FOUNDATIONS OF ESG INVESTING

A case study ON THE FINANCIAL RELEVANCE OF ESG FACTORS in Emerging Markets INVESTING

Mohdi Jeroudi
Vice President, Index and ESG Research Sales Specialist, MSCI
AGENDA

• ‘Foundations of ESG Investing’ Research Series

• Case Study: Financial Relevance of ESG in Emerging Markets

• What’s Next?
185+ ESG analysts¹ (325+ FTE)

1200+ clients

46 of 50
Global asset managers²

900+ ESG equity & fixed income indices use MSCI ESG Research ratings and data

¹ Source: MSCI ESG Research as of April 2018. Includes full time employees and allocated staff performing non-investment advisory tasks.

² Based on latest P&I AUM data and MSCI clients as of December 2017
### Key findings from industry surveys* on ESG investing:

| **Key drivers for adoption of ESG** | • Pressure from asset owner and beneficiaries  
|                                        | • Wish to lengthen investment horizon |
| **Key benefits of ESG adoption**      | • Survey participants expect better risk adjusted returns and  
|                                        | • Improve brand and reputation |
| **Most popular methods**              | • Negative screening  
|                                        | • ESG integration into portfolio management |
| **Key barriers to ESG investing**     | • Lack of industry standards for ESG disclosure and ESG rating  
|                                        | • Lack of experienced staff  
|                                        | • Lack of suitable investment solutions |
| **Status quo of ESG investing**       | • Currently most AOs are only partially integrating ESG  
|                                        | • Approaches are fragmented across allocations  
|                                        | • AO lack consistent framework for ESG integration |

## RESEARCH OBJECTIVES

### Step 1: Fundamental research
- Establish fundamental channels from ESG to financial values
- Elaborate what dependencies we can expect
- Mitigate risk of ‘correlation mining’

### Step 2: Empirical validation
- Validate dependencies using empirical analysis for each channel
- Differentiate between correlation and causality

### Step 3: Conclusions for investors
- Highlight areas of asset management where ESG integration can add value
- Derive methodology recommendations for ESG integration
INTEGRATING ESG INTO PASSIVE INSTITUTIONAL PORTFOLIOS

Passive ESG mandates

- May be built by tracking ESG indexes
- May follow the same regional break-down as standard benchmarks:

<table>
<thead>
<tr>
<th>MSCI ACWI ESG Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCI World ESG Leaders</td>
</tr>
<tr>
<td>MSCI USA ESG Leaders</td>
</tr>
<tr>
<td>MSCI World ex USA ESG Leaders</td>
</tr>
<tr>
<td>MSCI Emerging Markets ESG Leaders</td>
</tr>
<tr>
<td>Developed regions</td>
</tr>
</tbody>
</table>
**ESG BENCHMARK DESIGN**

**BROAD BENCHMARKS**

- **ACWI**
  - Full Investible

**ESG BENCHMARKS**

- **ACWI ESG Universal**
  - All Other Investible
    - ESG-Weighted
  - Top ESG
  - Poor ESG
  - Global Norms* CW**
  - Global Norms* CW**

*Global Norms = Exclusion of companies involved in very serious violations of international norms represented in numerous widely accepted global conventions, including the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact

** CW = Exclusion of companies involved in Controversial Weapons
INTEGRATING ESG INTO PASSIVE INSTITUTIONAL PORTFOLIOS
GLOBAL AND REGIONAL MANDATES

Historical Regional performance comparison: World ex USA, USA and Emerging Markets

