Active is: Integrating ESG

An ESG framework for EM sovereign bonds

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Foreword from Dr. Steffen Hoerter, Global Head of ESG Strategy, Allianz Global Investors

"While mainstream investors are starting to apply environmental, social and governance (ESG) risk factors in equities and in the credit analysis of corporate bonds, ESG factors have often been overlooked for sovereign bonds. This is surprising since this is a key asset class. ESG risk management is paramount, especially for investments into emerging markets (EM) sovereign bonds portfolio. The asset class aims to earn attractive returns at comparatively smaller levels of credit risk and volatility over a market cycle. In the last decades, especially post the financial crisis in 2008, the issuance of EM sovereign bonds has increased while interest rates have been compressed due to monetary and fiscal policy. A truly holistic credit risk management incorporating ESG risks appears to be a must.

Financially material ESG factors that influence the credit risk of emerging market sovereign issuers are challenging. They may remain silent in the short-term since they are rather mid- to long-term in nature. Hence, if not properly analysed and incorporated into the credit analysis and investment process, they may be overlooked which may lead to unwanted volatility and downside risks.

It is my great pleasure to see that our Emerging Markets Sovereign Bonds team has developed a truly innovative investment solution for our clients to incorporate ESG into the EM sovereign bonds portfolio strategy. The approach fulfils all the criteria we aim to deliver as a truly active asset manager to unlock the full potential of ESG in our investments:

– EM sovereign issuers' ESG risks are analysed from a credit materiality aspect (sovereign bond spread pricing and credit default risk)
– ESG ratings are derived upon a proprietary assessment of sovereign issuers – we do not blindly rely on ESG analysis by a third party credit rating agency or an ESG research data provider
– There are no a priori ESG investment constraints – the investment team has full discretion to analyse, invest, exclude, over- or underweight the full universe of investable sovereign issuers in the portfolio, subject to a risk/return trade-off.

This document will introduce you to all of the important details around the ESG framework. I am convinced that it is state-of-the art with interesting insights."

Value. Shared.

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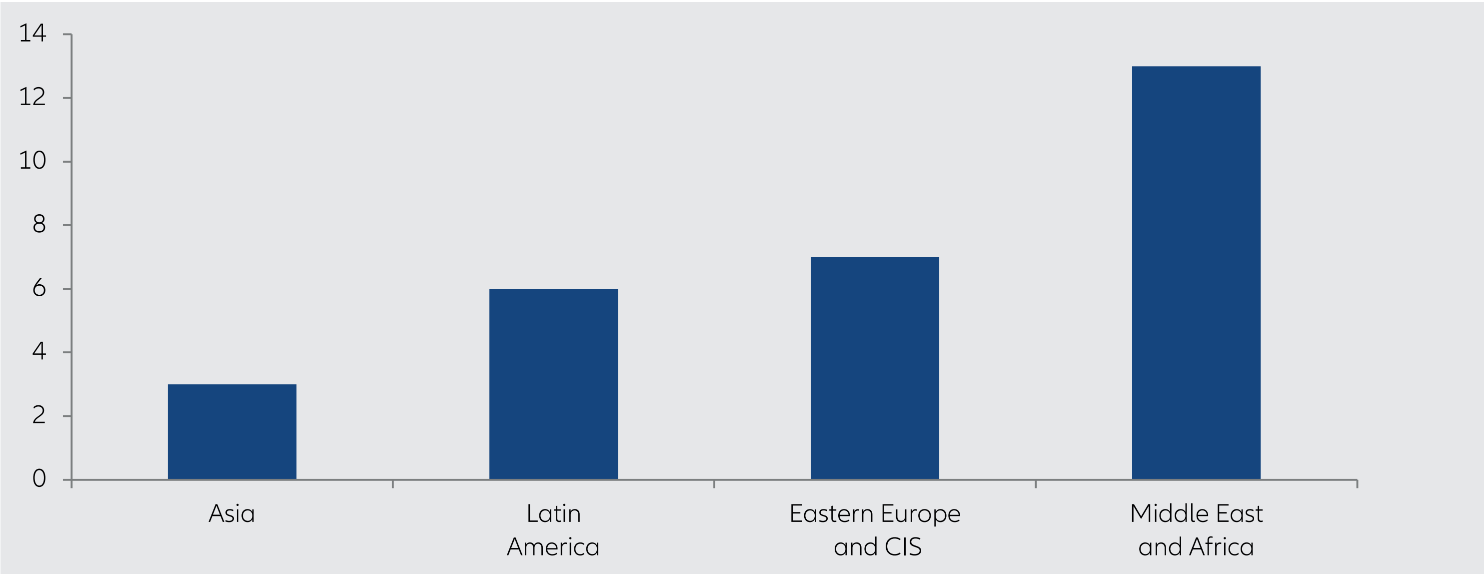
Introduction – Why ESG for emerging markets?

