HSBC Asset Management

The ESG advantage:

An evolving argument for EMD

HSBC Asset Management Fixed Income Quantitative Research and Emerging Markets Debt Teams

November 2023

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Executive summary

Based on a recent quantitative study, we found that an active ESG overlay to the Emerging Markets Debt (EMD) traditional index can add value to risk-adjusted performance.

This research was an update to an initial study that we published in 2020, where we examined the risk and return dynamics of a series of back-tested, index-based EMD portfolios – each incorporating different layers of ESG factors. Our initial paper covered the period from 30 December 2015 to 30 November 2020.

We then decided to extend this initial study through 28 February 2023, aiming to understand how the market turbulence of 2021 and 2022 may have impacted our series of hypothetical EMD ESG portfolios.

As a starting point for these studies, we examined the risk and return characteristics of the most commonly used EM hard currency sovereign and quasi-sovereign index, the JPM EMBI Global Diversified Index ("JPM EMBIGD"). We also compared this index with its ESG index counterpart, the JPM ESG EMBI Global Diversified Index ("JESG EMBIGD"). We then ran a series of back-tested scenarios to see how various ESG factors could impact the risk and return dynamics of these index-based EMD portfolios.

> In our study on the behavior of simulated EMD ESG hard currency sovereign portfolios, we observed a positive benefit from emphasizing both issuers with higher ESG scores and improving ESG scores.

Specifically, we examined the portfolio characteristics of JPM EMBIGD and JESG EMBIGD—and compared them with three hypothetical EMD ESG portfolios, each of which integrated progressive layers of ESG criteria:

1) incorporating ESG exclusions and screening;
2) increasing exposure to higher-rated ESG issuers; and
3) emphasizing issuers showing positive ESG momentum

Objectives

The purpose of our study was not to construct a quantitative strategy, but rather to identify what might be achieved by applying potential ESG targets while keeping the risk/return profile of each back-tested scenario similar to that of JPM EMBIGD.

Source: HSBC Asset Management.

Initial study performed in 2020: a review

We explored the impacts of integrating ESG signals on the performance of the EMD traditional index over the period 31 December 2015 – 30 November 2020.

Implementation. The study first calculated the risk and return characteristics for JPM EMBIGD and compared these results with those of a back-tested version of JESG EMBIGD.[1] (In Table A, see Portfolios 1 and 2.)

We then created three additional hypothetical index-based EMD portfolios that progressively integrated different ESG factors, while maintaining a similar risk profile to JPM EMBIGD in terms of yield, credit rating, duration, duration-times-spread, etc. (In Table A, see Portfolios 3, 4 and 5.)

Specifically, the three hypothetical indexed-based EMD ESG portfolios progressively incorporated:

1. **ESG exclusions**—as implemented in JESG EMBIGD during the back-test period and additional exclusions applied by HSBC Asset Management in Portfolio 3:
   - JESG EMBIG-excludes violators of the UN Global Compact Principles, issuers with ESG scores below 20 and with revenues in selected activities in the categories oil sands, thermal coal, tobacco, small arms, military contracting and controversial weapons above defined thresholds (0-10%). Note: JP Morgan ESG scores range from 0 to 100, using Sustainalytics and Rep Risk scores for the simulation period.
   - We incorporated some additional exclusions to those applied by JESG EMBIGD, in particular issuers with MSCI ESG scores lower than 1.5.

   We note that these exclusions impacted the quasi-sovereign universe more significantly than the sovereign universe.
2. **ESG tilting/reweighting** – we maximized the hypothetical EMD ESG portfolio's MSCI (adjusted) ESG score, and maintained the exclusions above, as shown in Portfolio 4
3. **Emphasis on "improvers"** – we gave higher weightings to issuers showing positive ESG score momentum,[2] while optimizing the EMD ESG portfolio's ESG score and maintaining the exclusions listed above, as shown in Portfolio 5

In addition, each of the three derived EMD ESG portfolios had to comply with Greenhouse Gas (GHG) emissions-to-GDP targets in the sovereign investment universe, such that the hypothetical EMD ESG portfolio emissions-to-GDP would be 70%-80% of that of JPM EMBIGD and would show at least a 10% reduction relative to JPM EMBIGD.

Findings. The results of the initial 2015 – 2020 simulation showed that each layer of ESG integration delivered significant ESG score improvements and carbon intensity reductions relative to the traditional JPM EMBIGD; simultaneously, each ESG layer was cumulatively additive in improving the Sharpe Ratio for the hypothetical EMD ESG portfolios. (See Table A.)