<table>
<thead>
<tr>
<th></th>
<th>MSCI EM</th>
<th>MSCI EM ESG Leaders</th>
<th>MSCI World ex USA</th>
<th>MSCI World ex USA ESG Leaders</th>
<th>MSCI USA</th>
<th>MSCI USA ESG Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Return (%)</td>
<td>5.3</td>
<td>9.3</td>
<td>8.2</td>
<td>8.8</td>
<td>16.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Total Risk (%)</td>
<td>17.2</td>
<td>16.1</td>
<td>14.1</td>
<td>13.7</td>
<td>11.1</td>
<td>11.0</td>
</tr>
<tr>
<td>Return/Risk</td>
<td>0.31</td>
<td>0.58</td>
<td>0.58</td>
<td>0.64</td>
<td>1.44</td>
<td>1.35</td>
</tr>
<tr>
<td>Sharpe Ratio</td>
<td>0.29</td>
<td>0.56</td>
<td>0.56</td>
<td>0.62</td>
<td>1.41</td>
<td>1.32</td>
</tr>
<tr>
<td>Active Return (%)</td>
<td>0.0</td>
<td>4.0</td>
<td>0.0</td>
<td>0.7</td>
<td>0.0</td>
<td>-1.2</td>
</tr>
<tr>
<td>Tracking Error (%)</td>
<td>0.0</td>
<td>2.9</td>
<td>0.0</td>
<td>1.1</td>
<td>0.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Information Ratio</td>
<td>NaN</td>
<td>1.37</td>
<td>NaN</td>
<td>0.59</td>
<td>NaN</td>
<td>-0.78</td>
</tr>
<tr>
<td>Historical Beta</td>
<td>1.00</td>
<td>0.92</td>
<td>1.00</td>
<td>0.97</td>
<td>1.00</td>
<td>0.98</td>
</tr>
<tr>
<td>No of Stocks</td>
<td>825</td>
<td>338</td>
<td>1020</td>
<td>472</td>
<td>612</td>
<td>332</td>
</tr>
<tr>
<td>Turnover(%)</td>
<td>4.6</td>
<td>6.2</td>
<td>1.7</td>
<td>6.9</td>
<td>1.8</td>
<td>8.1</td>
</tr>
<tr>
<td>Price To Book</td>
<td>1.6</td>
<td>2.0</td>
<td>1.6</td>
<td>1.7</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Price to Earnings</td>
<td>13.1</td>
<td>14.8</td>
<td>16.3</td>
<td>16.3</td>
<td>18.0</td>
<td>18.9</td>
</tr>
<tr>
<td>Dividend Yield (%)</td>
<td>2.6</td>
<td>2.6</td>
<td>3.2</td>
<td>3.3</td>
<td>2.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

- Reduced risks
- Outperformance except in USA
- Higher valuations
- Higher turn-over


Historical data for example purposes only. Past performance is not indicative of future results, which may differ materially.

Source: MSCI
QUESTION:

Do you think ESG considerations should be MORE RELEVANT or LESS RELEVANT for investing in Emerging Market equities?

RESPONSE CHOICES:

- MORE RELEVANT
- LESS RELEVANT
DO YOU THINK ESG CONSIDERATIONS SHOULD BE MORE RELEVANT OR LESS RELEVANT FOR INVESTING IN EMERGING MARKET EQUITIES?

LESS RELEVANT

- No disclosure, not enough DATA
- No awareness, POOR PERFORMANCE
- Can you make any meaningful DIFFERENTIATION?

MORE RELEVANT

- GOVERNANCE matters more
- ‘BLOW UPS’ happen more
- Can ESG provide DOWNSIDE PROTECTION?
ESG characteristics differ significantly across regions:

- Europe is leading
- Emerging Markets are lagging

**Distribution of Industry-Adjusted ESG Scores for Three Sub-regions**

MSCI ESG RATING METHODOLOGY

1. Evaluate Corporate Governance
2. Identify Key Issues by Industry
3. Score Key Issues (0-10)
4. Final ESG Ratings (AAA-CCC)

Analysis begins with a deep governance assessment:
Ownership, Board, Pay, Accounting, Corporate Behavior

Focus on most relevant ESG factors by industry:
Quantitative Approach + Annual Consultation

Focus on risk exposure not just disclosure:
Scoring Models Assess Risk Exposure + Risk Management

Identify leaders and laggards, not business type exclusion:
Industry-Relative ESG Ratings (AAA-CCC)

Sources: MSCI ESG Research
## PERFORMANCE IN LIVETRACK (MAY 2013 – MARCH 2018)

