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ANOTHER WAY OF LOOKING AT A COUNTRY'S CARBON FOOTPRINT

A TALE OF SWITZERLAND AND SOUTH AFRICA

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In the wake of the COP26 Conference, climate pledges are at the forefront of investors' minds. Mark Carney, former Bank of England governor and the UK Prime Minister's Finance Advisor for COP26, promises that the newly-formed Glasgow Financial Alliance for Net Zero (GFANZ) can help mobilize the trillions of dollars needed to help put the world on track to transition to a 1.5-degree warming scenario. GFANZ will coordinate the alphabet soup of sustainable finance standard-setters proposing methodologies for Paris Alignment[1] in different asset classes. Enthusiasm for the initiative is high, but we think that this enthusiasm for climate pledges merits caution and careful analysis.

The 2016 climate finance roadmap envisioned private finance delivering one-third of the USD 100 billion per year of climate finance for developing countries[2]. To date, private finance has underperformed, producing less than half of the USD 33 billion per year that was expected[3]. And despite its USD 58 trillion size[4], sustainable finance standard-setters often treat the sovereign debt market as an afterthought, resulting in unintended consequences, as covered in our previous white papers[5].

How should investors think about being Paris Aligned in the sovereign debt market? The sovereign debt market is significant because it has the scale to help governments finance large infrastructure projects which are needed for climate adaptation and mitigation. Last November, J.P. Morgan introduced carbon analytics reporting, which included the carbon footprints of its flagship sovereign debt benchmarks. In line with the guidance of the Paris Aligned Investing Initiative, J.P. Morgan reports the weighted average carbon intensity (WACI) in two ways: CO_2 emissions per capita and CO_2 emissions per USD million GDP. As illustrated in Figure 1, the two metrics lead to opposite conclusions about which markets are more carbon-intensive.

1 Aligning operations with the Paris Agreement.

2 https://unfccc.int/sites/default/files/resource/climate-finance-roadmap-to-us100-billion.pdf

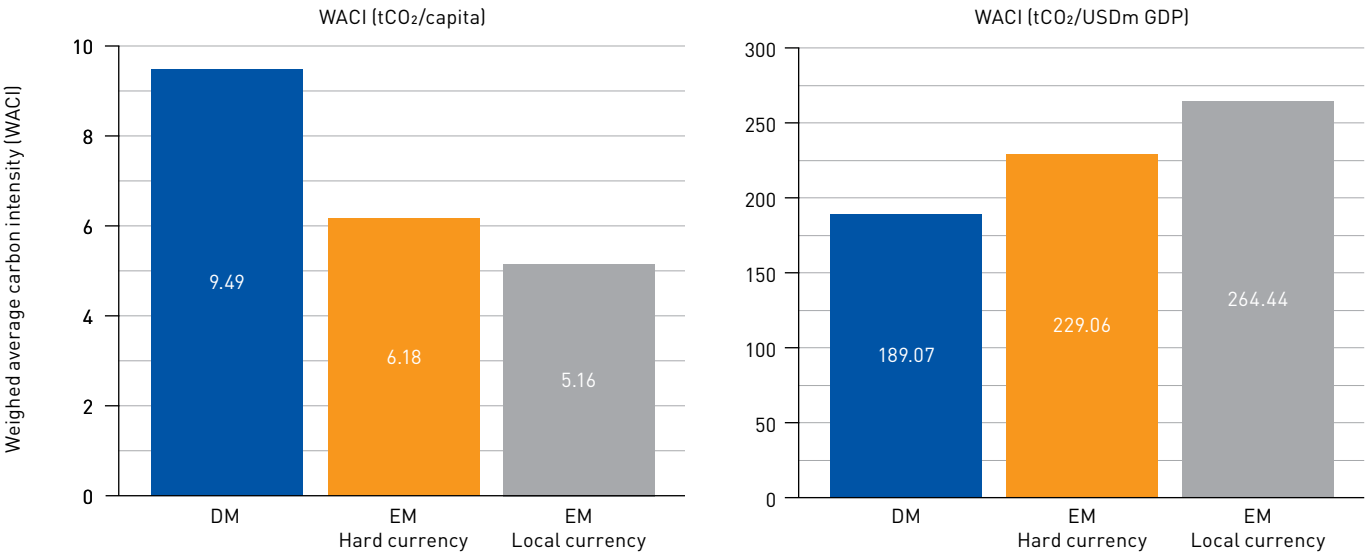
3 https://ukcop26.org/wp-content/uploads/2021/10/Climate-Finance-Delivery-Plan-1.pdf

4 BIS: https://www.bis.org/statistics/c4.pdf

5 See "Progress Towards a Sovereign ESG 2.0 Framework – An Update", October 2021

Figure 1: Do current carbon intensity metrics greenwash high per capita emissions from developed markets?

Which market is more carbon intensive?
JPM's weighted average carbon intensity: per capita and per USD million GDP



Source: J.P. Morgan Climate Analytics: (Harvey et al. 2021)

Using the emissions per USD million GDP methodology, DM is the cleanest while using emissions per capita, DM is the dirtiest. The J.P. Morgan GBI-EM GD Index (GBI-EM) has a larger carbon footprint than the J.P. Morgan EMBI-GD Index (EMBI-GD) on GDP intensity (due to the weights of China and South Africa in the GBI-EM). In contrast, the EMBI-GD has a higher carbon footprint on a per capita basis due to the inclusion of the GCC countries[6]. The GCC countries account for nearly 60% of the EMBI-GD carbon footprint per capita, despite constituting just 20% of the Index weight. South Africa is the largest carbon footprint contributor to the GBI-EM on a GDP intensity basis, while China is the biggest contributor to the same Index on a per capita intensity basis[7].

