrial waste, and municipal waste, measured as a percentage of total energy use.
Nuclear Electricity (% of total electricity generation)	Sources of electricity refer to the inputs used to generate electricity. Nuclear power refers to electricity produced by nuclear power plants.
Hydro Electricity (% of total electricity generation)	Sources of electricity refer to the inputs used to generate electricity. Hydropower refers to electricity produced by hydroelectric power plants.
Non Hydro Renewables (% of total electricity generation)	Electricity production from renewable sources, excluding hydroelectric, includes geothermal, solar, tides, wind, biomass, and biofuels.
Energy imports, net (% of energy use)	Net energy imports are estimated as energy use less production, both measured in oil equivalents. A negative value indicates that the country is a net exporter. Energy use refers to use of primary energy before transformation to other end-use fuels, which
Fossil fuel energy consumption (% of total)	Fossil fuel comprises coal, oil, petroleum, and natural gas products.
Agricultural methane emissions (% of total)	Agricultural methane emissions are emissions from animals, animal waste, rice production, agricultural waste burning (nonenergy, on-site), and savannah burning.
CO2 emissions (metric tons per capita)	Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring.
Road sector fuel consumption (% of total consumption)	Road sector energy consumption is the total energy used in the road sector including petroleum products, natural gas, electricity, and combustible renewable and waste. Total energy consumption is the total country energy consumption.
Transport sector diesel fuel consumption per capita (kt of oil equivalent)	Diesel is heavy oils used as a fuel for internal combustion in diesel engines.
Transport sector gasoline fuel consumption per capita (kt of oil equivalent)	Gasoline is light hydrocarbon oil use in internal combustion engine such as motor vehicles, excluding aircraft.
Vehicles (per km of road)	Vehicles per kilometer of road include cars, buses, and freight vehicles but do not include two-wheelers. Roads refer to motorways, highways, main or national roads, secondary or regional roads, and other roads. A motorway is a road specially designed and

Source: BofA Merrill Lynch Global Research

Energy Dependency

Table 5: Energy Dependency

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Value of Net Oil Imports as % of GDP (NEW)	High = Worst	%	2009	28.64%	[0-100]	% rank formula	0 = Bad ; 100= Good
Energy imports, net (% of energy use)	High = Worst	%	2008	35.68%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 6: Energy Dependency

Indicator	Explanatory Note of Energy Dependency Indicators
Value of Net Oil Imports as % of GDP	Value of Net imports is equal to the price per unit of quantity of net oil imports (oil import minus oil export) multiplied by the number of quantity units.
Energy imports, net (% of energy use)	Net energy imports are estimated as energy use less production, both measured in oil equivalents. A negative value indicates that the country is a net exporter. Energy use refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport.

Source: BofA Merrill Lynch Global Research

Energy Efficiency

Table 7: Energy Efficiency

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Electric power consumption (kWh per capita)/ GDP per Capita	High = Worst	kWh per \$	2008	39.91%	[0-100]	% rank formula	0 = Bad ; 100= Good
GDP per unit of energy use (constant 2005 PPP \$ per kg of oil equivalent)	High = Better	US\$	2008	39.44%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 8: Energy Efficiency

Indicator	Explanatory Note of Energy efficiency Indicators
Electric power consumption (kWh per capita)/ GDP per Capita	Electric power consumption measures the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and power plants.
GDP per unit of energy use (constant 2005 PPP \$ per kg of oil equivalent)	GDP (gross domestic product) per capita in Parity Purchase Power measures the economic added value per people, and the efficiency principle is that the higher the GDP per unit of energy the better, as economic growth is then less dependent on energy input.

Source: BofA Merrill Lynch Global Research

Energy Infrastructure Needs

Table 9: Energy Infrastructure Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Electric power consumption (kWh per capita)/ GDP per Capita	High = Worst	kWh per \$	2008	40.38%	[0-100]	% rank formula	0 = Bad ; 100= Good
IElectric Distribution Losses (% of total generation) (New)	High = Better	Ratio	2009	29.11%	[0-100]	% rank formula	0 = Bad ; 100= Good
Value lost due to electrical outages (% of sales)	High = Worst	%	2009	62.91%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 10: Energy Infrastructure Needs

Indicator	Explanatory Note of Energy Infrastructure Needs Indicators
Electric power consumption (kWh per capita)	Electric power consumption measures the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and power plants.
Electric Distribution Losses (% of total generation)	Electric power losses include losses in transmission between sources of supply and points of distribution and in the distribution to consumers, including pilferage.
Value lost due to electrical outages (% of sales)	Value lost due to electrical outages is the percentage of sales lost due to power outages.

Source: BofA Merrill Lynch Global Research

Pollution

Table 11: Pollution

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Organic water pollutant (BOD) emissions (kg per day)	High = Worst	kg per day	2006	15.02%	[0-100]	% rank formula	0 = Bad ; 100= Good
PM10, country level (micrograms per cubic meter)	High = Worst	micrograms per cubic meter	2008	29.11%	[0-100]	% rank formula	0 = Bad ; 100= Good
Deaths due to indoor and outdoor air and water pollution (per million people)		#	2004	6.10%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 12: Pollution

Indicator	Explanatory Note of Pollution Indicators
Organic water pollutant (BOD) emissions (kg per day)	Emissions of organic water pollutants are measured by biochemical oxygen demand, which refers to the amount of oxygen that bacteria in water will consume in breaking down waste. This is a standard water-treatment test for the presence of organic pollutants.
PM10, country level (micrograms per cubic meter)	Particulate matter concentrations refer to fine suspended particulates less than 10 microns in diameter (PM10) that are capable of penetrating deep into the respiratory tract and causing significant health damage. Data for countries and aggregates for regions and income groups are urban-population weighted PM10 levels in residential areas of cities with more than 100,000 residents. The estimates represent the average annual exposure level of the average urban resident to outdoor particulate matter. The state of a country's technology and pollution controls is an important determinant of particulate matter concentrations.
Deaths due to indoor and outdoor air and water pollution (per million people)	The indicator refers to Deaths due to outdoor and indoor air and water pollution

Source: BofA Merrill Lynch Global Research

Resources Depletion

Table 13: Resources Depletion

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Fish species, threatened	High = Worst	%	2010	5.63%	[0-100]	% rank formula	0 = Bad ; 100= Good
Forest area (% of land area)	High = Better	%	2010	6.10%	[0-100]	% rank formula	0 = Bad ; 100= Good
GEF benefits Index / Threatened Species (Fish, Mammals, Plants)	High = Better	#	2008	10.33%	[0-100]	% rank formula	0 = Bad ; 100= Good
Mammal species, threatened	High = Worst	#	2010	5.63%	[0-100]	% rank formula	0 = Bad ; 100= Good
Marine protected areas (% of total surface area)	High = Better	%	2009	30.05%	[0-100]	% rank formula	0 = Bad ; 100= Good
Plant species (higher), threatened	High = Worst	#	2010	6.57%	[0-100]	% rank formula	0 = Bad ; 100= Good

Table 13: Resources Depletion

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Terrestrial protected areas (% of total surface area)	High = Better	%	2009	30.99%	[0-100]	% rank formula	0 = Bad ; 100= Good
Ecological footprint of consumption	High = Worst	ha	2007	38.03%	[0-100]	% rank formula	0 = Bad ; 100= Good
Fertilizers use reduction (2002 baseline = 100) (New)	High = Worst	#	2008	69.95%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 14: Resources Depletion

Indicator	Explanatory Note of Resource Depletion Indicators
Fish species, threatened	Fish species are based on Froese, R. and Pauly, D. (eds). 2008. Threatened species are the number of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known.
Forest area (% of land area)	Forest area is land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems (for example, in fruit plantations and agroforestry systems) and trees in urban parks and gardens.
GEF benefits Index/ Threatened Species (Fish, Mammals, Plants)	GEF benefits index for biodiversity is a composite index of relative biodiversity potential for each country based on the species represented in each country, their threat status, and the diversity of habitat types in each country. The index has been normalized so that values run from 0 (no biodiversity potential) to 100 (maximum biodiversity potential).
Mammal species, threatened	Mammal species are mammals excluding whales and porpoises. Threatened species are the number of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known.
Marine protected areas (% of total surface area)	Marine protected areas are areas of intertidal or subtidal terrain--and overlying water and associated flora and fauna and historical and cultural features--that have been reserved by law or other effective means to protect part or all of the enclosed environment.
Plant species (higher), threatened	Higher plants are native vascular plant species. Threatened species are the number of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known.
Terrestrial protected areas (% of total surface area)	Terrestrial protected areas are those officially documented by national authorities.
Ecological footprint of consumption	Ecological Footprint of consumption refers to the average surface of the Earth needed to provide all the relevant resources for one unit. The surface is normalised so as any figure above 1ha means that the current activity needs more resources than the Earth should normally provide (1 Earth). Fertilizer consumption (kilograms per hectare of arable land) measures the quantity of plant nutrients used per unit of arable land. Fertilizer products cover nitrogenous, potash, and phosphate fertilizers (including ground rock phosphate). Traditional nutrients--animal and plant manures--are not included. For the purpose of data dissemination, FAO has adopted the concept of a calendar year (January to December). Some countries compile fertilizer data on a calendar year basis, while others are on a split-year basis. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Fertilizers use reduction takes base as 100 for 2002 and then rebases the current year usage.
Fertilizers use reduction (2002 baseline = 100)	