The creditworthiness of an emerging market country is dependent on many factors. Typically, investors focus on a range of macroeconomic variables, such as fiscal deficits, debt levels, external balances and the stock of foreign exchange reserves. Healthy and stable macroeconomic indicators are a necessary condition for sound economic development. However, they are not sufficient without further consideration of a country's performance on longer term issues related to environmental standards, social outcomes and the governance of state institutions. ESG factors are drivers of economic development which will play a key role in determining a country's willingness and ability to repay its debt.

The materiality of ESG factors for sovereign bonds has been documented in our previous research.[1] We think that ESG considerations are potentially even more relevant when focusing on emerging markets (EM) compared to developed economies. Differences in levels of socio-economic achievement, the degree of political stability or the respect for the rule of law vary significantly between countries. Emerging markets are a very diverse group of countries. Some of them are economies very dependent on one commodity, potentially making ESG issues particularly salient. The emerging market debt (EMD) asset class has grown and become significantly more diversified in recent years as countries from all regions issue bonds for the first time. Most of the growth over the past decade has come from frontier economies (see chart 1) where ESG practices can often be lax. This had major implications for sustainable economic growth, competitiveness and the ability to repay debt.

Chart 1: **Number of countries in JPM EMBIG Div (Change over the last decade)**



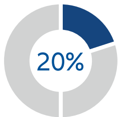
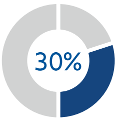
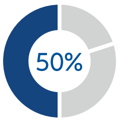
Source: JPMorgan, AllianzGI.

It is encouraging to see that credit rating agencies are starting to incorporate ESG factors in their credit analysis. However, this is not sufficient to substitute for our own internal ESG scoring method and analysis. This is why we developed an in-house propriety ESG framework, which aims to capture these differences. It helps identify long-term factors and dynamics that might not be fully reflected into sovereign bond spreads. We believe that integrating ESG factors in the investment decision making process will help investors mitigate certain risks and improve the quality of their portfolios.

ESG framework

Our proprietary ESG framework covers 85 investable EM countries. The first step in building this framework is to select the indicators that are most relevant for assessing ESG factors in emerging economies. The selection of relevant indicators is driven by three main considerations: how well an indicator captures a certain dimension, such as the quality of education or the independence of state institutions; the breadth of country coverage and credibility of the source; and how much control the government has over implementing policies that can directly affect the indicator. For example, we consider metrics that showed good gauges of a country's effort to meet the UN Sustainable Development Goals (SDGs). In total, 18 indicators are selected from various third-party sources (international organisations, non-governmental organisations, academia,... etc. See Table 1). We deliberately aim to keep the numbers of indicators relatively low, in order to make the framework usable. It also makes it easier to identify areas of weakness on which to engage with sovereigns.

Table 1: **Indicator selection**

Pillar	Indicator	Source
 20% Environmental	Environmental Performance Index	Yale University and Columbia University
	Air Quality (PM2.5 exposure)	World Development Indicators (WDI), World Bank
	Natural Resources Depletion (% GNI)	WDI
	Water Stress Index	World Resources Institute
 30% Social	GINI coefficient	WDI
	Gender Inequality Index	International Monetary Fund
	Infant Mortality Rate	United Nations (UN)
	Life Expectancy	WDI
	Homicide Rate (per 100'000)	UN Office on Drugs and Crime
	Mobile cellular subscriptions (per 100 people)	WDI
	Youth Literacy Rate	UNESCO
 50% Governance	WGI (Gvt effectiveness, Reg quality, Rule of law)	World Bank
	Strength of Legal Rights	World Bank - Doing Business project
	Corruption Perception Index	Transparency International
	Open Budget Index	International Budget Parternship
	State Fragility Index	The Fund for Peace
	Press Freedom	Reporters without borders
	Freedom House Index	Freedom House

- Environmental sustainability is a key long-term determinant of an economy's development, but is often difficult to measure, especially in less transparent countries. In addition to a broad indicator of countries' environmental policy goals (the Environmental Performance Index from Yale and Columbia universities), we also include direct measures of air quality, natural resources depletion and stress on water sources.
- Social indicators are often an outcome of state development policies. So they are closely related to governance factors. Among the wealth of social indicators available, we have focused on five topics that have a large potential for achieving long-term development and where government policies can have a direct impact: gender and income inequalities, educational attainment, the quality of healthcare, access to basic finance and personal security.
- Governance indicators assess a number of dimensions, all particularly relevant for investors in sovereign bonds. For instance, we examine the strength of the rule of law, government effectiveness, the transparency of public accounts, the level of corruption of public bodies, the stability of the political framework and factors that might lead to the outbreak of violence and conflicts. In addition, we look at the existence of checks and balances on state institutions, such as a free press, established political rights and civil liberties. Governance is a key aspect for investors as it drives economic policy and potential growth in EM possibly to a larger extent than in developed economies. Transparent policy-making and sustainable growth are frequently associated with a greater likelihood of debt repayment.

