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Has the DSSI Helped Lower Sovereign Spreads of Participating SSA Countries?

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This policy note assesses whether the Debt Service Suspension Initiative (DSSI) has helped lower the sovereign bond spreads of sub-Saharan Africa (SSA) frontier markets. Whether participation in the initiative would lower or increase a country's sovereign spread is unclear as it could provide liquidity and prevent short-term liquidity challenges from turning into a solvency issue, but it could also signal weak fundamentals and drive up borrowing costs. Empirical analysis suggests that DSSI participation did not adversely affect borrowing costs of SSA frontier markets as initially feared. The results suggest that the DSSI may have lowered spreads for participating SSA frontier markets, but the impact is moderate and subject to considerable uncertainty.

I. INTRODUCTION

The G20 Debt Service Suspension Initiative (DSSI) has provided some scope to maintain critical spending, by temporarily deferring payments without reducing the overall debt level. The initiative, which is available only to the poorest countries, allows 73 countries to request suspension of debt-service payments to bilateral official creditors for a limited period (May 2020–December 2021). Although it provides a valuable liquidity support, the initiative does not provide debt relief—the temporary suspension is designed to be net present value neutral—and does not address any underlying sustainability issues. While private creditors have been encouraged to voluntarily grant debt payment forbearance in a similar way, including by the Institute of International Finance, private sector participation has been limited so far (IIF 2020).

The debt service suspension relief from DSSI for sub-Saharan African (SSA) borrowers has been valuable but limited. The potential savings of SSA countries were initially estimated at $5.5 billion over May–December 2020. But the DSSI effectively delivered only about $1.8 billion to SSA countries during this period. From January to June 2021, except for Angola, Mozambique, and the Republic of Congo, the potential savings amounted to less than 1 percent of GDP. Over this six-month period, potential savings for the region is estimated at $4.3 billion, with average savings of just 0.4 percent of GDP. The savings are small, especially when compared to the huge resources needed for pandemic responses in these countries.

At first, because of concerns about the potential impact on borrowing costs or sovereign credit ratings, **several eligible countries were hesitant to participate in the initiative.** It was unclear whether DSSI participation would lower or increase a country's borrowing costs as it could potentially signal weak fundamentals. Countries hesitated to sign up by weighing the benefits of improved short-term liquidity against potential cost of losing access to capital market, but more than 40 percent of the eligible countries have participated by November 2020 (S&P 2020). After prudently comparing the immediate liquidity benefits against the relatively low risk of losing market access, of the 37 countries eligible within the region, 30 have benefited.

This policy note analyzes daily data on sovereign bond spreads of SSA frontier markets[1] and other B-rated countries to assess the impact of DSSI on borrowing cost for participating countries. Using difference-in-difference (DID) technique, and accounting for fundamentals and global market conditions, the analysis shows that SSA frontier markets participating in the initiative had lower borrowing costs than nonparticipants. But the magnitude of reduction in spreads was moderate, ranging from 37 to 43 basis points (bps). The silver lining is that countries' participation in the DSSI did not lead to increases in borrowing cost as was initially feared.

II. COMPARISON OF SSA FRONTIER MARKETS SPREADS AND B-RATED COUNTRIES

Prior to the pandemic, the sovereign spread of SSA frontier markets was on average comparable to that of other B-rated countries, but it increased at the onset of the pandemic. The average difference in spreads was just 152 bps during January 1–March 15, 2020. As the pandemic broke out, spreads of SSA frontier markets rose and remained above that of other B-rated countries through the end May 2020 (Figure 1)—the average gap reached 350 bps between March 16 and May 31, 2020. After May 2020, SSA frontier markets' spreads declined as countries signed up for the DSSI, narrowing the gaps with B-rated countries to about precrisis levels of 188 bps, averaged over June 1–November 30, 2020.