**Key Metrics**

<table>
<thead>
<tr>
<th>Metric</th>
<th>MSCI EM (Emerging Markets) Index</th>
<th>MSCI EM (Emerging Markets) ESG Leaders Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Return (%)</td>
<td>5.9</td>
<td>5.0</td>
</tr>
<tr>
<td>Total Risk (%)</td>
<td>15.2</td>
<td>14.9</td>
</tr>
<tr>
<td>Return/Risk</td>
<td>0.39</td>
<td>0.62</td>
</tr>
<tr>
<td>Sharpe Ratio</td>
<td>0.36</td>
<td>0.59</td>
</tr>
<tr>
<td>Active Return (%)</td>
<td>0.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Tracking Error (%)</td>
<td>0.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Information Ratio</td>
<td>NaN</td>
<td>1.10</td>
</tr>
<tr>
<td>Historical Beta</td>
<td>1.00</td>
<td>0.94</td>
</tr>
<tr>
<td>No of Stocks***</td>
<td>833</td>
<td>373</td>
</tr>
<tr>
<td>Turnover** (%)</td>
<td>4.9</td>
<td>7.1</td>
</tr>
<tr>
<td>Price To Book***</td>
<td>1.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Price to Earnings***</td>
<td>13.6</td>
<td>15.5</td>
</tr>
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<td>Dividend Yield*** (%)</td>
<td>2.6</td>
<td>2.5</td>
</tr>
</tbody>
</table>

* See https://www.unpri.org  
Source: MSCI

Period: 31-May-2013 to 30-Mar-2018  
* Gross returns annualized in USD  
** Annualized one-way index turnover over index reviews  
*** Monthly averages  
The definitions of all statistical parameters are available in the Appendix.
PERFORMANCE ATTRIBUTION

Index: MSCI EM (Emerging Markets) ESG Leaders Index
Period: 31-May-2013 to 30-Mar-2018

Annualized Gross Returns

<table>
<thead>
<tr>
<th>Total</th>
<th>Benchmark</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.03</td>
<td>5.94</td>
<td>3.09</td>
</tr>
<tr>
<td>14.46</td>
<td>15.17</td>
<td>2.80</td>
</tr>
</tbody>
</table>

Risk Indices

<table>
<thead>
<tr>
<th>Asset Selection</th>
<th>Currency</th>
<th>Cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Countries</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Industries</td>
<td>0.25</td>
<td>0.77</td>
</tr>
<tr>
<td>Risk Indices</td>
<td>0.25</td>
<td>0.75</td>
</tr>
<tr>
<td>LT Reversal</td>
<td>2.15</td>
<td>1.51</td>
</tr>
</tbody>
</table>

Source: MSCI
QUESTION:
Has the outperformance of the MSCI Emerging Markets ESG Leaders Index come mostly from...

RESPONSE CHOICES:
- Avoiding the ‘bad’ stocks
- Selecting the ‘good’ stocks
Both Overweights and Underweights Aided Performance of MSCI EM ESG Leaders Index

Data from May 31, 2013 to March 30, 2018. Cumulative specific performance contribution of MSCI Emerging Markets Leaders Index vs. cumulative average overweights and underweights (sorted from largest to smallest active weight)
## ALWAYS IN

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INDUSTRY</th>
<th>COMPANY</th>
<th>Avg Active Weight</th>
<th>Annualized Net Specific Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Software &amp; Svc</td>
<td>TENCENT HOLDINGS LTD</td>
<td>3.01%</td>
<td>0.71%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Semiconductors</td>
<td>TAIWAN SEMICONDUCTOR</td>
<td>3.19%</td>
<td>0.33%</td>
</tr>
<tr>
<td>Brazil</td>
<td>Banks</td>
<td>ITAU UNIBANCO HOLDING SA</td>
<td>0.92%</td>
<td>0.13%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Banks</td>
<td>BANK CENTRAL ASIA TBK PT</td>
<td>0.34%</td>
<td>0.07%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Banks</td>
<td>BANK RAKYAT INDONESIA (PERSERO) TBK PT</td>
<td>0.26%</td>
<td>0.05%</td>
</tr>
<tr>
<td>South Africa</td>
<td>Di Financials</td>
<td>FIRSTRAND LTD</td>
<td>0.32%</td>
<td>0.05%</td>
</tr>
<tr>
<td>Brazil</td>
<td>Banks</td>
<td>BANCO BRADESCO SA</td>
<td>0.70%</td>
<td>0.05%</td>
</tr>
<tr>
<td>Russia</td>
<td>Oil &amp; Gas E&amp;P</td>
<td>NOVATEK PAO</td>
<td>0.27%</td>
<td>0.04%</td>
</tr>
</tbody>
</table>