For each one of our 18 indicators, Z-scores are calculated, which indicate where each country stands compared to the average on that dimension. The Z-scores are then averaged for each of the three pillars, providing a score for each pillar. Finally, the overall ESG score is computed as a weighted average of each pillar's score. The environmental pillar is given a weight of 20%, the social pillar 30% and governance 50%. We believe that governance factors have the greatest potential impact on a country's ability to implement robust environmental standards and achieve favourable social outcomes. Since the social pillar encompasses several underlying topics, we have given it slightly more weight than the environmental pillar as well. Some of these social outcomes (healthcare, life expectancy, education) are also often achieved through the greater wealth generated by higher rates of industrialisation which can have negative side effects on the environment.
Lastly, our ESG scores are normalised on a scale from 0 to 100, with the worst performing country receiving a score of 0 and the best one receiving a score of 100. This makes it easy to interpret scores, while keeping the distance between countries' scores as another informative output.

Table 2: **Output from ESG framework (selected countries)**

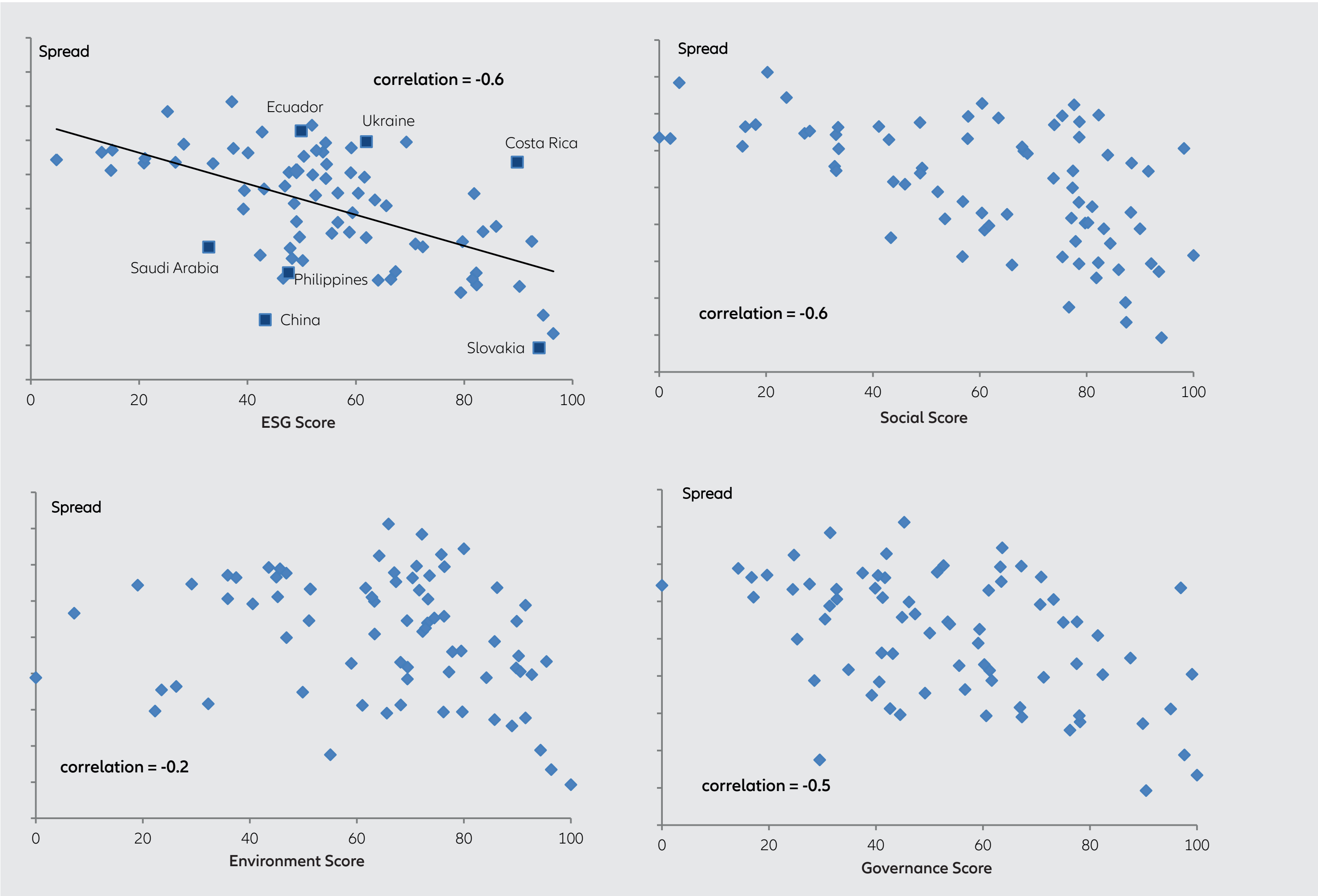
Indicator	Environmental Pillar Z-score	Social Pillar Z-score	Governance Pillar Z-score	ESG Score	Spread (bp)	Rich/cheap (bp)	Direction of Travel
Angola	-0.8	-1.2	-1.1	13	557	-91	Positive
Argentina	0.3	0.4	0.4	69	647	466	Positive
Brazil	0.6	-0.3	0.1	59	230	3	Neutral
Chile	-0.1	0.4	1.2	82	95	-40	Neutral
China	-0.3	0.4	-0.7	43	48	-279	Neutral
Colombia	0.7	-0.2	0.2	62	160	-54	Positive
Costa Rica	0.6	0.5	1.3	90	484	370	Neutral
Dominican Republic	0.2	-0.3	0.0	53	297	33	Neutral
Ecuador	0.3	0.0	-0.4	50	764	483	Positive
Egypt	-0.4	-0.1	-0.9	34	474	67	Neutral
El Salvador	0.2	-0.5	0.2	55	467	215	Neutral
Ghana	-0.5	-0.5	0.5	54	559	303	Neutral
Guatemala	0.2	-0.5	-0.1	49	264	-26	Negative
Hungary	0.7	0.7	0.7	82	80	-55	Negative
India	-1.1	-0.5	0.1	42	124	-210	Positive
Indonesia	-0.2	0.1	0.0	56	170	-77	Neutral
Iraq	-1.3	-0.8	-1.6	5	500	-284	Neutral
Jamaica	0.0	-0.4	0.8	67	289	76	Positive
Kazakhstan	-0.4	0.6	-0.5	50	115	-165	Neutral
Malaysia	0.3	0.5	0.2	67	87	-106	Positive
Mexico	0.1	0.0	0.2	59	173	-57	Positive
Nigeria	-0.4	-1.6	-0.7	21	476	-67	Neutral
Pakistan	-1.0	-0.9	-0.8	21	509	-32	Negative
Peru	0.0	0.1	0.4	64	86	-118	Positive
Philippines	0.1	-0.1	-0.4	48	96	-201	Negative
Poland	0.6	0.9	1.0	90	78	-35	Negative
Romania	0.7	0.5	0.9	88	208	74	Negative
Russian Federation	0.4	0.5	-0.3	57	200	-41	Neutral
Saudi Arabia	-1.8	0.6	-0.8	33	140	-275	Negative
Senegal	0.1	-0.9	0.3	50	526	248	Neutral
South Africa	-0.4	-0.8	0.7	57	307	66	Positive
Turkey	0.0	0.2	-0.4	49	424	137	Negative
Ukraine	0.2	0.6	-0.1	62	652	438	Positive
Uruguay	0.7	0.5	1.3	92	152	45	Neutral
Venezuela	0.4	-0.6	-1.5	22			Negative