Source: BofA Merrill Lynch Global Research

Water Infrastructure Needs

Table 15: Water Infrastructure Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Improved water source, urban (% of urban population with access)	High = Better	%	2008	15.02%	[0-100]	% rank formula	0 = Bad ; 100= Good
Improved water source, rural (% of rural population with access)	High = Better	%	2008	20.66%	[0-100]	% rank formula	0 = Bad ; 100= Good
Investment in water and sanitation with private participation (current US\$) (% of GDP)	High = Better	%	2009	84.04%	[0-100]	% rank formula	0 = Bad ; 100= Good
Annual freshwater withdrawals, total (cubic meters)/ Total Population	High = Better	cubic meters	2000	27.23%	[0-100]	% rank formula	0 = Bad ; 100= Good
coastline/surface (x1000)	High = Better	km x 10 ⁶	2009	34.74%	[0-100]	% rank formula	0 = Bad ; 100= Good
Deaths due to indoor and outdoor air and water pollution (per million people)	High = Worst	#	2004	29.11%	[0-100]	% rank formula	0 = Bad ; 100= Good
Population growth (annual %)	High = Worst	%	2009	2.35%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 16: Water Infrastructure Needs

Indicator	Explanatory Note of Water Infrastructure Needs Indicators
Improved water source, urban (% of urban population with access)	Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 21 liters a person a day from a source within one kilometer of the dwelling.
Improved water source, rural (% of rural population with access)	Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 21 liters a person a day from a source within one kilometer of the dwelling.
Investment in water and sanitation with private participation (current US\$) (% of GDP)	Investment in water and sanitation projects with private participation covers infrastructure projects in water and sanitation that have reached financial closure and directly or indirectly serve the public. Movable assets, incinerators, and standalone solid waste projects are excluded. The types of projects included are operations and management contracts, operations and management contracts with major capital expenditure, greenfield projects (in which a private entity or a public-private joint venture builds and operates a new facility), and divestitures. Investment commitments are the sum of investments in facilities and investments in government assets. Investments in facilities are the resources the project company commits to invest during the contract period either in new facilities or in expansion and modernization of existing facilities. Investments in government assets are the resources the project company spends on acquiring government assets such as state-owned enterprises, rights to provide services in a specific area, or the use of specific radio spectrums.
Annual freshwater withdrawals, total (cubic meters)/ Total Population	Annual freshwater withdrawals refer to total water withdrawals, not counting evaporation losses from storage basins. Withdrawals also include water from desalination plants in countries where they are a significant source. Withdrawals can exceed 100 percent of total renewable resources where extraction from nonrenewable aquifers or desalination plants is considerable or where there is significant water reuse. Withdrawals for agriculture and industry are total withdrawals for irrigation and livestock production and for direct industrial use (including withdrawals for cooling thermoelectric plants). Withdrawals for domestic uses include drinking water, municipal use or supply, and use for public services, commercial establishments, and homes. Data are for the most recent year available for 2187-2002.
coastline/surface (x1000)	Coastline refers to the potential access to sea water then to the possibility of desalination
Deaths due to indoor and outdoor air and water pollution (per million people)	The indicator refers to Deaths due to outdoor and indoor air and water pollution
Population growth (annual %)	The indicator refers to the growing demand for water, as water efficiency is mostly given for each country and very stable across time.

Source: BofA Merrill Lynch Global Research

Water scarcity

Table 17: Water scarcity

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Percentage of total actual renewable freshwater resources withdrawal (New)	High = Worst	#	2000	17.84%	[0-100]	% rank formula	0 = Bad ; 100= Good
Renewable internal freshwater resources per capita (cubic meters)	High = Better	M3	2009	17.84%	[0-100]	% rank formula	0 = Bad ; 100= Good
Average Annual Temperature (deg C)	High = Worst	°C	2000-2008	43.19%	[0-100]	% rank formula	0 = Bad ; 100= Good
Average precipitation in depth (mm per year)	High = Better	mm	2000-2008	19.72%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 18: Water scarcity

Indicator	Explanatory Note of Water Scarcity Indicators
Percentage of total actual renewable freshwater resources withdrawal	Renewable internal freshwater resources flows refer to internal renewable resources (internal river flows and groundwater from rainfall) in the country. Renewable internal freshwater resources per capita are calculated using the population estimates we have reviewed from public sources
Renewable internal freshwater resources per capita (cubic meters)	Renewable internal freshwater resources flows refer to internal renewable resources (internal river flows and groundwater from rainfall) in the country. Renewable internal freshwater resources per capita are calculated using the World Bank's population estimates
Average Annual Temperature (deg C)	Average Temperature here is the average yearly temperature as reported by WMO. There might be large variation around the yearly average
Average precipitation in depth (mm per year)	Average Precipitation here is the average yearly precipitation as reported by WMO. There might be large variation around the yearly average. Average precipitation is the long-term average in depth (over space and time) of annual precipitation in the country. Precipitation is defined as any kind of water that falls from clouds as a liquid or a solid

Source: BofA Merrill Lynch Global Research

2) SOCIAL

The following tables provide an overview of our 15 WDW social themes: demographics - life conditions, demographics- dynamic, economic inequality, education, food issues/needs, health issues/needs, employment, human capital, human development, labour issues, lifestyle risk, IT & telecom infrastructure needs, social protection, security, and transport infrastructure needs

Demographics- Dynamic

Table 19: Demographics- Dynamic

Indicator	Direction	Unit	Most Recent	% Missing Data	BAML scoring scale	Scoring Formula	Interpretation
			Year	(countries)			
Net migration (as % of Total Population)	High = Worst	%	2010	15.96%	[0-100]	% rank formula	0 = Bad ; 100= Good
Fertility rate, total (births per woman)	High = Worst	#	2009	10.80%	[0-100]	% rank formula	0 = Bad ; 100= Good
Population growth (annual %)	High = Worst	%	2009	15.96%	[0-100]	% rank formula	0 = Bad ; 100= Good
% of population between 1-14 (NEW)	High = Better	%	2009	10.80%	[0-100]	% rank formula	0 = Bad ; 100= Good
% of population between 15-64 (NEW)	High = Better	%	2009	15.96%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 20: Demographics- Dynamic

Indicator	Explanatory Note of Demographics- Dynamic Indicators
Net migration (as % of Total Population)	Net migration is the net total of migrants during the period, that is, the total number of immigrants less the annual number of emigrants, including both citizens and noncitizens. Data are five-year estimates. To derive estimates of net migration, our source takes into account the past migration history of a country or area, the migration policy of a country, and the influx of refugees in recent periods. The data to calculate these official estimates come from a variety of sources, including border statistics, administrative records, surveys, and censuses. When no official estimates can be made because of insufficient data, net migration is derived through the balance equation, which is the difference between overall population growth and the natural increase during the 2190-2000 intercensal period.
Fertility rate, total (births per woman)	Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates.
Population growth (annual %)	Annual population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage . Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship—except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of the country of origin.
% of population between 1-14	Population between the ages 0 to 14 as a percentage of the total population. Population is based on the de facto definition of population.
% of population between 15-64	Population ages 15 to 64 is the percentage of the total population that is in the age group 15 to 64. Population is based on the de facto definition of population.

Source: BofA Merrill Lynch Global Research

Demographics- Life Conditions

Table 21: Demographics- Life Conditions

Indicator	Direction	Unit	Most Recent	% Missing Data	BAML scoring scale	Scoring Formula	Interpretation
			Year	(countries)			
Contraceptive prevalence (% of women ages 15-49)	High = Better	%	2009	42.25%	[0-100]	% rank formula	0 = Bad ; 100= Good
Life expectancy at birth, male (years)	High = Better	#	2009	7.98%	[0-100]	% rank formula	0 = Bad ; 100= Good
Death rate, crude (per 1,000 people)	High = Worst	#	2009	7.98%	[0-100]	% rank formula	0 = Bad ; 100= Good
Life expectancy at birth, female (years)	High = Better	#	2009	42.25%	[0-100]	% rank formula	0 = Bad ; 100= Good
Population, female (% of total)	High = Better	%	2009	7.98%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 22: Demographics- Life Conditions

Indicator	Explanatory Note of Demographics- Life Conditions Indicators
Contraceptive prevalence (% of women ages 15-49)	Contraceptive prevalence rate is the percentage of women who are practicing, or whose sexual partners are practicing, any form of contraception. It is usually measured for married women ages 15-49 only.
Life expectancy at birth, male (years)	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.
Death rate, crude (per 1,000 people)	Crude death rate indicates the number of deaths occurring during the year, per 1,000 population estimated at midyear. Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the rate of population change in the absence of migration.
Life expectancy at birth, female (years)	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.
Population, female (% of total)	Female population is the percentage of the population that is female. Population is based on the de facto definition of population.