## NEVER IN

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INDUSTRY</th>
<th>COMPANY</th>
<th>Average Active Weight</th>
<th>Annualized Net Specific Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Integ Oil &amp; Gas</td>
<td>PETROCHINA CO</td>
<td>-0.49%</td>
<td>0.06%</td>
</tr>
<tr>
<td>Russia</td>
<td>Integ Oil &amp; Gas</td>
<td>GAZPROM PAO</td>
<td>-0.82%</td>
<td>0.06%</td>
</tr>
<tr>
<td>China</td>
<td>Oil &amp; Gas E&amp;P</td>
<td>CNOOC LTD</td>
<td>-0.64%</td>
<td>0.06%</td>
</tr>
<tr>
<td>China</td>
<td>Software &amp; Svc</td>
<td>Baidu INC</td>
<td>-0.50%</td>
<td>0.06%</td>
</tr>
<tr>
<td>South Korea</td>
<td>Automobiles</td>
<td>HYUNDAI MOTOR CO</td>
<td>-0.62%</td>
<td>0.05%</td>
</tr>
<tr>
<td>Russia</td>
<td>Retail - Food &amp; Staples</td>
<td>MAGNIT PAO</td>
<td>-0.32%</td>
<td>0.05%</td>
</tr>
</tbody>
</table>

Universe: MSCI Emerging Markets ESG Leaders Index, time period from May 2013 to March 2018

We identified three fundamental channels from ESG to financial value. Higher ESG profile was associated with:

1. Higher profitability
2. Lower tail risk
3. Lower systematic risk

**CASH FLOW CHANNEL:** Gross profitability of ESG quintiles

**STOCK-SPECIFIC RISK CHANNEL:** Large drawdown frequency of top vs. bottom ESG quintile

**VALUATION CHANNEL:** Systematic volatility of ESG quintiles

Universe: MSCI World, time period from January 2007 to May 2017; quintiles based on size-adjusted ESG scores.
Cash-flow channel

- Strong ESG profile
- 1. More competitive
- 2. Higher profitability
- 3. Higher dividends

Gross Profitability (z-score) Comparison*

Profitability of MSCI EM ESG Leaders:

v Rest of MSCI ACWI

(MSCI Emerging Markets Index May 2013–March 2018)

Universe: MSCI Emerging Markets, time period from May 2013 to March 2018; based on constituents of MSCI Emerging Markets ESG Leaders Index constituents versus constituents of the MSCI ACWI. Gross profitability z scores as calculated by MSCI’s Global Total Market Equity Model for Long Term Investors (GEMLT).
Top Contributors Always or Never Included in MSCI Emerging Markets ESG Leaders Index Since Inception

Top Contributors (always included) vs Industry Returns %

- Tencent Holdings (BBB)
- Taiwan Semiconductor Manufacturing Co. (AA)
- Itaú Unibanco (A)
- Bank Central Asia (A)
- Bank Rakyat (A)
- FirstRand Ltd (AA)
- Banco Bradesco SA (A)
- Novatek PAO (BBB)

Source: MSCI ESG Research, Thomson Reuters

Top Contributors (always excluded) vs Industry Returns %

- PetroChina Co. (CCC)
- Gazprom PAO (BB)
- CNOOC Ltd (CCC)
- Baidu Inc (B)
- Hyundai Motor Co. (B)
- Magnit PAO (B)

5Y Avg ROIC/ROE (banks)  5Y Avg Industry ROIC/ROE (banks)
Stock-specific risk channel

- Strong ESG profile
- 1. Better Risk Management
- 2. Lower risk of severe incidents
- 3. Lower tail risk

Incident Frequency of MSCI EM ESG Leaders v. Rest of MSCI EM Index constituents
(MSCI Emerging Markets Index constituents May 2013 – March 2018)

Universe: MSCI Emerging Markets, time period from May 2013 to February 2015 and measure drawdowns over a period of up to 3 years including February 2018; based on constituents of MSCI Emerging Markets ESG Leaders Index constituents versus constituents of the MSCI Emerging Markets Index excluded from the ESG Leaders Index.
Valuation channel

1. Low systematic risk
2. Low cost of capital
3. High valuation

Economic rationale:

1. High ESG rating companies are less vulnerable to systematic market risks such as commodity prices or changes in regulation.