Table A – Initial back-tested study (31 Dec 2015 – 30 Nov 2020)	**JPM EMBIGD (Portfolio 1)**	**JESG EMBIGD (Portfolio 2)**	**EMBIGD + ESG Exclusions (Portfolio 3)**	**ESG Exclusions + ESG Tilt (Portfolio 4)**	**ESG Exclusions + ESG Tilt + ESG Improvers (Portfolio 5)**
Annualised total return	7.0%	7.2%	7.7%	8.1%	8.2%
Volatility	9.1%	8.5%	8.8%	8.6%	8.5%
Sharpe ratio	0.61	0.67	0.71	0.77	0.78
Information ratio	-		0.79	0.68	0.76
% ESG improvement relative to JPM EMBIGD	-	5.6%	7.3%	17.0%	15.7%
% CI GHG improvement relative to JPM EMBIGD*	-	-2.9%	-3.0%	-32.7%	-21.2%

* Carbon intensity/Green House Gas emissions improvement

[1] The JESG EMBIG Diversified Index was launched in 2018. We implemented the JESG EMBIGD Index exclusions observed every month since March 2021. Before that date we retropolated the March 2021 exclusions, as we did not dispose of detailed data.

[2] ESG momentum constraint: the active ESG momentum of the portfolio must be higher than the index by a 0.10. Active ESG momentum is defined as:
$\sum (w_i - b_i)(\Delta ESG_i - \Delta ESG_{bench})$
where w_i and b_i are the weight of issuer i in the portfolio and in the parent benchmark, respectively. $\Delta ESGi$ and $\Delta ESGbench$ designate the last year change of the ESG score for the issuer i and the parent benchmark.

Source: HSBC Asset Management and J.P. Morgan as of 28 February 2023. The results of the index-based EMD ESG portfolios and any back-tested returns are hypothetical and do not represent actual investment accounts. Provided for illustrative purposes only and to show the potential effects of ESG overlays on index-based portfolios. Should not be considered as a guarantee of any future performance. Hypothetical examples have many inherent limitations including but not limited to: 1) generally being prepared with the benefit of hindsight, 2) there can be sharp differences between hypothetical results and actual results, and 3) back-tested results vary significantly depending on the date(s) they are run.

Updated study

We extended our study through to February 2023 (see Table B) to understand what would have happened to each of our hypothetical index-based EMD ESG portfolios in 2021 and 2022, when JESG EMBIGD underperformed JPM EMBIGD.

Findings. Over the full period, our simulated EMD ESG portfolios 3 through 5 continued to illustrate improved return and Sharpe ratio profiles—applying our progressive series of ESG factors: ESG exclusions, ESG tilts and ESG improvers. The Sharpe ratio, for example, increased from 0.09 for JPM EMBIGD to 0.13 in Portfolio 5. We also see that the correct identification of issuers with improving ESG scores remains a potentially strong performance driver.

However, the scale of the relative improvements in portfolios 3 through 5 declined over the full period—results that can be explained largely by the Ukraine war and its subsequent market impacts.

Table B – Full back-tested study (31 Dec 2015 – 28 Feb 2023)	**JPM EMBIGD (Portfolio 1)**	**JESG EMBIGD (Portfolio 2)**	**EMBIGD + ESG Exclusions (Portfolio 3)**	**ESG Exclusions + ESG Tilt (Portfolio 4)**	**ESG Exclusions + ESG Tilt + ESG Improvers (Portfolio 5)**
Annualised total return	2.4%	2.2%	2.4%	2.6%	2.7%
Volatility	9.9%	9.6%	9.9%	9.7%	9.5%
Sharpe ratio	0.09	0.07	0.09	0.11	0.13
Information ratio	-		-0.07	0.07	0.17
% ESG improvement relative to JPM EMBIGD	-	7.1%	6.8%	16.9%	15.4%
% CI GHG improvement relative to JPM EMBIGD*	-	-5.3%	-4.7%	-32.6%	-21.5%

Table C – Back-tested study (add-on period only) **(30 Nov 2020 – 28 Feb 2023)**	**Portfolio 1**	**Portfolio 2**	**Portfolio 3**	**Portfolio 4**	**Portfolio 5**
Annualised total return	-7.7%	-8.6%	-9.2%	-9.5%	-9.1%
Volatility	11.0%	11.3%	11.5%	11.2%	10.7%
Sharpe ratio	-0.84	-0.90	-0.94	-0.99	-1.00
Information ratio	-		-1.34	-1.64	-0.85
% ESG improvement relative to JPM EMBIGD	-	10.6%	5.7%	16.6%	14.5%
% CI GHG improvement relative to JPM EMBIGD*	-	-10.6%	-8.4%	-32.3%	-22.1%

* Carbon intensity/Green House Gas emissions improvement

Underperformance of JESG EMBIGD in 2021-2022. The critical drivers leading to the underperformance of JESG EMBIGD (Portfolio 2) in 2021-2022 – as seen in Table C – can be attributed to the index's country and quasi-sovereign vs. sovereign allocations. (See Table D on the next page.)