Source: BofA Merrill Lynch Global Research

Economic Inequality

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Employment in agriculture (% of total employment)	High = Worst	%	2008	55.87%	[0-100]	% rank formula	0 = Bad ; 100= Good
Income share held by lowest 20%	High = Better	%	2008	68.08%	[0-100]	% rank formula	0 = Bad ; 100= Good
Vulnerable employment, total (% of total employment)	High = Worst	%	2008	63.85%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty gap at \$2 a day (PPP) (%)	High = Worst	%	2008	72.30%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty gap at national poverty line (%)	High = Worst	%	2008	81.69%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty gap at rural poverty line (%)	High = Worst	%	2008	84.51%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty headcount ratio at \$1.25 a day (PPP) (% of population)	High = Worst	%	2008	74.18%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty headcount ratio at \$2 a day (PPP) (% of population)	High = Worst	%	2008	72.30%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty headcount ratio at national poverty line (% of population)	High = Worst	%	2008	69.01%	[0-100]	% rank formula	0 = Bad ; 100= Good
Poverty headcount ratio at rural poverty line (% of rural population)	High = Worst	%	2008	72.30%	[0-100]	% rank formula	0 = Bad ; 100= Good
Highest marginal tax rate, individual rate (%)	High = Better	%	2009	62.44%	[0-100]	% rank formula	0 = Bad ; 100= Good
Income Ratio Quintile (New)	High = Worst	%	2010	42.25%	[0-100]	% rank formula	0 = Bad ; 100= Good

Table 23: Economic Inequality

Indicator	Explanatory Note of Economic Inequality Indicators
Employment in agriculture (% of total employment)	Employees are people who work for a public or private employer and receive remuneration in wages, salary, commission, tips, piece rates, or pay in kind. Agriculture corresponds to division 1 (ISIC revision 2) or tabulation categories A and B (ISIC revision 3) and includes hunting, forestry, and fishing.
Income share held by lowest 20%	Percentage share of income or consumption is the share that accrues to subgroups of population indicated by deciles or quintiles. Percentage shares by quintile may not sum to 100 because of rounding.
Vulnerable employment, total (% of total employment)	Vulnerable employment is unpaid family workers and own-account workers as a percentage of total employment
Poverty gap at \$2 a day (PPP) (%)	Poverty gap is the mean shortfall from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence.
Poverty gap at national poverty line (%)	Poverty gap at national poverty line is the mean shortfall from the poverty line (counting the non-poor as having zero shortfall) as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence.
Poverty gap at rural poverty line (%)	Poverty gap at rural poverty line is the mean shortfall from the poverty line (counting the non-poor as having zero shortfall) as a percentage of the national rural poverty line. This measure reflects the depth of poverty as well as its incidence.
Poverty headcount ratio at \$1.25 a day (PPP)	Population below \$1.25 a day is the percentage of the population living on less than \$1.25 a day at 2005 international prices. As a result of revisions in PPP exchange rates,

Table 23: Economic Inequality

Indicator	Explanatory Note of Economic Inequality Indicators
(% of population)	poverty rates for individual countries cannot be compared with poverty rates reported in earlier editions.
Poverty headcount ratio at \$2 a day (PPP)	Population below \$2 a day is the percentage of the population living on less than \$2.00 a day at 2005 international prices. As a result of revisions in PPP exchange rates,
(% of population)	poverty rates for individual countries cannot be compared with poverty rates reported in earlier editions.
Poverty headcount ratio at national poverty line (% of population)	National poverty rate is the percentage of the population living below the national poverty line. National estimates are based on population-weighted subgroup estimates from household surveys.
Poverty headcount ratio at rural poverty line (% of rural population)	Rural poverty rate is the percentage of the rural population living below the national rural poverty line.
Highest marginal tax rate, individual rate (%)	Highest marginal tax rate (individual rate) is the highest rate shown on the schedule of tax rates applied to the taxable income of individuals.
Income Ratio Quintile	Ratio of the average income of the richest 20 percent of the population to the average income of the poorest 20 percent of the population

Source: BofA Merrill Lynch Global Research

Education

Table 24: Education

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Literacy rate, adult total (% of people ages 15 and above)	High = Better	%	2009	37.56%	[0-100]	% rank formula	0 = Bad ; 100= Good
Progression to secondary school, female (%)	High = Better	%	2008	36.15%	[0-100]	% rank formula	0 = Bad ; 100= Good
Daily newspapers (per 1,000 people)	High = Better	#	2005	62.44%	[0-100]	% rank formula	0 = Bad ; 100= Good
School enrolment, tertiary (% gross)	High = Better	%	2009	38.97%	[0-100]	% rank formula	0 = Bad ; 100= Good
School enrolment, secondary (% gross)	High = Better	%	2009	28.17%	[0-100]	% rank formula	0 = Bad ; 100= Good
School enrolment, secondary (% net)	High = Better	%	2009	53.52%	[0-100]	% rank formula	0 = Bad ; 100= Good
Expenditure per student, secondary (% of GDP per capita)	High = Better	%	2008	49.30%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 25: Education

	Explanatory Note of Education Indicators
Literacy rate, adult total (% of people ages 15 and above)	Adult literacy rate is the percentage of people ages 15 and above who can, with understanding, read and write a short, simple statement on their everyday life.
Progression to secondary school, female (%)	Progression to secondary school refers to the number of new entrants to the first grade of secondary school in a given year as a percentage of the number of students enrolled in the final grade of primary school in the previous year.
Daily newspapers (per 1,000 people)	Daily newspapers refer to those published at least four times a week and calculated as average circulation (or copies printed) per 1,000 people.
School enrolment, tertiary (% gross)	Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.
School enrolment, secondary (% gross)	Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers.
School enrolment, secondary (% net)	Net enrolment ratio is the ratio of children of official school age based on the International Standard Classification of Education 1997 who are enrolled in school to the population of the corresponding official school age. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers.
Expenditure per student, secondary (% of GDP per capita)	Public expenditure per student is the public current spending on education divided by the total number of students by level, as a percentage of GDP per capita. Public expenditure (current and capital) includes government spending on educational institutions (both public and private), education administration as well as subsidies for private entities (students/households and other private entities).

Source: BofA Merrill Lynch Global Research

Employment

Table 26: Employment

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Foreign direct investment, net inflows (BoP, current US\$) (% of GDP)	High = Better	%	2010	17.37%	[0-100]	% rank formula	0 = Bad ; 100= Good
Industry as added value (% of GDP) (New)	High = Better	%	2010	26.76%	[0-100]	% rank formula	0 = Bad ; 100= Good
Employment to population ratio, 15+, total (%)	High = Better	%	2009	18.31%	[0-100]	% rank formula	0 = Bad ; 100= Good
Unemployment, total (% of total labor force)	High = Worst	%	2009	41.31%	[0-100]	% rank formula	0 = Bad ; 100= Good
Rigidity of employment index (0=less rigid to 100=more rigid)	High = Worst	#	2009	19.25%	[0-100]	% rank formula	0 = Bad ; 100= Good
Investment as a % of GDP (New)	High = Better	%	2010	21.13%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 27: Employment

Indicator	Explanatory Note of Employment Indicators
Foreign direct investment, net inflows (BoP, current US\$) (% of GDP)	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors.
Industry as added value (% of GDP)	"Industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator.
Employment to population ratio, 15+, total (%)	Employment to population ratio is the proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population.
Unemployment, total (% of total labour force)	Unemployment refers to the share of the labour force that is without work but available for and seeking employment. Definitions of labor force and unemployment differ by country.
Rigidity of employment index (0=less rigid to 100=more rigid)	The rigidity of employment index measures the regulation of employment, specifically the hiring and firing of workers and the rigidity of working hours. This index is the average of three sub indexes: a difficulty of hiring index, a rigidity of hours index, and a difficulty of firing index. The index ranges from 0 to 100, with higher values indicating more rigid regulations.
Investment as a % of GDP	Data are based on individual countries' national accounts statistics. For many countries, the estimates of national saving are built up from national accounts data on gross domestic investment and from balance of payments-based data on net foreign investment.

Source: BofA Merrill Lynch Global Research

Food Issues & Needs

Table 28: Food Issues & Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Agricultural irrigated land (% of total agricultural land)	High = Better	#	2009	70.89%	[0-100]	% rank formula	0 = Bad ; 100= Good
Agricultural machinery, tractors per 100 sq. km of arable land	High = Better	#	2009	66.20%	[0-100]	% rank formula	0 = Bad ; 100= Good
Cereal yield (kg per hectare)	High = Better	Kg per hectare	2009	16.43%	[0-100]	% rank formula	0 = Bad ; 100= Good
Crop production index (1999-2001 = 100) (New)	High = Better	#	2009	8.92%	[0-100]	% rank formula	0 = Bad ; 100= Good
Land under cereal production (hectares)/ Total Population	High = Better	Ratio	2008	16.43%	[0-100]	% rank formula	0 = Bad ; 100= Good
Rural population (% of total population)	High = Worst	%	2009	4.23%	[0-100]	% rank formula	0 = Bad ; 100= Good
Prevalence of undernourishment (% of population)	High = Worst	%	2007	17.84%	[0-100]	% rank formula	0 = Bad ; 100= Good