2. Lower systematic risk means investors demand a lower required rate of return = cost of capital.

3. Lower cost of capital leads to higher valuation.

Systematic volatility of ESG quintiles
From the static relationship

ESG ratings → 3 channels → Profitability, Risk, Valuation

We derive the dynamic relationship

Change in ESG rating → 3 channels → Change in Profitability, Risk, Valuation

ESG Momentum ( = change in ESG rating)

- Was verified by empirical analysis
- Is an indication for causality in the three transmission channels
- Was found to be a performance driver in empirical analysis
Financial performance of ESG momentum: Top versus bottom quintile

Cumulative performance differential of the top ESG Momentum quintile versus the bottom ESG Momentum quintile. ESG Momentum is defined as the 12 month change in ESG score.
THIRD STEP: CONCLUSIONS FOR INVESTORS

1. MSCI ESG Ratings have shown a **financially material impact** on valuation, profitability and risk and therefore need to be reflected in financial analysis as well as portfolio construction.

2. MSCI ESG Ratings and MSCI ESG ratings trend (ESG momentum) have both been financially material indicators and can be used for portfolio or index construction.

3. ESG integration into portfolio management requires a **long-term horizon**

4. Financial materiality of ESG ratings may be used for **validating** and comparing ESG rating models
FOUNDATIONS OF ESG INVESTING – PART 1
How ESG Affects Equity Valuation, Risk and Performance

FOUNDATIONS OF ESG INVESTING – PART 2
Integrating ESG into Benchmarks

FOUNDATIONS OF ESG INVESTING – PART 3
Integrating ESG into Passive Institutional Portfolios

FOUNDATIONS OF ESG INVESTING – PART 4
Integrating ESG into Factor Strategies and Active
ESG ratings have shown to be effective in reducing portfolio risk
ESG Momentum has shown positive performance contribution

Methods that have been effective for integrating ESG:
- Best-in-class selection
- ESG-weight tilt
- Combining ESG and ESG Momentum

Financial analysis and stock selection
Risk management & early warning processes
Risk reporting
Active ownership

Manage ESG-factor trade-off by
- Using optimization
- Factor-Neutralizing ESG scores
- Use of ESG Momentum
### CURRENT STATUS OF ESG IN ACTIVE MANAGEMENT

Key findings from assessing holdings data of active funds:

**Fund universe**
- Global active funds in MSCI Peer Analytics platform
- Minimum of 10 years track record
- Excludes ETFs and index trackers
- Total: Over 1’100 funds

**Status of ESG integration**
- Fairly small differences in average level of ESG across funds
- No up or down trend in ESG integration over past 10 years
- Slightly higher levels of ESG in funds labelled ESG or SI
- No visible integration of ESG momentum

**Financial findings**
- No visible link between level of ESG and risk and performance
- Most funds use active factor allocations to generate alpha
- Significant differences in track record (alpha) across funds
ESG INTEGRATION INTO ACTIVE MANAGEMENT

Challenges:
• ESG integration should not impair effectiveness of active portfolio construction processes:

Opportunities:
• Combine ESG with factors efficiently ➞ improve risk adjusted returns
• Integration into financial analysis ➞ improve stock selection
• Integration into stock selection ➞ mitigate tail risks
• Use ESG momentum as allocation signal ➞ additional outperformance
1. Overlay approach shows visible improvement in risk adjusted returns

2. Improvements are independent of how active managers are

3. Overlay approach is simple, transparent and straight-forward

4. However, full integration of ESG may go well beyond an overlay approach:
   • Use optimization approach to manage factor-ESG trade-offs
   • Integrate ESG into financial analysis and stock selection
   • Integrate ESG into risk management and early warning processes
   • Use active ownership as additional risk and performance management approach

5. Note these are simulated results using past performance over a specified period and are not indicative of live or future results.
TYPICAL ESG INTEGRATION INTO BENCHMARKS

Purpose of policy/benchmarks:
- Define eligible markets and asset classes
- Define investable universe & strategic asset allocation
- Benchmark for actual allocations and financial products