On the eve of the Russian invasion of Ukraine, JESG EMBIGD had an 0.5% market value overweight to Russia and an 0.4% market value overweight to Ukraine relative to JPM EMBIGD. These two relative overweights caused the lion's share of the performance lag for JESG EMBIGD. In addition, the price spikes in commodities resulting from the war helped very low-ESG-rated oil-exporting sovereigns, like Angola, outperform.

Source: HSBC Asset Management and J.P. Morgan as of 28 February 2023. The results of the index-based EMD ESG portfolios and any back-tested returns are hypothetical and do not represent actual investment accounts. Provided for illustrative purposes only and to show the potential effects of ESG overlays on index-based portfolios. Should not be considered as a guarantee of any future performance. Hypothetical examples have many inherent limitations including but not limited to: 1) generally being prepared with the benefit of hindsight, 2) there can be sharp differences between hypothetical results and actual results, and 3) back-tested results vary significantly depending on the date(s) they are run.

Table D – January 2021-December 2022
JESG EMBIGD underperformance of 1.77% due to impacts of Russian war and commodities price rallies

Highest contributors to the underperformance of the ESG index	Sum active weight x active return (JESG EMBIGD vs JPM EMBIGD) over the period	
RUSSIA sovereigns	-0.53%	Almost half of ESG index underperformance directly due to Russia and Ukraine overweights in the JESG EMBIGD index
ANGOLA sovereigns	-0.39%	
UKRAINE sovereigns	-0.27%	
GHANA sovereigns	-0.21%	The rest of the underperformance was due indirectly to the rally in oil prices post-war which helped very low scoring oil exporters
PETROLEOS MEXICANOS	-0.20%	
TURKEY sovereigns	-0.19%	
IRAQ sovereigns	-0.14%	
SINOPEC	-0.10%	
ESKOM HOLDINGS SOC LTD	-0.10%	

Source: HSBC Asset Management and J.P. Morgan as of 31 December 2022

Implications for EMD ESG portfolios

Our updated quantitative study showed a positive benefit to incorporating ESG factors in EMD portfolios. However, we wanted to delve further into the sources of the outperformance in the EM hard currency universe. First, we wanted to identify what benefits can be derived from the choice of using JESG EMBIGD as the basis for Portfolio 2; and second, what resulted from the various ESG implementations in Portfolios 3 through 5, based on overweighting high ESG score bonds and ESG improvers.

In the EM hard currency sovereign universe, optimizing an EMD ESG portfolio against JESG EMBIGD showed a robust capacity to both achieve better ESG KPIs and to improve risk-adjusted returns. If we ascribe the loss of efficacy of JESG EMBIGD in 2021 and 2022 to the black swan event of the war in Ukraine, we believe there is an increased probability of continued ESG outperformance going forward.

Perhaps the most significant outcome of the study is that an active ESG overlay, including one focused on ESG quality improvement, can add value to risk-adjusted performance. A manager's ability to form a forward-looking assessment of an issuer's ESG trajectory seems to be a valuable active management style for risk-aware ESG EMD investing. We believe the investment process should use data in a smart way to arrive at a proprietary ESG view.

Conclusions

- ESG benchmarks sometimes outperform and sometimes underperform. Over the longer period which included a black swan event (the impacts of the Russia-Ukraine war), the ESG benchmark still delivered a better Sharpe ratio. In normal circumstances we expect ESG factors to contribute to risk-adjusted return, and active managers have the potential to improve the Sharpe ratio even more.
- The intuition of limiting exposure to poorly governed, carbon intensive quasi-sovereigns remains an enduring pillar of ESG investing through both up and down markets.

Source: HSBC Asset Management. The results of the index-based EMD ESG portfolios and any back-tested returns are hypothetical and do not represent actual investment accounts. Provided for illustrative purposes only and to show the potential effects of ESG overlays on index-based portfolios. Should not be considered as a guarantee of any future performance. Hypothetical examples have many inherent limitations including but not limited to: 1) generally being prepared with the benefit of hindsight, 2) there can be sharp differences between hypothetical results and actual results, and 3) back-tested results vary significantly depending on the date(s) they are run.

About the authors

Maria-Laura Hartpence
Head of Fixed Income
Quantitative Research

Maria-Laura Hartpence (Paris) is Head of Fixed Income Quantitative Research. She has been in the industry since 1984, working extensively with forecast models in the areas of macroeconomics, commodities and finance, as well as with risk models for asset allocation. Prior to joining HSBC in 1995, Maria-Laura worked as a senior economist at Bunge-Born Group in Sao Paulo and at Cecogest, an independent asset allocation research firm based in Paris. She graduated with a degree in Economics from the University of Brasilia (UnB – Brazil) and holds a Master of Arts in Economics from the University of Miami (UM - United States) and a Master of Science in Probability and Statistics from the University of Sao Paulo (USP - Brazil).