Suddenly, choosing a carbon intensity metric becomes central to optimal capital allocation. Is DM clean or dirty? Is external debt a better ESG asset class than emerging market (EM) local markets? Are GCC countries and commodity exporters to be avoided? Should an ESG conscious investor prefer China over South Africa or position the other way around?

6 Gulf Cooperation Council (GCC) is a common market established in 2008 and consists of six member states: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

7 Please note: Russia will no longer be included in the J.P. Morgan indices after the end of March 2022.

In this brief paper, we argue that investors seeking to align their sovereign debt investments with the goals of the Paris Agreement should use consumption-based carbon emissions per capita as their core metric of carbon intensity. We think that the recent proposals promoting the use of territorial emissions per GDP are fundamentally flawed, overwhelmingly benefiting rich countries to the detriment of poorer countries. Far from being a technical detail, the metrics which investors use to measure carbon intensity are critical for the success of climate finance in helping achieve the goals of the Paris Agreement. We find that the choice of territorial emissions overwhelmingly benefits wealthy developed markets (DM), who outsource a significant portion of the emissions caused by their consumption patterns to emerging markets. We argue that consumption-based emissions more accurately reflect a country's climate impact. Further, we believe that using per capita emissions is more consistent with the Paris Agreement's principle of equity. Alternative denominator choices such as GDP (or debt) for emissions intensity calculations could lead to measurement challenges and peverse incentives, such as giving rich (or highly indebted) countries the ability to emit more CO_2 than poor (or fiscally responsible) countries[8].

The role of private finance in the Paris Agreement

The Paris Agreement balanced the urgent global need to limit carbon emissions with the context of rich countries' disproportionate responsibility for causing climate change. Advanced economies were expected to take immediate and ambitious action to lower emissions and help pay for climate adaptation and mitigation in developing countries. The Agreement also calls on advanced economies to facilitate technology development and transfer so that developing countries can reduce poverty and raise living standards in a less carbon-intensive manner.

The Paris Agreement envisioned a key role for private finance. Article 2.1.C of the Agreement stresses making financial flows consistent with a pathway towards low Green House Gases (GHG) and climate-resilient development. Article 2.2 states that alignment should be achieved in a manner that reflects the principles of equity and common but differentiated responsibilities and capabilities. Article 9 outlines how advanced economies will significantly scale up financial support to underwrite climate adaptation and mitigation measures. Advanced economies followed up in 2016 with a roadmap to providing USD 100 billion of climate finance funding per year by 2020, where around one-third of the funding would come from private finance.

8 We do not directly address the use of debt, government expenditure, or other proposed monetary-based denominators, but our research found them to suffer from similar problems as described for using the GDP denominator described in this paper. We believe debt, in particular, is a non-starter because of its poor incentives: it makes debt-crises an excellent form of rapid decarbonization.

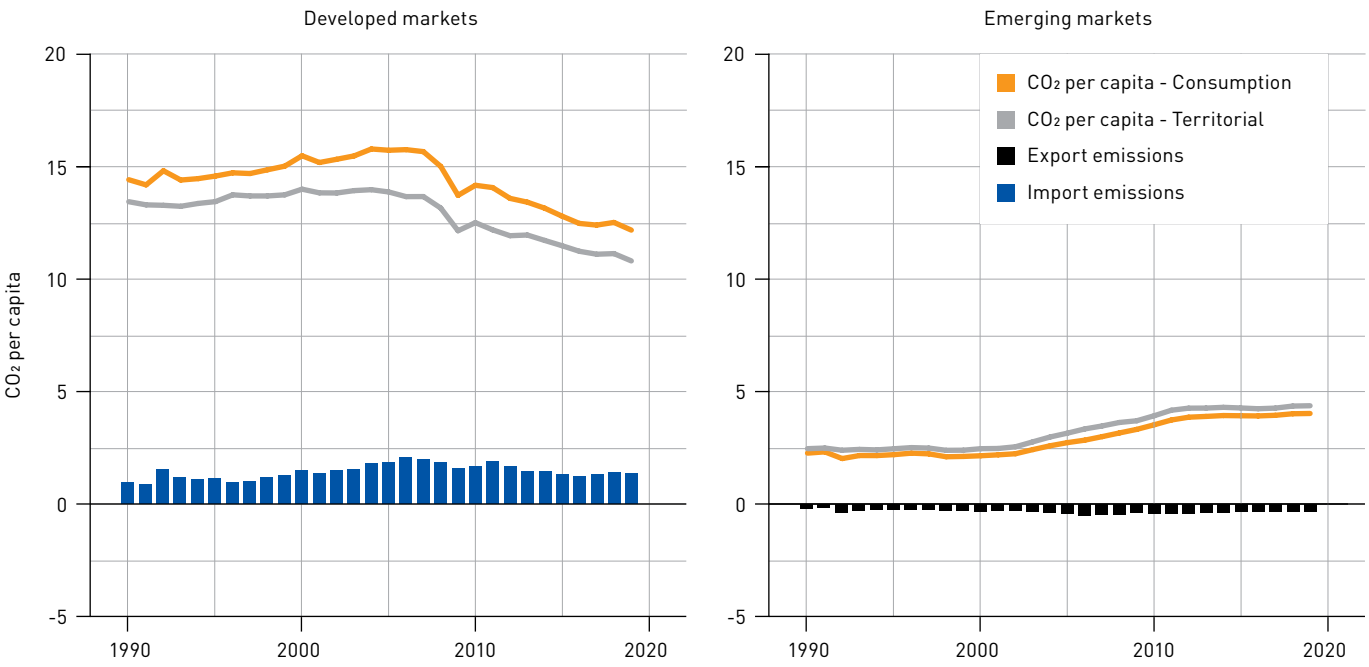
The Numerator: Calculating a country's emissions – consumption vs. territorial

To examine these issues in the context of the sovereign debt market, we constructed a dataset of 19 DM debt issuers and 21 large EM debt issuers using carbon emissions data from Our World in Data and macroeconomic data from the IMF's World Economic Outlook[9].