Source: Allianz Global Investors

Integration of ESG in EMD investment process

The ESG framework plays an important and integrated part in the investment process for EM debt as it can help account for differences in sovereign creditworthiness. Deterioration in a country's ESG score can be expected to be accompanied by wider credit spreads on its bonds, a result that has been confirmed by empirical research papers. The close link between ESG factors and credit spreads is also visible in the significant correlation between the two metrics[2] (see chart 2). The correlation is stronger for the governance and social pillars than it is for the environment pillar, likely a reflection of the fact that environmental issues are even longer term factors than governance and social ones. Of course the relation is far from perfect, so that deviations of credit spreads from those implied by a simple bivariate regression model based on the ESG score can be used as an indication of possible richness or cheapness of sovereign credits on an ESG basis.

Chart 2: **ESG scores correlate with sovereign bond spreads**



Source: AllianzGI, Bloomberg

Due to the limitations of ESG data which are often lagged and slow moving, we find it necessary to complement the analysis with an assessment of whether a country is on an improving or deteriorating ESG trend. This is done as part of our regular internal research process. Complementing the hard data with a more qualitative and forward-looking assessment allows us to reflect more recent changes in governments or corruption scandals that might potentially influence institutional quality. For example, Poland's overhaul of its judiciary system, increasing government's influence over the media and broader weakening of the rule of law has not yet been fully reflected in the country's still high ESG score.