Table 28: Food Issues & Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Intensity of food deprivation (average % shortfall in minimum dietary energy requirements)	High = Worst	%	2010	41.31%	[0-100]	% rank formula	0 = Bad ; 100= Good
Agricultural land (% of land area)	High = Better	%	2009	1.88%	[0-100]	% rank formula	0 = Bad ; 100= Good
Arable land (% of land area)	High = Better	%	2009	2.82%	[0-100]	% rank formula	0 = Bad ; 100= Good
Food production index (1999-2001 = 100) (New)	High = Better	#	2009	7.51%	[0-100]	% rank formula	0 = Bad ; 100= Good
Livestock production index (1999-2001 = 100) (New)	High = Better	#	2009	8.45%	[0-100]	% rank formula	0 = Bad ; 100= Good
Fertilizers dependency (kg fertilisers / arable land ha) (New)	High = Worst	Kg per hectare	2008	31.92%	[0-100]	% rank formula	0 = Bad ; 100= Good
Added Value per worker (constant US\$ 2000) (New)	High = Better	#	2009	37.56%	[0-100]	% rank formula	0 = Bad ; 100= Good
Fertilizers use reduction (2002 baseline = 100) (New)	High = Worst	#	2008	69.95%	[0-100]	% rank formula	0 = Bad ; 100= Good
Crop Production Index Delta/ Fertilizer Index delta (New)	High = Better	#	2009	40.38%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 29: Food Issues & Needs

Indicator	Explanatory Note of Food Issues & Needs Indicators
Agricultural irrigated land (% of total agricultural land)	Agricultural irrigated land refers to agricultural areas purposely provided with water, including land irrigated by controlled flooding.
Agricultural machinery, tractors per 100 sq. km of arable land	Agricultural machinery refers to the number of wheel and crawler tractors (excluding garden tractors) in use in agriculture at the end of the calendar year specified or during the first quarter of the following year. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.
Cereal yield (kg per hectare)	Cereal yield, measured as kilograms per hectare of harvested land, includes wheat, rice, maize, barley, oats, rye, millet, sorghum, buckwheat, and mixed grains. Production data on cereals relate to crops harvested for dry grain only. Cereal crops harvested for hay or harvested green for food, feed, or silage and those used for grazing are excluded.
Crop production index (1999-2001 = 100)	Crop production index shows agricultural production for each year relative to the base period 1999-2001. It includes all crops except fodder crops. Regional and income group aggregates for the FAO's production indexes are calculated from the underlying values in international dollars, normalized to the base period 1999-2001.
Land under cereal production (hectares)/ Total Population	Land under cereal production refers to harvested area, although some countries report only sown or cultivated area. Cereals include wheat, rice, maize, barley, oats, rye, millet, sorghum, buckwheat, and mixed grains. Production data on cereals relate to crops harvested for dry grain only. Cereal crops harvested for hay or harvested green for food, feed, or silage and those used for grazing are excluded.
Rural population (% of total population)	Rural population refers to people living in rural areas as defined by national statistical offices. It is calculated as the difference between total population and urban population.
Prevalence of undernourishment (% of population)	Prevalence of undernourishment
" Intensity of food deprivation (average % shortfall in minimum dietary energy requirements) "	Intensity of food deprivation / average of % of shortfall in minimum dietary
Agricultural land (% of land area)	Agricultural land refers to the share of land area that is arable, under permanent crops, and under permanent pastures. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Land under permanent crops is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber. This category includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Permanent pasture is land used for five or more years for forage, including natural and cultivated crops.
Arable land (% of land area)	Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.
Food production index (1999-2001 = 100)	Food production index covers food crops that are considered edible and that contain nutrients. Coffee and tea are excluded because, although edible, they have no nutritive value.
Livestock production index (1999-2001 = 100)	Livestock production index includes meat and milk from all sources, dairy products such as cheese, and eggs, honey, raw silk, wool, and hides and skins.

Table 29: Food Issues & Needs

Indicator	Explanatory Note of Food Issues & Needs Indicators
Fertilizers dependency (kg fertilisers / arable land ha)	Fertilizer dependency (kilograms per hectare of arable land) measures the quantity of plant nutrients used per unit of arable land. Fertilizer products cover nitrogenous, potash, and phosphate fertilizers (including ground rock phosphate). Traditional nutrients--animal and plant manures--are not included. For the purpose of data dissemination, FAO has adopted the concept of a calendar year (January to December). Some countries compile fertilizer data on a calendar year basis, while others are on a split-year basis. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.
Added Value per worker (constant US\$ 2000)	Agriculture value added per worker is a measure of agricultural productivity. Value added in agriculture measures the output of the agricultural sector (ISIC divisions 1-5) less the value of intermediate inputs. Agriculture comprises value added from forestry, hunting, and fishing as well as cultivation of crops and livestock production. Data are in constant 2000 U.S. dollars.
Fertilizers use reduction (2002 baseline = 100)	Fertilizer consumption (kilograms per hectare of arable land) measures the quantity of plant nutrients used per unit of arable land. Fertilizer products cover nitrogenous, potash, and phosphate fertilizers (including ground rock phosphate). Traditional nutrients--animal and plant manures--are not included. For the purpose of data dissemination, FAO has adopted the concept of a calendar year (January to December). Some countries compile fertilizer data on a calendar year basis, while others are on a split-year basis. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Fertilizers use reduction takes base as 100 for 2002 and then rebases the current year usage.
Crop Production Index Delta/ Fertilizer Index delta	Ratio of Crop Production Index and Fertilizer Index

Source: BofA Merrill Lynch Global Research

Health Issues & Needs

Table 30: Health Issues & Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Improved sanitation facilities (% of population with access)	High = Better	%	2008	19.7%	[0-100]	Initial Data	0 = Bad ; 100= Good
Improved sanitation facilities, urban (% of urban population with access)	High = Better	%	2008	15.5%	[0-100]	Initial Data	0 = Bad ; 100= Good
Mortality rate, under-5 (per 1000)	High = Worst	#	2009	9.9%	[0-100]	% rank formula	0 = Bad ; 100= Good
Pregnant women receiving parental care (%)	High = Better	%	2009	50.7%	[0-100]	% rank formula	0 = Bad ; 100= Good
Prevalence of HIV, total (% of population ages 15-49)	High = Worst	%	2009	31.5%	[0-100]	% rank formula	0 = Bad ; 100= Good
Health expenditure per capita (current US\$)	High = Better	#	2009	12.2%	[0-100]	% rank formula	0 = Bad ; 100= Good
Health expenditure, total (% of GDP)	High = Better	%	2009	12.2%	[0-100]	% rank formula	0 = Bad ; 100= Good
Incidence of tuberculosis (per 1,000 people)	High = Worst	#	2008	5.2%	[0-100]	% rank formula	0 = Bad ; 100= Good
Improved water source, rural (% of rural population with access)	High = Better	%	2008	19.7%	[0-100]	% rank formula	0 = Bad ; 100= Good
Improved water source, urban (% of urban population with access)	High = Better	%	2008	14.1%	[0-100]	% rank formula	0 = Bad ; 100= Good
Physicians (per 1000 people)	High = Better	%	2010	39.4%	[0-100]	% rank formula	0 = Bad ; 100= Good
Hospital Beds (per 1000 people)	High = Better	%	2010	26.3%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 31: Health Issues & Needs

Indicator	Explanatory Note of Health Issues & Needs Indicators
Improved sanitation facilities (% of population with access)	Access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.
Improved sanitation facilities, urban (% of urban population with access)	Access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.

Table 31: Health Issues & Needs

Indicator	Explanatory Note of Health Issues & Needs Indicators
Mortality rate, under-5 (per 1000)	Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates.
Pregnant women receiving parental care (%)	Pregnant women receiving prenatal care are the percentage of women attended at least once during pregnancy by skilled health personnel for reasons related to pregnancy.
Prevalence of HIV, total (% of population ages 15-49)	Prevalence of HIV refers to the percentage of people ages 15-49 who are infected with HIV.
Health expenditure per capita (current US\$)	Total health expenditure is the sum of public and private health expenditures as a ratio of total population. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation. Data are in current U.S. dollars.
Health expenditure, total (% of GDP)	Total health expenditure is the sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation.
Incidence of tuberculosis (per 100,000 people)	Incidence of tuberculosis is the estimated number of new pulmonary, smear positive, and extra-pulmonary tuberculosis cases
Improved water source, rural (% of rural population with access)	Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 21 litres a person a day from a source within one kilometre of the dwelling.
Improved water source, urban (% of urban population with access)	Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 21 litres a person a day from a source within one kilometre of the dwelling.
Physicians (per 1,000 people)	Number of physicians per 1,000 people, as reported in public data sources (with the last available data as in 2010). The higher the number of physicians the better the access to medical cover.
Hospital Beds (per 1,000 people)	Number of beds per 1,000 people, as reported in public data sources (with the last available data as in 2010). A high number of beds informs about the medical structures and departments implemented in every country, notwithstanding any debate about the efficiency of these structures nor whether infrastructure is adequate for the number with sick people.