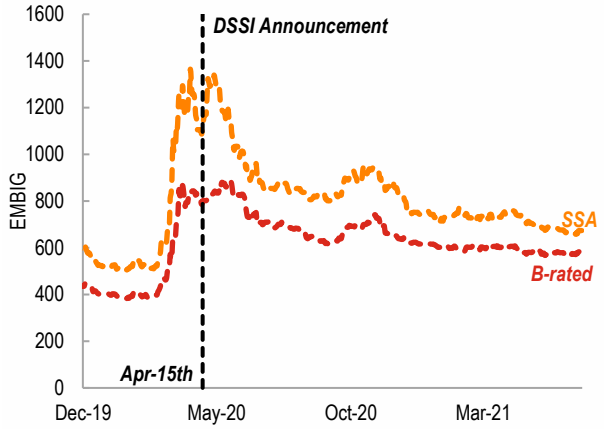
There are, however, significant heterogeneities across SSA frontier markets in the dynamics of their sovereign spreads. Even if all have experienced surges in spreads at the onset of the pandemic, some countries such as Côte d'Ivoire and Gabon experienced faster increase in rates between January 1 and mid-March 2020. Others have seen faster declines in spreads after reaching their peaks in March/April 2020, while some like Zambia experienced subsequent increases after initial decline (Figure 1).[2]

[1] SSA frontier markets refer to the 13 countries that have access to capital markets: Angola, Cameroon, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Kenya, Mozambique, Namibia, Nigeria, Senegal, and Zambia, as well as South Africa, an emerging market economy.

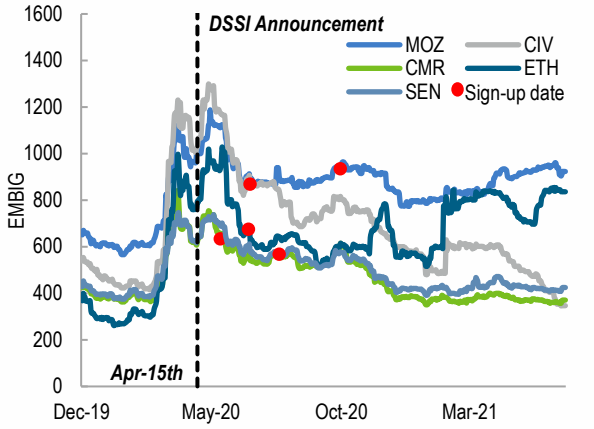
[2] Zambia has stopped servicing its debt and requested restructuring. As a result, its sovereign spread continued to be volatile and increased in the third quarter, while others experienced reductions in their spreads. Therefore, in the subsequent analysis, the authors exclude Zambia.

Figure 1: Spreads of SSA Countries and the Average Spread of B-rated Countries

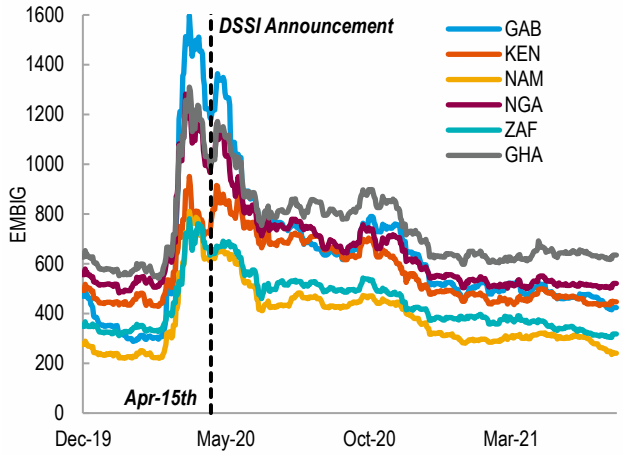
Average spreads of SSA and B-rated countries