Combining the quantitative and the qualitative outputs of the framework generates interesting signals. In particular, countries that flag as cheap on the regression model and are on a positive direction of travel should be of interest as it suggests that ESG factors might not be fully priced in. For example, the spread on Jamaica's bonds is wider than implied by its above average ESG score, thanks to its strong performance on the governance front. Reforms of the police and judiciary, as well as improvements to the fiscal framework under guidance from the IMF, make us confident that the improving trend will be sustained. In addition, the electricity-generation matrix is moving away from oil towards more natural gas and renewables, which should lift up the country's environmental performance as well.

Of course, the signals can also be conflicting. For instance, Romania flags as slightly cheap purely from a quantitative basis, given wider spreads but a high ESG score. However, our internal research points to a deteriorating trend going forwards, given attempts by the government to weaken anti-corruption institutions. This has led to increasing discontent from the population and rising political instability. Therefore, the apparent cheapness might only reflect the fact some of the expected deterioration in ESG factors has been priced in.

Sustainable and responsible investing (SRI) strategies

The ESG framework can be used to build exclusion lists, in order to answer investors' potential concerns on various ESG-related issues and improve the profile of an EMD portfolio. Filters can be set up for country selection based on the overall ESG score, or based on different weighting for E, S or G. This will enable portfolios to be managed against SRI or ESG benchmarks (such as the JPM ESG Suite of indexes) or tailored solutions to meet client requirements and preferences.

One such approach could be to exclude countries falling below the 10th percentile on each of the three pillars. The idea is to insulate portfolios from the worst offenders on each ESG dimension, making sure that a country performing particularly badly on any single pillar is still picked up by the filter even if it performs better on the other two pillars. For instance, it ensures that Venezuela is excluded due to significant deficiencies on the governance front, even if it scores above average on the environment pillar.

Table 3: **Countries excluded from AllianzGI - SRI EM bonds strategy**

	Weight in JPM EMBIG Div	Is in bottom 10th percentile?			Credit event since 2008?
		E	S	G	
Angola	1.0		✓	✓	
Cameroon	0.2		✓	✓	
Côte D'ivoire	0.8		✓		✓
Dem. Rep. Congo		✓	✓	✓	
Egypt	2.6			✓	
Ethiopia	0.2		✓	✓	
India	0.9	✓			
Iraq	0.7	✓		✓	
Kuwait		✓			
Mozambique	0.1		✓		✓
Nigeria	2.0		✓		
Oman	2.5	✓			
Pakistan	1.0	✓			
Papua New Guinea			✓		
Qatar		✓			
Saudi Arabia		✓			
Tajikistan	0.1			✓	
Venezuela	1.1			✓	✓
NB of countries: 18	**13.1**				

Source: JPMorgan, AllianzGI.

This SRI approach excludes 18 countries from the investment universe (see table 3), accounting for 13% of the traditional benchmark (JPM EMBIG Diversified). It is no surprise that the bulk of the excluded countries are in frontier markets, mainly from Africa (eight countries) and the Middle East (five countries). An example model portfolio built from this more restricted investment universe would comprise 35 countries and have a similar credit rating and duration as the EMBIG index. The main differences from the traditional EMBIG benchmark is a reduction in yield by about 80 basis points and an improvement in average ESG quality, as expected (see table 4). It should be noted that the yield reduction is significantly biased by Venezuela, which accounts for just over 50 basis points of the EMBIG yield. However, the calculated yield on defaulted Venezuelan bonds is artificial to some extent, since investors should expect a large reduction in principal once a restructuring plan is eventually agreed. As a consequence, the yield that is given up in order to improve the ESG quality of the portfolio is not as great as suggested by the headline number. This is also confirmed by a back-test of the strategy over the past decade, which would have only reduced annualised returns by 20 basis points on average while increasing the overall quality of the portfolio and reducing drawdown.