Source: BofA Merrill Lynch Global Research

Human Capital

Table 32: Human Capital

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BofAML scoring scale	Scoring Formula	Interpretation
Public spending on education, total (% of GDP)	High = Better	%	2009	32.39%	[0-100]	% rank formula	0 = Bad ; 100= Good
Royalty and license fees, receipts (BoP, current US\$) per Capita	High = Better	\$	2008	45.07%	[0-100]	% rank formula	0 = Bad ; 100= Good
Research and development expenditure (% of GDP)	High = Better	%	2008	61.03%	[0-100]	% rank formula	0 = Bad ; 100= Good
Researchers in R&D (per million people)	High = Better	#	2008	67.14%	[0-100]	% rank formula	0 = Bad ; 100= Good
GDP per person employed (constant 1990 PPP \$)	High = Better	\$	2008	43.19%	[0-100]	% rank formula	0 = Bad ; 100= Good
Employment to population ratio, 15+, total (%)	High = Better	%	2008	18.31%	[0-100]	% rank formula	0 = Bad ; 100= Good
Unemployment, total (% of total labour force)	High = Worst	%	2009	41.78%	[0-100]	% rank formula	0 = Bad ; 100= Good
Rigidity of employment index (0=less rigid to 100=more rigid)	High = Worst	#	2009	19.25%	[0-100]	100 - Initial Data	0 = Bad ; 100= Good
Labour participation rate, female (% of female population ages 15+)	High = Better	%	2009	13.62%	[0-100]	% rank formula	0 = Bad ; 100= Good
Ratio of female to male enrolments in tertiary education	High = Better	Ratio	2008	34.27%	[0-100]	% rank formula	0 = Bad ; 100= Good
Ratio of girls to boys in primary and secondary education (%)	High = Better	%	2009	18.78%	[0-100]	% rank formula	0 = Bad ; 100= Good
Share of women employed in the non-agricultural sector (% of total non-agricultural employment)	High = Better	%	2008	44.60%	[0-100]	% rank formula	0 = Bad ; 100= Good
Labor participation rate, total (% of total population ages 15+) (New)	High = Better	%	2009	13.62%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 33: Human Capital

Indicator	Explanatory Note of Human Capital Indicators
Public spending on education, total (% of GDP)	Public expenditure on education consists of current and capital public expenditure on education includes government spending on educational institutions (both public and private), education administration as well as subsidies for private entities (students/households and other private entities).
Royalty and license fees, receipts (BoP, current US\$) per Capita	Royalty and license fees are payments and receipts between residents and non-residents for the authorized use of intangible, non-produced, nonfinancial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes, and franchises) and for the use, through licensing agreements, of produced originals of prototypes (such as films and manuscripts). Data are in current U.S. dollars.
Research and development expenditure (% of GDP)	Expenditures for research and development are current and capital expenditures (both public and private) on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture, and society, and the use of knowledge for new applications. R&D covers basic research, applied research, and experimental development.
Researchers in R&D (per million people)	Researchers in R&D are professionals engaged in the conception or creation of new knowledge, products, processes, methods, or systems and in the management of the projects concerned. Postgraduate PhD students (ISCED97 level 6) engaged in R&D are included.
GDP per person employed (constant 1990 PPP \$)	GDP per person employed is gross domestic product (GDP) divided by total employment in the economy. Purchasing power parity (PPP) GDP is GDP converted to 2190 constant international dollars using PPP rates. An international dollar has the same purchasing power over GDP that a U.S. dollar has in the United States.
Employment to population ratio, 15+, total (%)	Employment to population ratio is the proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population.
Unemployment, total (% of total labour force)	Unemployment refers to the share of the labour force that is without work but available for and seeking employment. Definitions of labour force and unemployment differ by country.
Rigidity of employment index (0=less rigid to 100=more rigid)	The rigidity of employment index measures the regulation of employment, specifically the hiring and firing of workers and the rigidity of working hours. This index is the average of three sub indexes: a difficulty of hiring index, a rigidity of hours index, and a difficulty of firing index. The index ranges from 0 to 100, with higher values indicating more rigid regulations.
Labour participation rate, female (% of female population ages 15+)	Labour force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labour for the production of goods and services during a specified period.
Ratio of female to male enrolments in tertiary education	Ratio of female to male tertiary enrolment is the percentage of men to women enrolled at tertiary level in public and private schools.
Ratio of girls to boys in primary and secondary education (%)	Ratio of girls to boys in primary and secondary education is the percentage of girls to boys enrolled at primary and secondary levels in public and private schools.
Share of women employed in the non-agricultural sector (% of total non-agricultural employment)	Share of women employed in the non-agricultural sector is the share of female workers in the non-agricultural sector (industry and services), expressed as a percentage of total employment in the non-agricultural sector. Industry includes mining and quarrying (including oil production), manufacturing, construction, electricity, gas, and water, corresponding to divisions 2-5 (ISIC revision 2) or tabulation categories C-F (ISIC revision 3). Services include wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services-corresponding to divisions 6-9 (ISIC revision 2) or tabulation categories G-P (ISIC revision 3).
Labor participation rate, total (% of total population ages 15+)	Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.

Source: BofA Merrill Lynch Global Research

Human Development

Table 34: Human Development

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Human Development Index (score)	High = Better	#	2010	22.54%	[0-100]	% rank formula	0 = Bad ; 100= Good
Inequality-adjusted HDI (New)	High = Better	#	2010	38.50%	[0-100]	% rank formula	0 = Bad ; 100= Good
Inequality-adjusted life expectancy index (New)	High = Better	#	2010	38.50%	[0-100]	% rank formula	0 = Bad ; 100= Good
Inequality-adjusted education index (New)	High = Better	#	2010	35.68%	[0-100]	% rank formula	0 = Bad ; 100= Good
Inequality-adjusted income index (New)	High = Better	#	2010	38.03%	[0-100]	% rank formula	0 = Bad ; 100= Good
Gender Inequality Index (New)	High = Better	#	2010	32.86%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 35: Human Development

Indicator	Explanatory Note of Human Development Indicator
Human Development Index (score)	The Human Development Index (HDI) is a summary composite index that measures a country's average achievements in three basic aspects of human development: health, knowledge, and income. The Index is calculated using Atkinson formula.
Inequality-adjusted HDI	Inequality-adjusted HDI (IHDI), a measure of the level of human development of people in a society that accounts for inequality. The Index is calculated using Atkinson formula.
Inequality-adjusted life expectancy index	The HDI life expectancy index adjusted for inequality in distribution of expected length of life based on data from life tables The Index is calculated using Atkinson formula.
Inequality-adjusted education index	The HDI education index adjusted for inequality in distribution of years of schooling based on data from household surveys. The Index is calculated using Atkinson formula.
Inequality-adjusted income index	The HDI income index adjusted for inequality in income distribution based on data from household surveys. The Index is calculated using Atkinson formula.
Gender Inequality Index	Gender Inequality exposes differences in the distribution of achievements between women and men.

Source: BofA Merrill Lynch Global Research

IT & Telecom Infrastructure Needs

Table 36: IT & Telecom Infrastructure Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Mobile cellular subscriptions (per 100 people)	High = Better	#	2009	7.04%	[0-100]	% rank formula	0 = Bad ; 100= Good
Households with television (%) / Total Households	High = Better	%	2008	74.18%	[0-100]	% rank formula	0 = Bad ; 100= Good
International voice traffic (minutes per person)	High = Better	min per person	2008	33.80%	[0-100]	% rank formula	0 = Bad ; 100= Good
Internet users (per 100 people)	High = Better	#	2009	6.57%	[0-100]	% rank formula	0 = Bad ; 100= Good
Personal computers (per 100 people)	High = Better	#		53.52%		% rank formula	0 = Bad ; 100= Good
Mobile and fixed line telephone subscribers (per 100 people)	High = Better	#	2008	7.51%	[0-100]	% rank formula	0 = Bad ; 100= Good
Telephone lines (per 100 people)	High = Better	#	2009	3.29%	[0-100]	% rank formula	0 = Bad ; 100= Good
Population covered by mobile cellular network (%)	High = Better	%	2008	24.88%	[0-100]	Initial Data	0 = Bad ; 100= Good
Secure Internet servers (per 1 million people)	High = Better	#	2009	2.82%	[0-100]	% rank formula	0 = Bad ; 100= Good
Telecommunications revenue (% GDP)	High = Better	%	2008	22.54%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 37: IT Infrastructure Needs

Indicator	Explanatory Note of IT Infrastructure Needs Indicators
Mobile cellular subscriptions (per 100 people)	Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service using cellular technology, which provide access to the public switched telephone network. Post-paid and prepaid subscriptions are included.
Households with television (%) / Total Households	Percentage of households with a television set.
International voice traffic (minutes per person)	International voice traffic is the sum of international incoming and outgoing telephone traffic (in minutes).
Internet users (per 100 people)	Internet users are people with access to the worldwide network.
Personal computers (per 100 people)	Personal computers are self-contained computers designed to be used by a single individual.
Mobile and fixed line telephone subscribers (per 100 people)	Mobile and fixed-line subscribers are total telephone subscribers (fixed-line plus mobile).
Telephone lines (per 100 people)	Telephone lines are fixed telephone lines that connect a subscriber's terminal equipment to the public switched telephone network and that have a port on a telephone exchange. Integrated services digital network channels and fixed wireless subscribers are included.
Population covered by mobile cellular network (%)	Population covered by mobile cellular network is the percentage of people that live in areas served by a mobile cellular signal regardless of whether they use it.
Secure Internet servers (per 1 million people)	Secure servers are servers using encryption technology in Internet transactions.
Telecommunications revenue (% GDP)	Telecommunications revenue is the revenue from the provision of telecommunications services such as fixed-line, mobile, and data.