Territorial emissions measure the CO_2 emissions produced in a country and are strongly correlated to the degree of primary and secondary activity in a country, i.e. mining, agriculture, and manufacturing. They are scope 1 emissions and do not account for differences in sectoral emissions intensity and international trade. DM countries have, for decades, been transitioning away from manufacturing towards services, but this has not necessarily reduced the marginal propensity for energy-intensive consumption. Consumption patterns for DM are now disproportionately driving carbon emissions. When a steak is consumed in London or New York, should Brazil or Argentina be held responsible for the associated carbon emissions or the US and UK? If all Apple products are consumed outside China, then should the carbon emissions encapsulated in the iPhone from the production process be offset by the Chinese or whoever buys the iPhone? It is easy to think about carbon attribution and offset at the individual or company level, but who is responsible for offsetting at the sovereign level? Consumption-based emissions attempt to adjust for these issues and are calculated using estimates of sectoral emissions intensity and trade patterns[10]. Figure 2 shows that DM consistently outsources approximately 10% of the emissions it consumes while EM does the opposite.

Figure 2: DM outsources its emissions

Why use consumption-based emissions? DMs outsourced emissions
Consumption-based emissions give a more accurate picture



Source: Our World in Data Carbon Emissions Dataset (November 2021) and Fall 2021 IMF World Economic Outlook. Analysis by Emso and Teal Insights.

9 We also performed calculations using a much broader list of emerging market sovereign bond issuers, and found that it did not substantively change aggregate calculations.

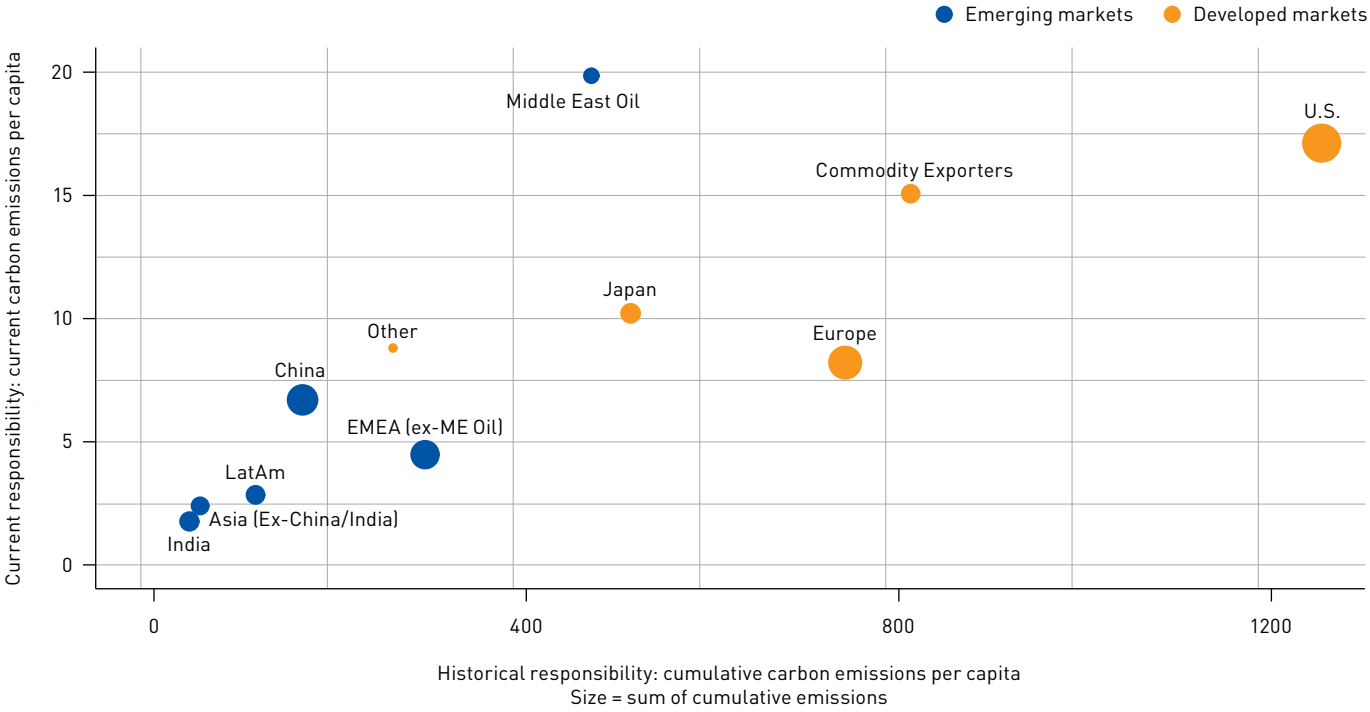
10 We use consumption-based emissions data calculated by Our World In Data based on the methodology presented in Peters et al 2012.