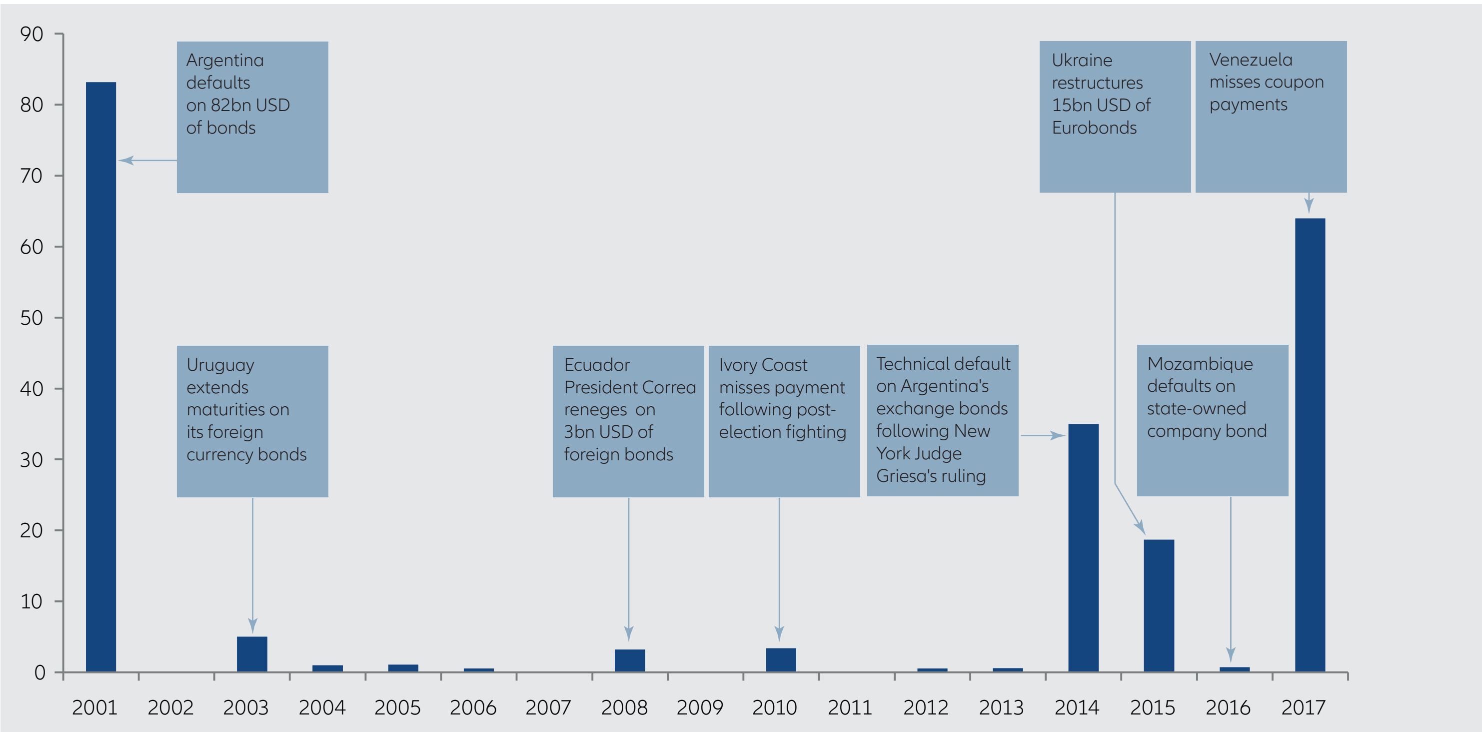
Table 4: **A model SRI portfolio**

Key comparative statistics	EMBIG Div	Model Portfolio
Number of countries	68	35
Blended Yield	6.6	5.8
Duration	6.5	6.7
Credit Rating (S&P / Moody's)	BB+ / Ba1	BB+ / Ba1
AGI ESG score (0 = worst and 100 = best)	60	68

Source: AllianzGI, JP Morgan.

Back testing shows that by utilizing the framework described in this paper for SRI exclusion strategies, has often mitigated portfolio downside risks. . Credit events are rare in the emerging market sovereign space (chart 3). It is therefore notable that the exclusion approach would have avoided exposure to three (Cote d'Ivoire, Mozambique and Venezuela) of the six sovereign credit events that took place over the past decade[3]. By excluding Venezuela, the strategy prevented exposure to the largest EM sovereign default since the Argentine default of 2001.

Chart 3: **Credit events in EM sovereign foreign currency bonds (bn USD)**



Source: AllianzGI, Bank of Canada.

Besides potentially avoiding outright sovereign defaults, utilizing the framework for exclusion strategies, can also help limit exposure to countries where ESG factors are gradually deteriorating, which might eventually lead to underperformance. The trend in Turkey over the past few years has been a good example of how value can be added by an early consideration of ESG factors (see box and chart 4). Turkey is amongst the three countries that have seen their ESG score deteriorate the most over the past ten years (see chart 5).