Source: BofA Merrill Lynch Global Research

Labour Issues

Table 38: Labour Issues

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Rate of Days not worked (New)	High = Worst	%	2010	69.48%	[0-100]	% rank formula	0 = Bad ; 100= Good
Rates of Occupational Injuries (Fatal + Non Fatal Injuries Per 100,000 workers employed) (New)	High = Worst	%	2010	69.95%	[0-100]	% rank formula	0 = Bad ; 100= Good
Trade Union (%) (New)	High = Better	%	2005-2010	67.14%	[0-100]	% rank formula	0 = Bad ; 100= Good
Annual Hours worked per person (New)	High = Worst	%	2010	83.57%	[0-100]	% rank formula	0 = Bad ; 100= Good
Average Wages (\$ PPP - 2005) (New)	High = Better	#	2009	51.17%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 39: Labour Issues

Indicator	Explanatory Note of Labour Issues Indicators
Rate of Days not worked	The severity rates of strikes and lockouts are generally calculated in terms of the number of days not worked per 1,000 workers.
Rates of Occupational Injuries (Fatal + Non Fatal Injuries Per 100,000 workers employed)	Frequency or incidence rates of fatal and non-fatal occupational injuries. Frequency rates are generally calculated as the number of new cases of injury during the calendar divided by the total number of hours worked by workers in the reference group during the year, multiplied by 1,000,000. Incidence rates are calculated as the number of new cases of injury during the calendar year divided by the number of workers in the reference group during the year, multiplied by 100,000.
Trade Union (%)	Represents trade union membership as a % of workforce
Annual Hours worked per person	The average annual hours of work per person
Average Wages (\$ PPP - 2005)	The average wages of employees

Source: BofA Merrill Lynch Global Research

Lifestyle Risks

Table 40: Lifestyle Risks

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Alcohol consumption (litres per capita per year)	High - Worst	#	2005	10.80%	[0-100]	% rank formula	0 = Bad ; 100= Good
Tobacco	High - Worst	%	2006	35.21%	[0-100]	% rank formula	0 = Bad ; 100= Good
Obesity (proportion of people in normal BMI limits)	High - Better	%	variable - 2000-2009	71.36%	[0-100]	% rank formula	0 = Bad ; 100= Good
Suicide	High - Worst	# (per 100 000)	variable	52.58%	[0-100]	% rank formula	0 = Bad ; 100= Good
Road	High - Worst	# (per 100 000)	2007	17.84%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 41: Lifestyle Risks

Indicator	Explanatory Note of Lifestyle Risks Indicators
Alcohol consumption (liters per capita per year)	Alcohol consumption among adults (≥15 years) (litres of pure alcohol per year), including both male and female drinkers
Tobacco	Prevalence of current tobacco users among adults (≥15 years) (%) - Male & Female
Obesity (proportion of people in normal BMI limits)	Proportion of people with BMI (Body Mass Index) between normal limits
Suicide	Suicide rates per 100,000 people, last available data as available in 2009
Road	Estimated road traffic death rate (per 100 000 people)

Source: BofA Merrill Lynch Global Research

Security

Table 42: Security

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Homicide rate (per 100,000 people)	High - Worst	#	2003-2008	33.33%	[0-100]	% rank formula	0 = Bad ; 100= Good
Robbery rate (per 100,000 people)	High - Worst	#	2003-2009	53.99%	[0-100]	% rank formula	0 = Bad ; 100= Good
Military Expenditure (% GDP)	High - Worst	%	2010	36.62%	[0-100]	% rank formula	0 = Bad ; 100= Good
Population affected by natural disasters ((average per year, per million people))	High - Worst	%	2000-2009	24.88%	[0-100]	% rank formula	0 = Bad ; 100= Good
Prison population rate (per 100,000 of national population) (New)	High - Worst	%	2000-2009	8.92%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 43: Security

Indicator	Explanatory Note of Security Indicators
Homicide rate (per 100,000 people)	Refers to people killed in violent action and registered as such by the local and national police departments
Robbery rate (per 100,000 people)	Refers to recorder robberies as registered as such by the local and national police departments
Military Expenditure (% GDP)	Military expenditures (State Budget) divided by GDP, with the last figure available
Population affected by natural disasters ((average per year, per million people))	Natural disasters have an impact on people and quality of life, as well as it creates unsafe environment for them. Natural disasters happen infrequently. Yet, with an average based upon a decade figures are more consistent and stable. The figures here includes deaths from diarrhoea attributable to water, sanitation and hygiene; deaths from acute respiratory infections (children under age 5), chronic obstructive pulmonary disease (adults over age 30) and lung cancer (adults over age 30) attributable to indoor smoke; and deaths from respiratory infections and diseases, lung cancer and selected cardiovascular diseases attributable to outdoor air pollution.
Prison population rate (per 100,000 of national population)	Total prison population

Source: BofA Merrill Lynch Global Research

Social Protection

Table 44: Social Protection

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Share of population above legal retirement age in receipt of a pension (%) (New)	High = Better	%	2000-2009	36.62%	[0-100]	Percentrank Formula	0 = Bad ; 100= Good
Active contributors to a pension scheme in the working-age population (%) (New)	High = Better	%	2000-2009	34.74%	[0-100]	% rank formula	0 = Bad ; 100= Good
Public social security expenditure excluding health expenditure (% of GDP) (New)	High = Better	%	2009	34.27%	[0-100]	% rank formula	0 = Bad ; 100= Good
Public Social Security Expenditure / Health Expenditure (New)	High = Better	%	2009	36.62%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 45: Social Protection

Indicator	Explanatory Note of Social Protection
Share of population above legal retirement age in receipt of a pension (%)	The numerator is the total number of recipients (without double counting) of a retirement pension. - Beneficiaries from supplementary benefits received in complement to another basic old-age benefit (i.e. "second-pillar" schemes) are excluded to avoid double counting. - Benefits covered are periodic cash retirement benefits. They can be means-tested or non means-tested and provided through contributory, universal or targeted schemes. - As far as possible, it includes survivor and disability benefits once the beneficiary of such benefit reaches the legal retirement age. This total number of old-age pensioners is then set into relation with the size of the elderly population of reference. Many of the countries observed have provided figures for only the total number of old-age pension recipients. The legal retirement age in some sub-Saharan African countries can be as low as 55, but is mostly 60. Thus the national statutory retirement age (so far as there is only one) is used for the calculation of the indicator.

Table 45: Social Protection

Indicator	Explanatory Note of Social Protection
Active contributors to a pension scheme in the working-age population (%)	The numerator is the number of active contributors (without double counting) to national existing contributory retirement schemes. - Contributors to supplementary benefits received in complement to another basic old-age benefit (i.e. "second-pillar" schemes) are excluded to avoid double counting. - Benefits covered are periodic cash retirement benefits. They can be means-tested or non means-tested and provided through contributory, universal or targeted schemes. This total number of active contributors is then set into relation with the size of the working-age population."
Public social security expenditure excluding health expenditure (% of GDP)	Total annual public social security expenditure is the sum of expenditure (including benefit expenditure and administration costs) of all existing public social security/social protection schemes or programmes in the country. The scope of the indicators corresponds to the scope of the Social Security (Minimum Standards) Convention, 1952 (No. 102), which established nine classes of benefits: medical care, sickness benefit, unemployment benefit, old-age benefit, employment injury benefit, family benefit, maternity benefit, invalidity benefit and survivors' benefit, plus other income support and assistance programmes, including conditional cash transfers, available to the poor and not included under the above classes.
Public Social Security Expenditure / Health Expenditure	Ratio of Public Social Security Expenditure and Health Expenditure

Source: BofA Merrill Lynch Global Research

Transport Infrastructure Needs

Table 46: Transport Infrastructure Needs

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Air transport, registered carrier departures worldwide/ GDP per Capita	High = Better	#	2009	36.15%	[0-100]	% rank formula	0 = Bad ; 100= Good
Rail lines (total route km) per (mn person)/ GDP per Capita	High = Better	km	2009	52.11%	[0-100]	% rank formula	0 = Bad ; 100= Good
Roads, paved (% of total roads)	High = Better	%	2008	64.32%	[0-100]	Initial Data	0 = Bad ; 100= Good
Logistics performance index: Overall (1=low to 5=high)	High = Better	#	2009	23.00%	[0-100]	% rank formula	0 = Bad ; 100= Good
Motor vehicles (per 1,000 people)	High = Better	#	2008	24.88%	[0-100]	% rank formula	0 = Bad ; 100= Good
Container port traffic (TEU: 20 foot equivalent units) (New)	High = Better	#	2009	69.95%	[0-100]	% rank formula	0 = Bad ; 100= Good
Passenger cars (per 1,000 people) (New)	High = Better	#	2008	29.58%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 47: Transport Infrastructure Needs

Indicator	Explanatory Note of Transport Infrastructure Needs Indicators
Air transport, registered carrier departures worldwide/ GDP per Capita	Registered carrier departures worldwide are domestic takeoffs and takeoffs abroad of air carriers registered in the country.
Rail lines (total route km) per (mn person)/ GDP per Capita	Rail lines are the length of railway route available for train service, irrespective of the number of parallel tracks.
Roads, paved (% of total roads)	Paved roads are those surfaced with crushed stone (macadam) and hydrocarbon binder or bituminized agents, with concrete, or with cobblestones, as a percentage of all the country's roads, measured in length.
Logistics performance index: Overall (1=low to 5=high)	Logistics Performance Index overall score reflects perceptions of a country's logistics based on efficiency of customs clearance process, quality of trade- and transport-related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time. The index ranges from 1 to 5, with a higher score representing better performance. The markets are chosen based on the most important export and import markets of the respondent's country, random selection, and, for landlocked countries, neighbouring countries that connect them with international markets. Scores for the six areas are averaged across all respondents and aggregated to a single score using principal components analysis.
Motor vehicles (per 1,000 people)	Motor vehicles include cars, buses, and freight vehicles but do not include two-wheelers. Population refers to midyear population in the year for which data are available.
Container port traffic (TEU: 20 foot equivalent units)	Port container traffic measures the flow of containers from land to sea transport modes., and vice versa, in twenty-foot equivalent units (TEUs), a standard-size container. Data refer to coastal shipping as well as international journeys. Transshipment traffic is counted as two lifts at the intermediate port (once to off-load and again as an outbound lift) and includes empty units.
Passenger cars (per 1,000 people)	Passenger cars refer to road motor vehicles, other than two-wheelers, intended for the carriage of passengers and designed to seat no more than nine people (including the driver).