Risks addressed by ESG integration:
- Values
- Systemic risk
- Systematic risks
- Idiosyncratic risks

Examples:
- Define strategy regarding carbon risks
- Adhere to UN global compact
- MSCI ACWI ESG Universal
- MSCI ACWI ESG Leaders
- MSCI World SRI
- MSCI World Value ESG target
ESG RISK EXPOSURE: STOCK SPECIFIC RISKS

Index exposure to

ESG leaders/ laggards

positive/negative ESG Momentum

As of Dec. 31, 2017. Historical data for example purposes only. Past performance is not indicative of future results, which may differ materially.

ESG indexes have historically reduced exposure to ESG laggards and ESG downgrades.
ESG RISK EXPOSURE: SYSTEMIC AND SOCIAL RISKS

Index exposure to

social risks

<table>
<thead>
<tr>
<th>MSCI ACWI</th>
<th>MSCI ACWI ESG Universal</th>
<th>MSCI ACWI ESG Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco (%)</td>
<td>CONTROVERSIAL WEAPONS (%)</td>
<td>RED FLAG CONTROVERSY (%)</td>
</tr>
</tbody>
</table>

carbon risks

<table>
<thead>
<tr>
<th>MSCI ACWI</th>
<th>MSCI ACWI ESG Universal</th>
<th>MSCI ACWI ESG Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON EMISSIONS (t CO2e/$M Invested)</td>
<td>POTENTIAL CARBON EMISSIONS (t CO2e/$M Invested)</td>
<td></td>
</tr>
</tbody>
</table>

As of Dec. 31, 2017. Historical data for example purposes only. Past performance is not indicative of future results, which may differ materially.

ESG indexes have historically reduced exposure to social risks and carbon emissions.
1. When integrating ESG into a policy benchmark, investors may wish to consider a potential trade-off between the level of ESG integration on one hand and the level of diversification and opportunity set on the other hand.

2. MSCI ACWI ESG Leaders and MSCI ACWI ESG Universal represent two different options on this trade-off line – the former showed a stronger ESG integration, the latter a higher level of diversification and opportunity set.

3. Both MSCI ACWI ESG Leaders and MSCI ACWI ESG Universal are designed to be replicable in terms of number of components, liquidity and turn-over.

4. Both indexes have historically captured the opportunity set of the respective market and have maintained the sector, size and style opportunities of the parent benchmark.

5. Both indexes address ESG risks in the selection / weighting of index constituents.
INSTITUTIONAL ADOPTION OF ESG BENCHMARKS

2014 2015 2016 2017

UK EAPF
$400m
MSCI World Low Carbon Target

CalSTRS
$2.5bn committed to MSCI ACWI Low Carbon Target Index

Taiwan BLF
$2.4bn allocation to MSCI ACWI ESG Factor Mix

GPIF
use of ESG benchmarks for domestic equity allocations

EPF of Malaysia
$5bn MSCI Custom Ethical Index

NZ Super
40% of passive equity portfolio now ‘low carbon’

AP4
Targets allocating entire equity portfolio to low carbon benchmarks by 2020

Illmarinen
$5.9 bn allocated to benchmark using MSCI ESG Ratings

Swiss Re
ESG benchmarks for $130bn in active listed equity + credit

CalSTRS
$2.5bn committed to MSCI ACWI Low Carbon Target Index

UK EAPF
$400m
MSCI World Low Carbon Target

CalSTRS
$2.5bn committed to MSCI ACWI Low Carbon Target Index

Taiwan BLF
$2.4bn allocation to MSCI ACWI ESG Factor Mix

GPIF
use of ESG benchmarks for domestic equity allocations

EPF of Malaysia
$5bn MSCI Custom Ethical Index

NZ Super
40% of passive equity portfolio now ‘low carbon’

AP4
Targets allocating entire equity portfolio to low carbon benchmarks by 2020

Illmarinen
$5.9 bn allocated to benchmark using MSCI ESG Ratings

Swiss Re
ESG benchmarks for $130bn in active listed equity + credit
APPENDIX 2 – ASEAN MARKETS
ASEAN – CUMULATIVE RETURN BY RATING

Cumulative Total Return (CW)
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