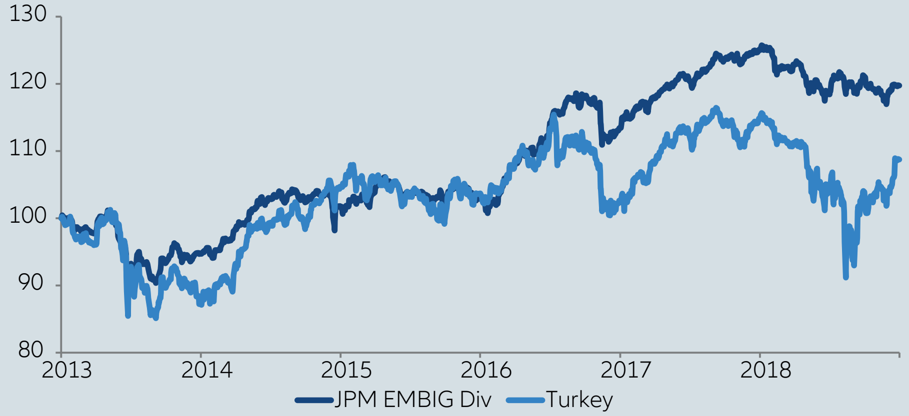
Case study – Turkey

In 2018, Turkey was buffeted by a severe shock as tighter global liquidity conditions and rising geopolitical tensions with the US combined with a build-up of economic vulnerabilities (high inflation, large external imbalances, FX mismatches and rapid increase in corporate debt leverage) to trigger a currency crisis. However, the deterioration in Turkey's social and governance factors was already evident for a number of years, which eventually made the country significantly less well equipped to deal with the economic crisis.

Social tensions came to the forefront in 2013 when the government cracked down violently on protesters against an urban development plan. Protests were also fuelled by concerns over freedom of the press and limits on social media activity. Social divisions intensified after the ceasefire with Kurdish rebel groups fell apart in 2015 and the insurgency erupted again. Kurdish members of Parliament have been arrested and the Turkish military became involved in the border region in Syria to contain the advance of Kurdish fighters there.

Over the last few years, President Recep Tayyip Erdogan (RTE) worked to concentrate power at the expense of independent institutions. His constant attacks against the central bank kept it from implementing an adequate monetary policy. Independent media have all been taken over by the state and many journalists have been jailed. Following accusations of corruption against his government and his family entourage, RTE cracked down on members of the Gulen organisation in the judiciary, military and education systems. The rise in fragmentation erupted with an attempted military coup in July 2016. While the failed coup was testament to Turkey's social divisions, the backlash proved to have a more lasting effect. RTE purged thousands of suspected Gulen followers from official institutions and moved to consolidate power the following year by transitioning to an executive presidency system which greatly weakened the powers of Parliament.

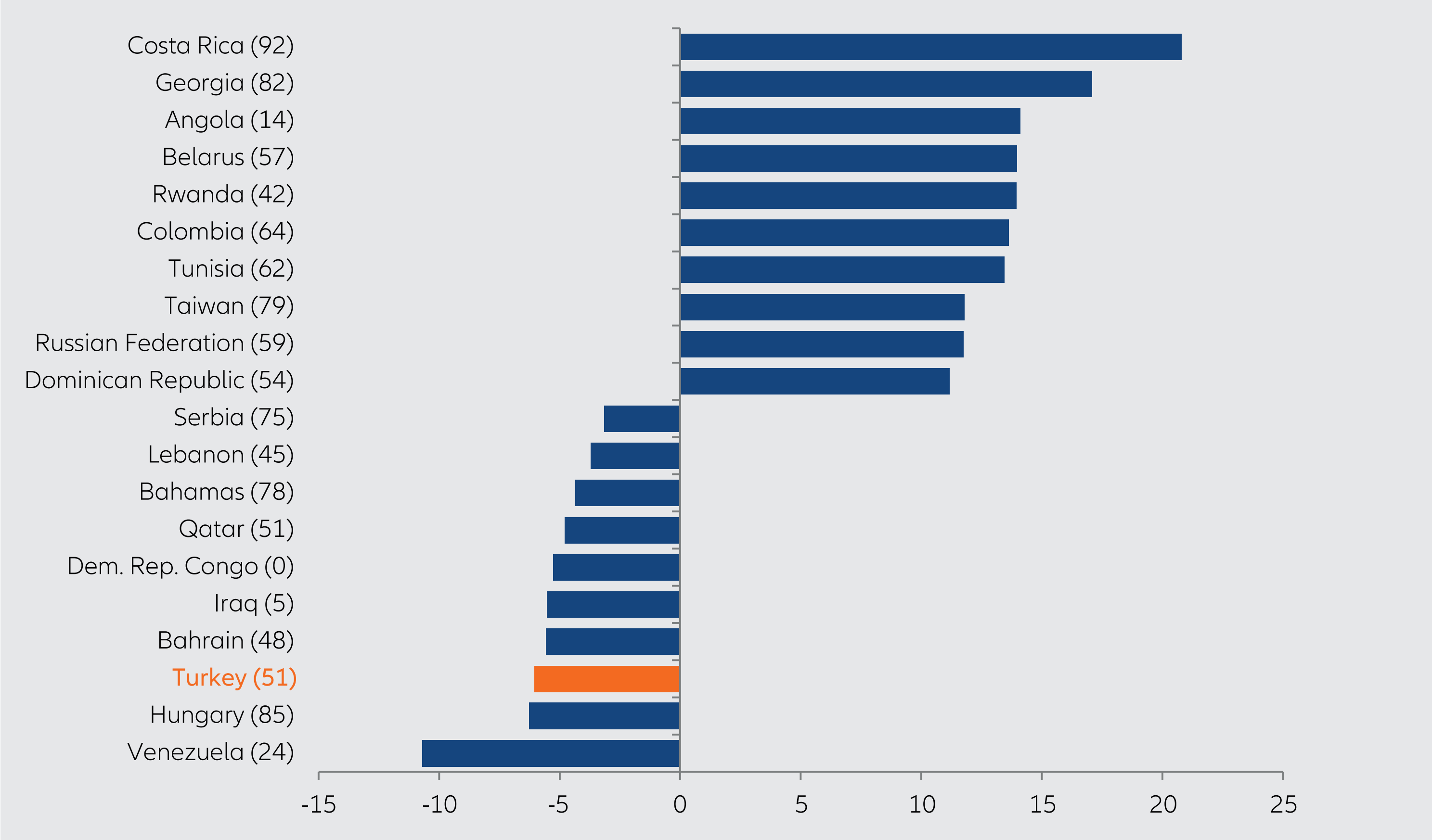
Chart 4: **Sovereign hard-currency bond performance (Jan 2013 = 100)**



