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

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.

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

> 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.

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.

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 views expressed above were held at the time of preparation and are subject to change without notice. The information provided does not constitute any investment recommendation or advice. 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 views expressed above were held at the time of preparation and are subject to change without notice. The information provided does not constitute any investment recommendation or advice. 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.

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