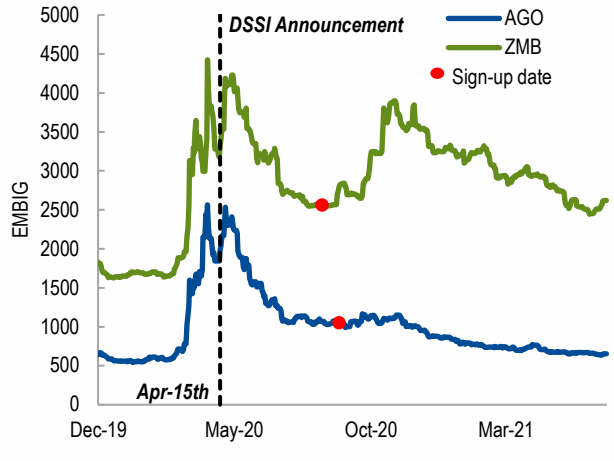
DSSI-participating countries



DSSI-ineligible and nonparticipating countries



(Outliers) DSSI-participating countries



Sources: Bloomberg Finance L.P; Paris Club; and IMF staff calculations.

Note: The vertical dashed line is April 15, 2020—the date of DSSI announcement. The countries started to sign-up on May 1, and this date is used as an indicator for "post-treatment" in subsequent analysis. Kenya has recently (on January 11, 2021) signed up to participate but, as the regression framework focuses on the timeframe when most SSA countries have signed-up (until mid-November 2020), Kenya was considered as a nonparticipant. Zambia and Angola have had higher sovereign spreads, compared to other SSA frontier markets—note the scales of the *y*-axes—and hence are presented in a separate graph as "outliers." B-rated average includes Albania, Belarus, Belize, Costa Rica, Egypt, El Salvador, Jamaica, Jordan, Mongolia, Montenegro, Pakistan, Papua New Guinea, Sri Lanka, Turkey, and Ukraine.

SSA = sub-Saharan Africa; EMBIG = Emerging Market Bond Index Global; DSSI = Debt Service Suspension Initiative.

III. IMPACT OF DSSI ON THE SPREADS OF SSA FRONTIER MARKETS

A priori, it is not clear whether a country's participation in the DSSI should lower or increase its sovereign spreads. On the one hand, participation in the initiative could boost liquidity and prevent short-term liquidity challenges from turning into a solvency issue. This could lead to reductions in sovereign spreads as it lowers the insolvency risk of the participating country. On the other hand, it could be interpreted by markets as a signal that the country has (previously unidentified) weak fundamentals and elevate the perceived country risk, which, in turn, could increase borrowing costs. However, as shown in the analysis presented below, DSSI participation did not adversely affect borrowing costs of SSA frontier markets.

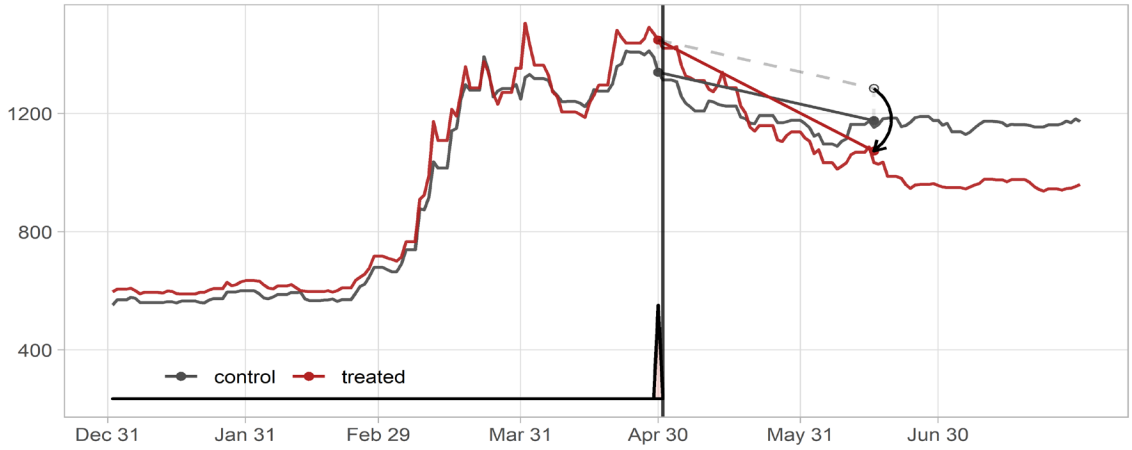
A recent study has shown that the DSSI may have lowered spreads for eligible countries (Lang, Mihalyi, and Presbitero 2021). Using daily sovereign bond spreads data, the study shows that DSSI-eligible countries