Source: JP Morgan. Past performance is not a reliable indicator of future results.

Issues related to social cohesion and governance are now leading to a large brain drain out of Turkey, accentuated by the purge of government bodies following the failed coup. For a long time, many investors judged that mounting concerns on social and governance issues did not have a significant bearing on the broader macroeconomic framework. However, this perception proved wrong as the gradual trend of weakened institutions and concentration of power in RTE's hands culminated in the replacement of respected economic policy-makers with the president's son-in-law at the finance ministry. As a result, Turkey has become much less resilient than in the past. The capacity to implement a package of needed economic adjustment measures is now weakened.

Chart 5: **Largest changes in ESG scores over past decade***



* 2018 ESG score in parentheses.

Source: AllianzGI.

Engagement with sovereigns

Whether there can be meaningful engagement with governments on ESG issues is a frequently asked question. And related to this is the issue of how much impact ESG considerations can actually have at the sovereign level. One very important challenge to impactful engagement with sovereigns is an election cycle which causes policies being subject to change as governments change. However, even if those challenges are important, countries, like corporations, require financing. With a greater emphasis on scrutiny of ESG factors, governments will need to focus and enact policies that improve their ESG standing. If they fail to do so, financing may not be forthcoming for them in the future.

With the introduction of ESG indices at the EM sovereign level more investors will need to consider ESG factors. These indices are based on exclusion, eliminating sovereigns which score poorly on ESG factors. Over 2,000 asset managers and asset owners have signed up to the UN principles for Responsible Investing which accounts for $82trn AUM. Such trends can only lead to more engagement and impact. We have been early supporters of such initiatives, for instance by taking part in UN PRI's working group on sovereign issuer engagement. The group aims to deliver practice guides, which should help encourage the adoption of engagement practices amongst a wider set of investors.

Conclusion

The past decade has been characterised by record low levels of interest rates and a tide in global liquidity that lifted all boats. The next decade will likely be very different. Tighter liquidity will mean more differentiation going forward. In this respect, active asset management is key and it should be coupled with a robust, integrated ESG investment process. With this in mind, we have developed a proprietary framework to integrate our assessment of ESG factors into the more traditional analysis of macroeconomic drivers in emerging economies. ESG integration will help investors improve the quality of their portfolios and mitigate certain risks. In addition, given the diversified nature of the emerging market world and shifting market conditions, investors will need to start engaging with sovereign issuers on the more qualitative aspects of risk, including ESG factors.

[1] Allianz Global Investors [2017]: Financial materiality of ESG risk factors for sovereign bond portfolios by Dr. Steffen Hörter, Global Head of ESG Strategy, Allianz Global Investors

[2] The correlation between the ESG score and the logarithm of credit spreads is -0.6. We take the logarithm of credit spreads since the relation between spreads and credit quality indicators (credit ratings, macroeconomic variables or ESG score) is closer to an exponential fit rather than a linear one. The relation between the two variables remains even when other factors, such as credit rating and macroeconomic indicators, are controlled for.

[3] The other three events were: another restructuring of Belize's small Eurobond in 2012; the controversial technical default on Argentina's exchange bonds in 2014, to some extent imposed by a New York judge's adverse ruling on the pari passu case; Ukraine's restructuring in 2015 which turned out to be relatively friendly to bondholders.