The Denominator: Per capita emissions are aligned to the Paris Climate Agreement, unlike GDP-based calculations, which show an ingrained income bias.

Media coverage of carbon emissions often compares the absolute emissions levels for countries of vastly different sizes. China (10.7 billion metric tons) and India (2.4 billion metric tons) are two of the three largest CO_2 emitters on an absolute basis but combined, these two countries are home to nearly 2.8 billion people, more than a third of the global population. Looking at emissions per person aligns with the Paris Agreement's principle of equity and clearly illustrates that wealthy DM countries have taken a disproportionate level of the world's limited carbon budget historically and currently. Figure 3 provides a more granular view. The horizontal axis shows historical responsibility as measured by cumulative CO_2 emissions. The vertical axis shows current consumption-based CO_2 emissions. Bubbles are sized by the absolute size of cumulative CO_2 emissions to give a sense of magnitude.

Figure 3: Current & historical emissions per capita[11]

Whose emissions drive climate change?
DM is responsible for a disproportionate share of current and historical emissions



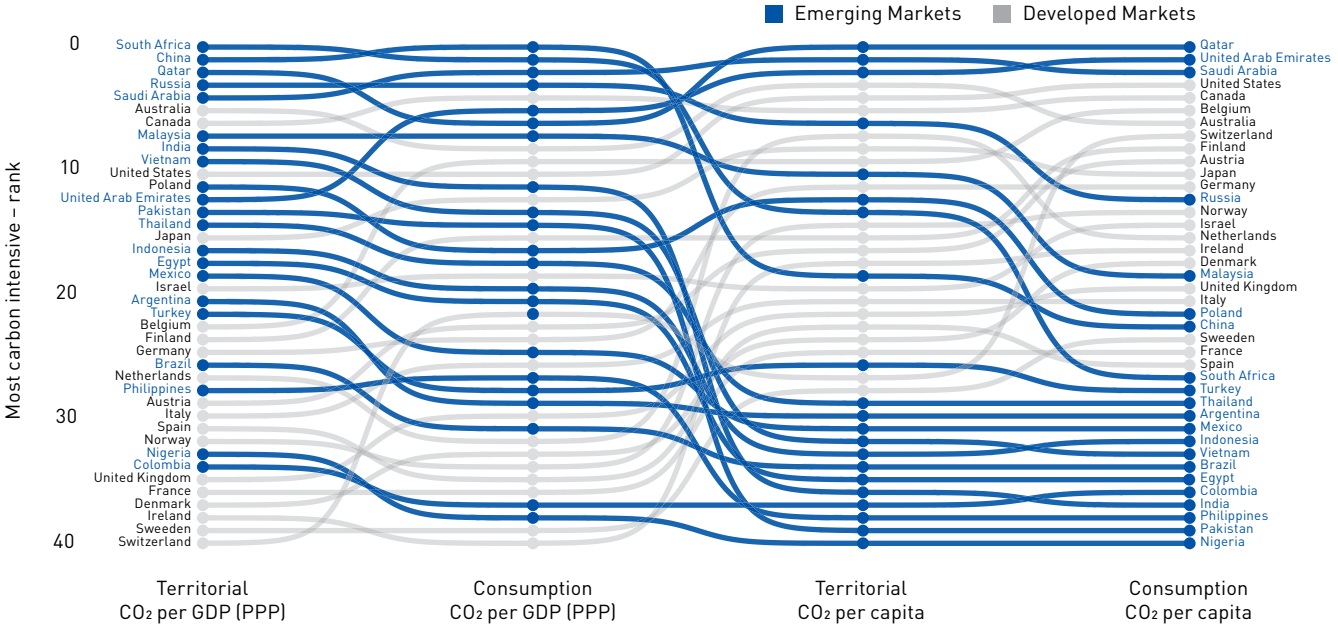
Source: Our World in Data Carbon Emissions Dataset (November 2021) and Fall 2021 IMF World Economic Outlook. Analysis by Emso and Teal Insights.

China, the world's largest CO_2 emitter, is responsible for less per capita emissions (6.6 metric tons, consumption adjusted) than green-conscious Europe (7.8 metric tons). Based on current population projections, and despite its pledge to reduce carbon emissions by 50% of 2005 levels, the US will still be emitting more per capita in 2030, than China is today. By contrast, middle eastern oil exporters, which have recently been added to emerging market bond benchmarks despite their high incomes, have the highest per capita emissions of any grouping, yet their cumulative historical emissions are modest compared to those of developed countries.

11 The chart uses consumption based emissions to measure current responsibility on the y-axis. Because cumulative emissions are only available for territorial emissions, we use cumulative territorial emissions to capture historical responsibility on the x-axis.

The choice of carbon intensity metric matters because it will likely drive capital allocation. Investors and benchmark providers that seek to be Paris Aligned will use these metrics to overweight low carbon intensity countries and underweight high carbon intensity countries. The Partnership for Carbon Accounting Financials (PCAF) draft methodology for sovereign debt suggests using territorial emissions per PPP GDP because its monetary denominator can be used to calculate a financed emissions metric that parallels those calculated for corporates[12]. But the unique nature of the sovereign debt asset class and the externalities inherent within it make these approaches counterproductive to the Paris Agreement's goals.

Figure 4: Using GDP as the denominator systematically greenwashes DM emissions



Source: Our World in Data Carbon Emissions Dataset (November 2021) and Fall 2021 IMF World Economic Outlook. Analysis by Emso and Teal Insights.