Qiao Mu
Financial Engineer
Fixed Income Quantitative Research

Qiao MU (Paris) is a Financial Engineer on the Fixed Income Quantitative Research team. She has been in the industry since 2019 working with quantitative models in the areas of macro-economics, credit, and ESG/climate. She holds a Master of Statistical Engineering and Computer Science in Finance, Insurance and Risk from the University of Paris VII. Qiao completed the Chartered Financial Analyst – Level 1 in 2022 (CFA Institute) and is a CFA level II candidate.

L. Bryan Carter
Head of Global Emerging
Markets Debt

L. Bryan Carter is Head of Emerging Markets Debt with HSBC Asset Management in London and has been working in the financial industry since 2003. Bryan is an experienced investor in the financial industry with eight years in managing portfolios with ESG integration. Prior to joining HSBC, he was the lead portfolio manager for Emerging Market Debt at BNP Paribas Asset Management, covering hard currency, local currency and total return. He hired and managed a team of 16 portfolio managers, analysts, and investment specialists. Prior to his four years at BNP, Bryan managed EMD and Global Absolute Return Bond capabilities at Acadian Asset Management for nine years and directed Acadian's quantitative fixed income research effort including directional rates and yield curve models for over 30 countries. Bryan started his career as an economist and worked for the US Treasury Department, as well as T. Rowe Price. Bryan was a founding volunteer for the non-profit Emerging Markets Investors Alliance and has held leadership roles in this leading advocacy and social impact organization for institutional investors focused on emerging markets since 2014. EMIA provides investors with knowledge and intelligence about ESG issues in emerging markets and advocates for change in the countries and companies in which they invest. Bryan holds a Master of International Development Economics from Harvard University and a Bachelor of Economics and Spanish from Georgetown University. Bryan is a CFA Charterholder.

Amanda LaMarca
Senior Investment Specialist
Emerging Markets Debt

Amanda LaMarca is a senior investment specialist for the Global Emerging Markets Debt capabilities at HSBC Asset Management. She works closely with the portfolio management team and acts as an external spokesperson for HSBC AM's EMD capabilities, representing the views and investment strategies of the EMD team. Ms. LaMarca's responsibilities also include defining and championing the EMD product offerings and business strategies. Prior to her current role, Ms. LaMarca was a client service specialist for HSBC Asset Management. Before joining HSBC in April 2008, she worked for PricewaterhouseCoopers LLP. She holds a BS from the University of Maryland.

Key risks

It is important to remember that the value of investments and any income from them can go down as well as up and is not guaranteed.

- **ESG Investing Risk**. The use of ESG criteria in the strategy's investment process may cause the strategy to forgo investment opportunities available to other strategies that do not use these criteria, or to increase or decrease its exposure to certain sectors or types of issuers, which may negatively impact the strategy's relative performance as compared to non-ESG strategies. Investing on the basis of ESG criteria is qualitative and subjective by nature and there can be no assurances that the process utilized by the Adviser will enable the strategy to meet its investment objectives.
- **Exchange Rate Risk** Changes in currency exchange rates could reduce or increase investment gains or investment losses, in some cases significantly.
- **Counterparty Risk** The possibility that the counterparty to a transaction may be unwilling or unable to meet its obligations.
- **Liquidity Risk** is the risk that a Fund may encounter difficulties meeting its obligations in respect of financial liabilities that are settled by delivering cash or other financial assets, thereby compromising existing or remaining investors.
- **Operational Risk** may subject the Fund to errors affecting transactions, valuation, accounting, and financial reporting, among other things.
- **Derivatives Risk** Derivatives can behave unexpectedly. The pricing and volatility of many derivatives may diverge from strictly reflecting the pricing or volatility of their underlying reference(s), instrument or asset.
- **Emerging Markets Risk** Emerging markets are less established, and often more volatile, than developed markets and involve higher risks, particularly market, liquidity and currency risks.
- **Interest Rate Risk** When interest rates rise, bond values generally fall. This risk is generally greater the longer the maturity of a bond investment and the higher its credit quality.
- **Default Risk** The issuers of certain bonds could become unwilling or unable to make payments on their bonds.
- **Credit Risk** A bond or money market security could lose value if the issuer's financial health deteriorates.
- **CoCo Bond Risk** Contingent convertible securities (CoCo bonds) are comparatively untested, their income payments may be cancelled or suspended, and they are more vulnerable to losses than equities and can be highly volatile.

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Important information, cont.

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ED 4471 EXP 01.05.2024