Source: BofA Merrill Lynch Global Research

3) GOVERNANCE

The following tables provide an overview of our 5 WDWG governance themes: business rights, country governance (corruption), country governance (democratic life), country governance (political effectiveness) and financial stability.

Business Rights

Table 48: Business Rights

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Domestic credit to private sector (% of GDP)	High = Better	%	2010	16.90%	[0-100]	% rank formula	0 = Bad ; 100= Good
Ease of doing business index (1=most business friendly regulations)	High = Worst	#	2010	20.19%	[0-100]	% rank formula	0 = Bad ; 100= Good
Total tax rate (% of profit)	High = Worst	%	2010	14.55%	[0-100]	% rank formula	0 = Bad ; 100= Good
Highest marginal tax rate, corporate rate (%)	High = Worst	%	2009	48.83%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 49: Business Rights

Indicator	Explanatory Note of Political Effectiveness Indicators
Domestic credit to private sector (% of GDP)	Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises.
Ease of doing business index (1=most business friendly regulations)	Ease of doing business index ranks economies from 1 to 183, with first place being the best. A high ranking means that the regulatory environment is conducive to business operation. The index ranks the simple average of the country's percentile rankings on various topics covered by public reporting sources. The ranking on each topic is the simple average of the percentile rankings on its component indicators.
Total tax rate (% of profit)	Total tax rate is the total amount of taxes payable by businesses (except for labor taxes) after accounting for deductions and exemptions as a percentage of profit.
Highest marginal tax rate, corporate rate (%)	Highest marginal tax rate (corporate rate) is the highest rate shown on the schedule of tax rates applied to the taxable income of corporations.

Source: BofA Merrill Lynch Global Research

Country Governance: Corruption

Table 50: Corruption

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Control of Corruption	High = Better	#	2009	6.57%	[0-100]	Initial Data	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 51: Corruption

Indicator	Explanatory Note of Corruption Indicator
Control of Corruption	Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

Source: BofA Merrill Lynch Global Research

Country Governance: Democratic Life

Table 52: Democratic Life

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Voice & Accountability	High = Better	#	2009	6.57%	[0-100]	Initial Data	0 = Bad ; 100= Good
Political Stability/ Absence of Violence & Terrorism	High = Better	#	2009	6.10%	[0-100]	Initial Data	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 53: Democratic Life

Indicator	Explanatory Note of Democratic Life Indicators
Voice & Accountability	Voice and accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
Political Stability/ Absence of Violence & Terrorism	Political stability and absence of violence measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism

Source: BofA Merrill Lynch Global Research

Financial Stability

Table 54: Financial Stability

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Central Govt Debt (% of GDP) – NEW	High = Better	#	2010	22.07%	[0-100]	% rank formula	0 = Bad ; 100= Good
Exports of Goods & Services (% of GDP) – NEW	High = Better	#	2010	22.54%	[0-100]	% rank formula	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 55: Financial Stability

Indicator	Explanatory Note of Financial Stability
Central Govt Debt (% of GDP)	"Debt is the entire stock of direct government fixed-term contractual obligations to others outstanding on a particular date. It includes domestic and foreign liabilities such as currency and money deposits, securities other than shares, and loans. It is the gross amount of government liabilities reduced by the amount of equity and financial derivatives held by the government. Because debt is a stock rather than a flow, it is measured as of a given date, usually the last day of the fiscal year.
Exports of Goods & Services (% of GDP)	"Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments."

Source: BofA Merrill Lynch Global Research

Country governance: Political Effectiveness

Table 56: Political Effectiveness

Indicator	Direction	Unit	Most Recent Year	% Missing Data (countries)	BAML scoring scale	Scoring Formula	Interpretation
Government Effectiveness	High = Better	#	2009	6.57%	[0-100]	Initial Data	0 = Bad ; 100= Good
Regulatory Quality	High = Better	#	2009	6.57%	[0-100]	Initial Data	0 = Bad ; 100= Good
Rule of Law	High = Better	#	2009	6.10%	[0-100]	Initial Data	0 = Bad ; 100= Good

Source: BofA Merrill Lynch Global Research

Table 57: Political Effectiveness

Indicator	Explanatory Note of Political Effectiveness Indicators
Government Effectiveness	Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
Regulatory Quality	Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
Rule of Law	Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

Source: BofA Merrill Lynch Global Research

Appendix 1: Overview of changes in methodology in 2012 WDWW

In the following section we present and discuss the changes to our updated 2012 WDWW Primer methodology – including our overall objectives, sources, indicators, themes, criteria, scoring process and how we deal with missing country or company data.

Summary of changes

The underlying rationale in all changes to the methodology is to reinforce the underlying goal of WDWW, which is to screen and correlate relationships between company geographic exposure and country risk across long shelf life ESG issues which could impact long-term financial risk and performance. Bearing that in mind – as well as feedback on the model over the last year – the changes encompass:

- **Access to new reliable, accurate, up-to-date, valid data sources**, for already covered themes or new themes for which no data was previously available;
- **New or self-standing themes** to cover new ESG topics which in our view could influence financial risk or performance, or to separate existing themes into two self-standing / dedicated themes;
- **Changes in coverage**: Access to a wider scope of countries or companies on a geographic basis, or enlarging the number of regional entities for which we can calculate aggregated ESG data and scorings;
- **Modifications in mathematical formulae** to arrive at more comparable and reliable results; and
- **Modifications in data processing rules** to ensure more robust output

The table below outlines the changes introduced in the methodology in the 2012 WDWW Primer (which are outlined in further detail below).

Table 58: WDWW 2012 Primer (v2.0) - factsheet of changes

Topic	WDWW 2011 (v.1.0)	WDWW 2012 (v2.0)
Coverage	205 countries 20 main regional areas 3,000+ companies	214 countries 54 main and sub-regional areas 5,000+ companies
Criteria	3: Environment (E), Social, (S) Governance (G)	3: Environment (E), Social, (S) Governance (G)
Themes	21 (E: 6 / S: 11 / G: 4)	28 (E: 8 / S: 15 / G: 5)
Indicators	126	172
Scoring Formula	"Median Formula"	Percentile rank formula
Scoring weighting	Indicators Equally-weighted at theme level, then rebased on [0;100] Themes equally-weighted at criterion level, then rebased on [0;100] Criteria equally-weighted in final average, then rebased on [0;100]	Indicators Equally-weighted at theme level, no rebasing Themes equally-weighted at criterion level, then rebased on [0;100] Criteria equally-weighted in final geometric average, then rebased on [0;100]
Missing data	Not scored at indicator level, then neutralized at theme level	Missing raw data replaced by regional geographic average, then scored
Precision of Estimates	Average Scorings	Average Scorings Upper and lower limits estimated for regional scorings (c.95% confidence level range)

Table 58: WDDW 2012 Primer (v2.0) - factsheet of changes

Topic	WDDW 2011 (v.1.0)	WDDW 2012 (v2.0)
Historic track record	1Y (2009) for country	10Y (2001-2010) for country
Sources	International Organisations	International Organisations
Company geographic breakdown	10 geographic segments max.	10 geographic segments max Company geo, presence matrix (5 levels of detail, from super continent to individual disclosed countries)
Company scoring weighting	Based on - % geo sales - % geo assets	Based on - % geo sales - % geo assets - % geo operating income
Update Frequency	At least once a year	At least once a year

Source: BofA Merrill Lynch Global Research

7 new ESG themes

We have added seven new or self-standing ESG themes to the existing 21 – all of which we identify as “long shelf life” issues influencing long-term financial risk and performance. The new themes are: 1) *Environmental*: Energy Dependence, Pollution, Resource Depletion; 2) *Social*: Demographics – Life Conditions, Demographics – Dynamics, Labour Issues, Social Protection; and 3) *Governance*: Financial Stability. The 28 WDDW ESG themes are built upon 172 macro indicators (up from 126) based on publicly disclosed data from a number of international organisations:

- All new themes and indicators are based in publicly disclosed data from a number of international organisations.
- All new data continues to use the source with the best (i.e. most comprehensive) coverage in terms of available years of historic data points, number of countries, and likelihood of on-going, future coverage.
- All interpretation and analysis of this new data continues to be entirely undertaken by BofA Merrill Lynch Global Research.

Environmental themes

The changes introduced are:

- Splitting the “Energy Efficiency” theme into two self-standing themes: “Energy Efficiency” and “Energy Dependency.”
- Splitting the “Resource Depletion & Pollution” theme into two self-standing themes.