Our research shows that using GDP-based carbon intensity calculations is not aligned with the goals of the Paris Agreement for three main reasons.

First, the calculation methodology inherently rewards rich countries, which would be in violation the principle of equity articulated in Article 2.2 of the Paris agreement.

12 Partnership for Carbon Accounting Financials (PCAF) draft methodology: https://carbonaccountingfinancials.com/files/consultation-2021/pcaf-draft-new-methods-public-consultation.pdf. This proposal is being promoted by the Net Zero Asset Owners Alliance (NZAOA), a part of the newly founded GFANZ: https://www.unepfi.org/wordpress/wp-content/uploads/2022/01/NZAOA-Target-Setting-Protocol-Second-Edition.pdf

Figure 5: Emissions per GDP rewards countries for being rich

$$CO_2 \text{ emissions per capita} = \frac{CO_2 \text{ emissions}}{\text{population}}$$

$$CO_2 \text{ per GDP} = \frac{CO_2 \text{ emissions}}{\text{GDP}} = \frac{CO_2 \text{ emissions}}{\text{population} * \textbf{GDP per capita}}$$

The problems with using GDP-based emissions intensity are inherent to the equation used to calculate it. As shown in Figure 5, the main difference between the equation to calculate per capita emissions and per GDP emissions is that the latter multiplies the denominator by GDP per capita. This may seem innocuous, but it effectively scales a country's implicit carbon budget by its income level, allowing for higher emissions. With an aggregate GDP per capita PPP of 55,000, DM could emit more than 4x carbon emissions per capita while having the same emissions per GDP carbon intensity as EM, with 13,000 per capita GDP PPP. It implicitly allocates Swiss citizens 5.8x the carbon budget versus South Africans and Norwegians more than 12x that of Nigerians. Clearly, this does not align with the Paris Agreement's principle of equity. We illustrate the impact of these inconsistencies using the example of South Africa and Switzerland in Case Study 1.

Second, GDP-based emissions intensity calculations do a much poorer job than per capita metrics in measuring and incentivizing the absolute emissions reductions needed for the Paris Agreement to succeed. High-growth countries can see an emissions per GDP reduction even when their absolute emissions multiply. For example, between 2000 and 2019, fast-growing Vietnam's emissions grew 4x while emissions per GDP declined slightly. Using emissions per capita captures the trend in absolute emissions much better. Similarly, oil-producing countries see their emissions per GDP decrease when oil prices go up. Saudi Arabia's emissions per GDP went down nearly 8% in 2018 when average oil prices rose to USD 71 from USD 54 the previous year, despite pumping more oil. Malaysia, e.g., while maintaining its commitment to reduce emissions intensity per unit of GDP by 65% by 2030, will now be adding 2.2% to its annual emissions as a result of stronger GDP projections.

Third, as illustrated in Figure 5, GDP-based emissions structurally disincentivize investment in developing countries with lower GDP per capita, actively working against the climate finance goals in Article 9 of the Paris Agreement. Their lower GDP per capita means the denominator is smaller, and the resulting carbon intensity metric is higher. This is counterproductive to the Paris Agreement's Article 9 goals to mobilize climate finance for developing countries and further exacerbates the shortfall in private finance that GFANZ is trying to remedy. For example, while the global community is rewarding South Africa for its "Just Energy Transition Partnership"[13], a sovereign benchmarking exercise based on GDP would divert private finance away from South Africa.

13 A group of wealthy nations awarded the country USD 8.5 billion to facilitate the transition at COP26.

There is also the question of whether countries should be paid to absorb CO_2 emissions. Gabon argues that it provides a massive public service by absorbing 100 million tons of carbon annually, and the Norwegian government valued Gabon's 2016/2017 emissions reductions at USD 5 per ton. But is this adequate compensation, and who should be paying? Consumption per capita also provides a better starting point to whether countries should be paid to absorb CO_2 emissions, by whom, and by how much.

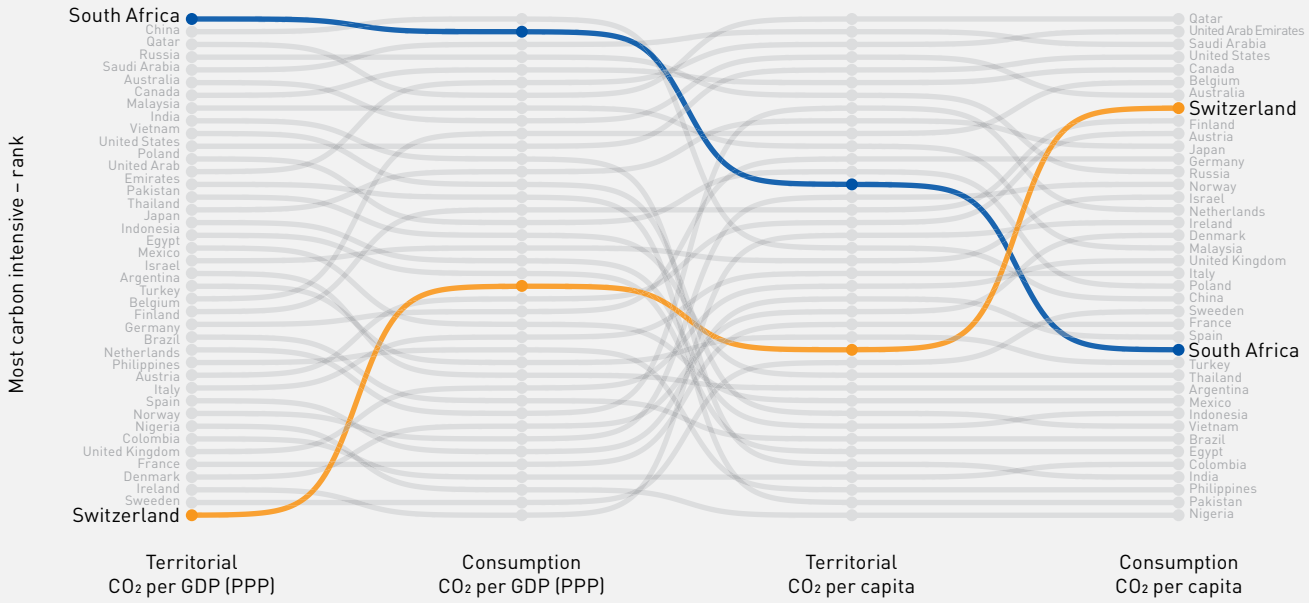
Using emissions per capita we see that China and India's consumption based per capita intensity is indeed rising steadily, but stands at 6.6 metric tons and 1.8 metric tons, respectively, which is comfortably below that of 17.1 metric tons, 10.4 metric tons, 7.8 metric tons for the US, OECD, and Europe, respectively. Russia's carbon footprint improves to 9.8 metric tons versus 11.5 metric tons. South Africa's carbon footprint improves to 5.7 metric tons versus 8.1 metric tons. The Middle East overall improves to 6.8 metric tons from 7.6 metric tons, mostly as Qatar's footprint sees a major improvement to 27.1 versus 40.6 metric tons on a territorial basis, which comfortably offsets Saudi Arabia and United Arab Emirates' footprint deterioration to 18.8 metric tons from 18.2 metric tons and 14.3 metric tons, respectively.

CASE STUDY 1:
PUTTING IT ALL TOGETHER - A TALE OF SOUTH AFRICA AND SWITZERLAND

The global community lauded the deal struck for South Africa to begin transitioning away from dirty coal power as the greatest climate finance achievement of COP26[14]. A group of wealthy countries agreed to provide USD 8.5 billion in grants and subsidized loans as part of the Just Energy Transition Partnership. This funding is designed to help South Africa reach the ambitious 1.5-degree celsius aligned emissions targets.

Figure 6: Emissions intensity ranking

Impact of numerator and denominator choices on carbon intensity metrics for South Africa and Switzerland



Source: Our World in Data Carbon Emissions Dataset (November 2021) and Fall 2021 IMF World Economic Outlook. Analysis by Emso and Teal Insights.

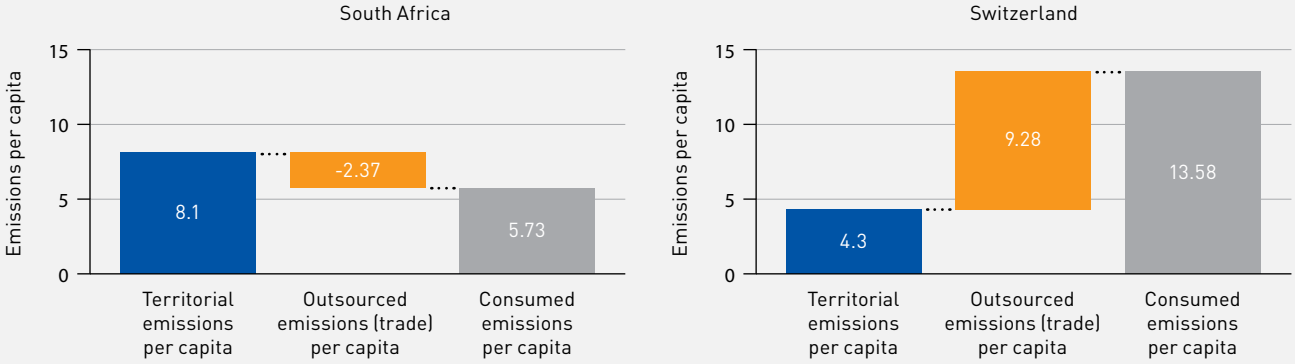
14 https://foreignpolicy.com/2021/11/12/coal-climate-south-africa-cop26-agreement/

Will sovereign carbon benchmarking help or hinder private sector investors in providing mitigation and adaptation financing for South Africa?
Comparing Switzerland and South Africa helps illustrate this point. South Africa is an EM economy that mines gold and diamonds. Switzerland is a wealthy developed economy that makes high-end jewelry and watches from gold and diamonds mined in South Africa and elsewhere. Walking through the numerator and denominator choices and their resulting impact illustrates what is at stake in creating carbon intensity metrics.

The Numerator

Switzerland effectively outsources 60% of its emissions to other countries, so its territorial emissions are much lower than its consumption-based emissions. South Africa, as a natural resource exporter, does the opposite.