Social themes

The changes introduced are:

- Demographics was split into two separate themes: “Demographics – Dynamic and “Demographics - Life Conditions.”
- Introducing a new “Labour Issues” theme.
- Introducing a new “Social Protection” theme .

Governance themes

The changes introduced are:

- Introducing a new “Financial Stability” theme.

5 indicators removed

We have removed five indicators either because of the level of missing data or because we believe they are better covered by the newly introduced indicators (See Appendix 2 for list of removed indicators).

Modifications to scoring process

We have simplified the scoring formula. From now on, our scoring on every indicator will be systematically derived from a direct percentile ranking, rather than the previous median-centred, normalising formula. The main impact of this change is the distribution of scorings for every indicator. The percentile rank formula on a [0-100] scale simply assigns every country with its relative percentile rank.

Advantages of the new scoring formula

Among the advantages of the new percentile rank formula are that:

- The distribution is simple, stable, and symmetric, with median = average = 50
- The extremes have no effect on the scoring distribution
- The distribution is absolutely stable across time
- The distribution is not only comparable, but identical across indicators, which means that as a practical consequence that every indicator is perfectly equally-weighted.
- The distribution still respects our three previous requirements: max score as 100, median score as 50, and min score as 0.

Potential limitations of the new formula

As is inevitable with percentile rankings, the proportion of distance between points (countries in this case) is lost. For illustration purposes - if one country is very highly scored – i.e. ahead of others by 50%, while the second best one is only scored ahead by 1%, final ranking will assign them with the same percentile rank (100).

Table 59: Illustrative example of new percentile rank formula on final scoring

Initial raw data	Simple Proportion	Median Formula	Percentile Rank
7	0	0	0
9	1	0	6
20	4	2	13
25	6	3	19
56	17	8	25
59	18	9	31
61	18	9	38
70	22	11	44
72	22	50	50
73	23	50	56
74	23	50	63
80	25	52	69
85	27	53	75
110	35	58	81

Table 59: Illustrative example of new percentile rank formula on final scoring

Initial raw data	Simple Proportion	Median Formula	Percentile Rank
130	42	63	88
150	49	67	94
300	100	100	100
Average	25	34	50
Median	22	50	50
Max	100	100	100
Min	0	0	0
Standard deviation	23	30	31

Source: BofA Merrill Lynch Global Research

Missing data - introduction of regional averages

We have introduced regional averages for missing country data at indicator level. This change gives us a proxy for missing data at indicator level. It minimises the effect of missing data when scoring a theme and avoids the likelihood of a country benefitting from a poor score. The following table gives an illustration of the consequences of the new rule.

Table 60: Effect on replacing missing data with geo averages: country scoring and ranking before (top) and after (below)

	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Theme Average	rank
Country X	73	NA	50	NA	62	1
Country Y	55	53	40	30	45	4
Country W	20	20	15	NA	18	5
Country Z	NA	60	45	45	50	2
Country YY	80	NA	38	20	46	3
Regional Average	57.00	44.33	37.60	31.67	44.07	
Country X	73	44	50	32	50	2
Country Y	55	53	40	30	45	4
Country W	20	20	15	32	22	5
Country Z	57	60	45	45	52	1
Country YY	80	44	38	20	46	3
Regional Average	57.00	44.33	37.60	31.67	42.65	

Source: BofA Merrill Lynch Global Research

Company exposure - introduction of operating income

In terms of companies' geographic breakdowns, we have added operating income to the existing sales and assets segments. The addition provides an additional way to screen and correlate relationships between company geographic exposure and country risk. Moreover, as economic growth strongly varies from one country or area to another, we believe that the influence of geographic positioning in terms of operating income might have a greater influence on weighted scores than sales or assets.

The potential limitation is that companies' geographical disclosure on operating income is less comprehensive than for either sales or assets.

34 new regions or areas

We have added 34 new regional or aggregated area scorings – according to the scorings of the countries they include. In addition to building on the existing 20 regions and sub-regions, we have added a number of additional regions and aggregated areas on the following basis:

- Company disclosure on a geographic basis (Europe, Africa, etc)
- Company disclosure on a regional area basis (European Union, ASEAN, etc),
- Company disclosure on an international organisation basis (OECD, etc)
- Countries which have ratified certain international conventions (i.e. 8 fundamental ILO standards, etc)
- Countries which fall within certain levels of economic development (i.e. Low Human development etc.)

This continues to be necessary as company disclosure on a geographic basis is not always done on an individual country basis. The additional regions and areas allow us to better screen and correlate relationships between company and country exposure.

54 major regions/areas scored in the WDW model

Americas	Europe	Asia	Other	Other
North America	Europe	Asia Pacific	World	G20
South America				ILO Freedom (Conv. 87 + 98)
	Western Europe	Asia	ROW	ILO Forced Labour (Conv. 29 + 105)
Latin America				ILO Discrimination (Conv. 100 + 111)
Central America	EU	Asia Ex Japan	EMEA	ILO Child labour (Conv. 138 + 182)
Caribbean	Central Europe	Asia ex China	EMEA ex Europe	
	Eastern Europe	Asia ex India	Middle East	
Americas		Asia ex		
	Latin Europe	India/China/Japan	Arabic World	OECD Tax Havens
Latin America & Caribbean	Scandinavia	Asia Pacific ex		
		Australia	Africa	OPEC
	Baltic	ASEAN	Africa (Sub-Sahara)	Very High Human Development
				High Human Development
	Eurozone	Central Asia	OCEANIA	Medium Human Development
	Central & Eastern Europe	East Asia & Pacific	BRIC	Low Human Development
		South Asia	BRICSAT	Arab States
			Emerging Countries	EU & Central Asia
			OECD	

Source: BofA Merrill Lynch Global Research

APPENDIX 2: Overview of new and removed Indicators

The table below provides an overview of the newly introduced indicators as well as the indicators which were removed (and their related ESG theme).

List of new and removed indicators

INDICATORS ADDED		INDICATORS REMOVED	
Indicator	ESG Theme	Indicator	ESG Theme
Nuclear Electricity (% of total electricity generation)	Climate Change	Investment in energy with private participation (current US\$)/ Total GDP	Energy Infrastructure Needs
Hydro Electricity (% of total electricity generation)	Climate Change	HDI Rank	Human Development
Non Hydro Renewables (% of total electricity generation)	Climate Change	Income Gini coefficient	Economic Inequality
Value of Net Oil Imports as % of GDP	Energy Dependency	Investment in transport with private participation (current US\$) (% of GDP)	Transport Infrastructure Needs
Electric Distribution Losses (% of total generation)	Energy Infrastructure Needs	Investment in telecoms with private participation (current US\$) (% of GDP)	Telecom Infrastructure Needs
Fertilizers use reduction (2002 baseline = 100)	Resources Depletion		
Percentage of total actual renewable freshwater resources withdrawal	Water scarcity		
% of population between 1- 14	Demographics- Dynamic		
% of population between 15- 64	Demographics- Dynamic		
Income Ratio Quintile	Economic Inequality		
School enrolment, tertiary (% gross)	Education		
School enrolment, secondary (% gross)	Education		
School enrolment, secondary (% net)	Education		
Expenditure per student, secondary (% of GDP per capita)	Education		
Crop production index (1999-2001 = 100)	Food Issues & Needs		
Food production index (1999-2001 = 100)	Food Issues & Needs		
Livestock production index (1999-2001 = 100)	Food Issues & Needs		
Fertilizers dependency (kg fertilisers / arable land ha)	Food Issues & Needs		
Added Value per worker (constant US\$ 2000)	Food Issues & Needs		
Fertilizers use reduction (2002 baseline = 100)	Food Issues & Needs		
Crop Production Index Delta/ Fertilizer Index delta	Food Issues & Needs		
Labor participation rate, total (% of total population ages 15+)	Human Capital		
Inequality-adjusted HDI	Human Development		
Inequality-adjusted life expectancy index	Human Development		
Inequality-adjusted education index	Human Development		
Inequality-adjusted income index	Human Development		

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List of new and removed indicators

INDICATORS ADDED		INDICATORS REMOVED	
Indicator	ESG Theme	Indicator	ESG Theme
Gender Inequality Index	Human Development		
Prison population rate (per 100,000 of national population)	Security		
Container port traffic (TEU: 20 foot equivalent units)	Transport Infrastructure Needs		
Passenger cars (per 1,000 people)	Transport Infrastructure Needs		
Industry as added value (% of GDP)	Employment		
Investment as a % of GDP	Employment		
Rate of Days not worked	Labor Issues		
Rates of Occupational Injuries (Fatal + Non Fatal Injuries Per 100,000 workers employed)	Labour Issues		
Trade Union (%)	Labour Issues		
Annual Hours worked per person	Labour Issues		
Average Wages (\$ PPP - 2005)	Labour Issues		
Share of population above legal retirement age in receipt of a pension (%)	Social Protection		
Active contributors to a pension scheme in the working-age population (%)	Social Protection		
Public social security expenditure excluding health expenditure (% of GDP)	Social Protection		
Public Social Security Expenditure / Health Expenditure	Social Protection		
Central Govt Debt (% of GDP)	Financial Stability		
Exports of Goods & Services (% of GDP)	Financial Stability		
Source: BofA Merrill Lynch Global Research			

Link to Definitions **Industrials**

Click [here](#) for definitions of commonly used terms.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
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Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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