Figure 7: Traded emissions

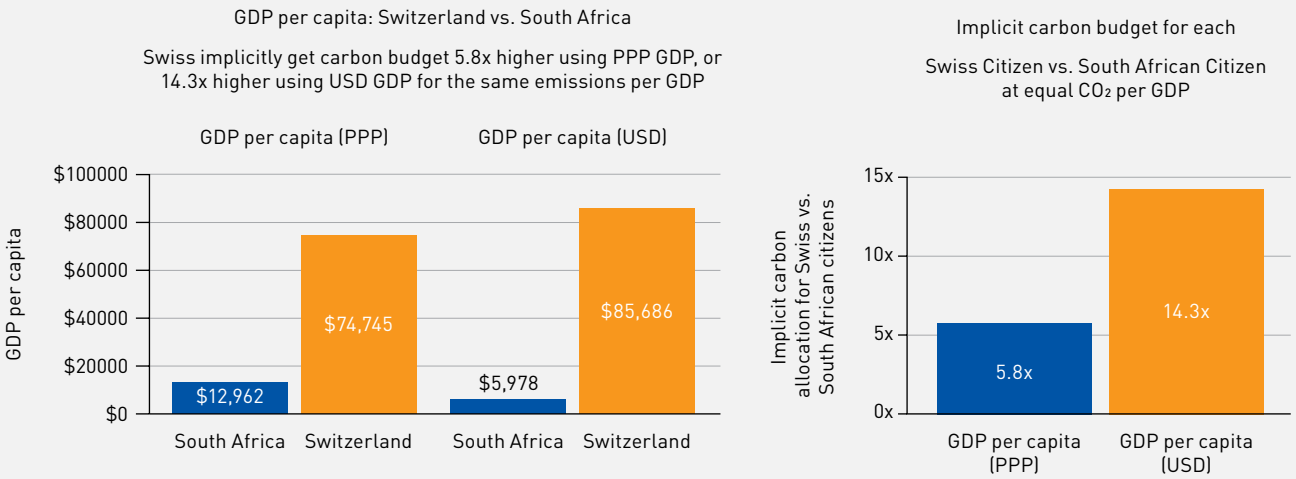


Source: Our World in Data Carbon Emissions Dataset (November 2021) and Fall 2021 IMF World Economic Outlook. Analysis by Emso and Teal Insights.

The Denominator

As illustrated in Figure 3, the only difference between emissions per GDP and emissions per capita is that emissions per GDP multiplies the denominator by GDP per capita. Switzerland could emit 5.8 times as much carbon per person as South Africa and still have the same emissions per GDP, using PPP GDP. If the calculation is made using USD GDP, each Swiss citizen could pollute 14.3 times as much as each South African citizen and still maintain the same measure of emissions intensity.

Figure 8: GDP per capita & implicit carbon budget



Source: Our World in Data Carbon Emissions Dataset (November 2021) and Fall 2021 IMF World Economic Outlook. Analysis by Emso and Teal Insights.

Results: Carbon intensity calculations

Climate-minded investors and benchmarks will seek to optimize for lower portfolio carbon intensities. Figure 6 demonstrates the relative impact of these numerator and denominator choices on the relative ranking of carbon intensity. South Africa's consumption-based carbon emissions are low, putting it in 27th place out of the 40 sovereign debt issuers we examined. However, because its GDP per capita is relatively low and it exports carbon-intensive natural resources used elsewhere, it is the most carbon intensive country as judged by territorial emissions per GDP. Conversely, Switzerland is the 8th dirtiest country as measured by consumption-based CO_2 emissions per capita. Yet because it is wealthy and it outsources its carbon emissions to other countries, it ranks as the cleanest country in our sample as judged by territorial CO_2 emissions per GDP.

SHOULD COUNTRIES BE PAID TO ABSORB CO2 EMISSIONS?

Gabon certainly thinks so. 88% of Gabon's landmass is covered with dense rainforests that absorb 4-5 times more carbon per hectare than the Amazon. 50% of Africa's wild elephants roam in its share of the Congo basin. Gabon argues it provides a significant public service, absorbing 100 million tons of carbon annually (equivalent to ~30% of the UK's annual gross carbon emissions). As part of the battle against climate change, Gabon argues that they should be paid to preserve their rainforests. The Norwegian government distributed a USD 17 million payment under a USD 150 million UN-initiated Central African Rainforest Initiative (CAFI), valuing Gabon's 2016/2017 emissions reductions at USD 5 per ton.

CONCLUSION

Developed markets outsource their emissions, and by using territorial emissions, they undercount the impact of their high consumption levels and increase the burden on EMs to reduce emissions at the expense of their domestic socioeconomic constraints. We believe that measuring carbon emissions per unit of GDP disincentivizes lending to countries where it is actually needed, especially under exclusion investment criteria, and unfairly rewards rich countries for being rich, which we do not believe aligns with the Paris Agreement's principle of equity.

Investors can play a positive role in aligning with the aims of the Paris Agreement. We believe that choosing the correct yardstick is critical to fostering the right set of policy discussions, market-based incentives, and financing platforms. We argue that, far from being a technical detail, the metrics which investors use to measure carbon intensity for sovereign debt are critical for the success of climate finance at helping achieve the goals of the Paris Agreement.

In our view, measuring carbon intensity using trade-adjusted emissions per capita best aligns with the goals of the Paris Agreement and overcomes the perverse consequences and measurement issues that other indicators suffer from. Sustainable development goals will always be vulnerable to the tug of war between socioeconomic development and catch-up needs and climate discipline. Emissions consumed per capita go much further than other measures in recognizing and internalizing this trade-off and allows for a more sophisticated investor engagement at the sovereign level.

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Joe began his career at Emso in 2011 within the Operations and Finance team. In 2014, he joined the corporate credit team as a research analyst covering global metals and mining, oil and gas, and utility companies. Since 2018, Joe has covered global frontier markets and ESG on the research team.

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Shikeb started his career in the Economics Analysis Division of the UK Office for National Statistics in 2003, using big data analytics to inform evidence based policy making. After earning a PhD in Economics in 2009, he spent a year as Research Fellow at the European University Institute. From 2010 to 2016, he worked at Bluebay Asset Management, responsible for Asia and MENA research and global EM quant strategy. He joined Emso in April 2017.

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TEAL EMERY

Teal Emery is the founder of Teal Insights, a research consultancy that focuses on uncovering and communicating actionable insights from complex information and messy data. Teal spent seven years as an emerging market sovereign research analyst at Morgan Stanley Investment Management (MSIM). He led the firm's sovereign ESG research and created the MSIM's first sovereign ESG framework. In 2020 Teal joined the World Bank to help drive their policy research and thought leadership on sustainable finance in sovereign fixed income. In 2021, he launched Teal Insights and collaborates with Emso Asset Management on an ongoing basis on sustainable investing best practices.

He has a master of international affairs degree specializing in international finance and economic policy from Columbia University's School of International and Public Affairs (SIPA).

APPENDIX

Country	Market + Subgrouping	GDP Per Capita (PPP)	Population (mn)	Territorial Emissions (tCo2/PPPm GDP)	Consumption Emissions (tCo2/PPPm GDP)	Territorial Emissions (tCo2/ capita)	Consumption Emissions (tCo2/capita)	Cumulative Emissions per Capita
Ireland	DM - Europe	$91,812	5	82.02	90.73	7.53	8.33	442.57
Switzerland	DM - Europe	$74,745	9	57.53	181.70	4.30	13.58	349.97
Norway	DM - Europe	$65,905	5	121.42	136.29	8.00	8.98	483.69
United States	DM - U.S.	$65,254	328	245.22	262.48	16.00	17.13	1254.37
Denmark	DM - Europe	$60,379	6	88.13	136.19	5.32	8.22	698.66
Netherlands	DM - Europe	$59,517	17	149.33	143.84	8.89	8.56	671.33
Austria	DM - Europe	$58,685	9	130.73	176.24	7.67	10.34	614.61
Germany	DM - Europe	$56,226	83	152.27	176.53	8.56	9.93	1107.09
Sweden	DM - Europe	$55,324	10	71.65	118.82	3.96	6.57	479.21
Belgium	DM - Europe	$54,265	11	160.46	275.95	8.71	14.97	1087.59
Australia	DM - Commodity Exporters	$52,712	26	307.78	278.78	16.22	14.69	714.05
Canada	DM - Commodity Exporters	$51,481	38	301.40	297.78	15.52	15.33	880.29
Finland	DM - Europe	$50,791	6	151.81	222.87	7.71	11.32	571.18
France	DM - Europe	$49,696	65	97.82	130.73	4.86	6.50	591.68
United Kingdom	DM - Europe	$48,603	67	113.66	160.38	5.52	7.80	1165.20
Italy	DM - Europe	$44,218	60	127.31	168.66	5.63	7.46	404.83
Japan	DM - Japan	$43,710	126	200.50	233.52	8.76	10.21	511.88
Spain	DM - Europe	$42,609	47	125.31	135.77	5.34	5.78	310.90
Israel	DM - Other	$41,786	9	164.97	210.57	6.89	8.80	256.69
Qatar	EM - Middle East Oil	$95,108	3	432.80	288.55	41.16	27.44	711.24
United Arab Emirates	EM - Middle East Oil	$63,590	11	225.58	295.18	14.34	18.77	422.85
Saudi Arabia	EM - Middle East Oil	$49,216	34	371.06	384.76	18.26	18.94	449.24
Poland	EM - EMEA (ex-ME Oil)	$34,624	38	243.02	215.44	8.41	7.46	725.89
Turkey	EM - EMEA (ex-ME Oil)	$29,724	83	161.57	161.31	4.80	4.79	125.63
Malaysia	EM - Asia (Ex-China/India)	$29,043	33	295.01	281.70	8.57	8.18	178.32
Russia	EM - EMEA (ex-ME Oil)	$28,450	147	402.26	343.16	11.44	9.76	775.25
Argentina	EM - LatAm	$22,997	45	162.14	161.21	3.73	3.71	184.12
Mexico	EM - LatAm	$20,796	127	165.45	172.98	3.44	3.60	155.78
Thailand	EM - Asia (Ex-China/India)	$19,234	70	202.83	209.92	3.90	4.04	102.07
China	EM - China	$16,659	1400	449.75	404.85	7.49	6.74	160.63
Brazil	EM - LatAm	$15,454	210	149.58	155.18	2.31	2.40	75.05
Colombia	EM - LatAm	$15,345	50	116.98	130.09	1.79	2.00	65.71
South Africa	EM - EMEA (ex-ME Oil)	$12,962	59	624.72	441.97	8.10	5.73	352.40
Indonesia	EM - Asia (Ex-China/India)	$12,483	267	198.27	202.10	2.47	2.52	51.74
Egypt	EM - EMEA (ex-ME Oil)	$12,445	99	183.52	184.34	2.28	2.29	61.69
Vietnam	EM - Asia (Ex-China/India)	$10,535	96	256.09	229.49	2.70	2.42	38.59
Philippines	EM - Asia (Ex-China/India)	$9,356	107	146.05	163.62	1.37	1.53	30.33
India	EM - India	$6,992	1368	274.63	252.09	1.92	1.76	38.00
Nigeria	EM - EMEA (ex-ME Oil)	$5,353	201	120.95	121.20	0.65	0.65	18.86
Pakistan	EM - Asia (Ex-China/India)	$5,204	205	219.91	224.89	1.14	1.17	24.07

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