experienced a considerable decline in borrowing costs compared to similar, ineligible countries. The decline was also found to be stronger for countries that received a larger debt service relief, suggesting that the impact of DSSI on sovereign spreads works through the liquidity provision channel. Reproducing the Lang, Mihalyi, and Presbitero (2021) study—but considering only the impact of the initiative on eligible SSA countries—the authors arrive at similar results (Figure 2). The impact of activation on SSA spreads is estimated at –212 bps, with a 90 percent confidence interval of [–486, 61]. This wide confidence interval points to a considerable uncertainty in the estimated impact.[3] This warrants a further analysis to improve the precision of the impact estimates.

Figure 2. Large Uncertainty Regarding the Impact of DSSI on Borrowing Cost

(The estimated impact using Synthetic Difference-in-Difference is –212.2 bps with CI [−486, 61])

(Basis points)



Sources: Bloomberg Finance L.P.; and IMF staff calculations.

Notes: The figure plots the results of applying the synthetic difference-in-difference (SDID) estimator proposed by Arkhangelsky and others (2019) to our setting. The vertical line indicates the DSSI activation on May 1, 2020. The figure shows the parallel trends of bond spreads in eligible SSA countries and their synthetic controls before the DSSI activation, along with the eligible countries' departure from this parallel trend after the DSSI is activated. The black arrow indicates the treatment effect, i.e., the difference between actual spreads in eligible countries and the projected counterfactual. The treatment effect and its 90 percent CI are estimated at τ = –212.2, [−486, 61].

DSSI = Debt Service Suspension Initiative; CI = confidence interval; SSA = sub-Saharan Africa.

In sum, the weight of evidence from the extended Lang, Mihalyi, and Presbitero (2021) study suggests that **the DSSI has likely reduced spreads for SSA countries, but the size of that impact is highly uncertain.** To explore that uncertainty and produce a more precise estimate, the analysis below employs a flexible Difference-in-Differences approach and investigates the impact of DSSI participation in more detail, comparing in particular the experiences of those SSA countries that signed up to participate in the initiative to those SSA countries that are either not currently participating or not eligible for the initiative.[4] Detailed discussion of the methodology is

[3] The 300 bps reduction in spread (estimated by Lang, Mihalyi, and Presbitero (2021)) applies to all countries participating in the DSSI, not just SSA. The study draws its conclusions primarily from the synthetic control methodology outlined in Abadie and Gardeazabal (2003), which does not in itself provide for confidence intervals. As a further test, therefore, the authors also employ SDID methodology outlined in Archangelsky and others (2019), which provides for more formal inference. In their sample, the impact of DSSI activation using this method is estimated at –199 bps; slightly smaller than the synthetic control results, but pointing to considerable uncertainty. The 90 percent CI for the DSSI effect in the study, for example, is [–380, –19]. The authors did not report the 9 -percent CI, but it likely includes zero—pointing to an even higher uncertainty.

[4] Lang, Mihalyi, and Presbitero (2021) use countries' eligibility for the DSSI as a treatment variable, while the authors focus on countries' decision to sign up for DSSI as a treatment indicator.

presented in the Annex. Below, the authors discuss results from the econometric analysis of the impact of DSSI on spreads of SSA frontier markets.

The absolute level of spreads fell by 37 bps, on average, for SSA frontier economies participating in the DSSI, compared with nonparticipants in the region. This is after accounting for their fundamentals and global market conditions. Without accounting for fundamentals and global market conditions, the participants have experienced a slightly higher (47 bps) absolute reduction in sovereign spreads, compared to nonparticipating countries in the region. As additional controls are introduced, the magnitude declines slightly but remains statistically significant (Figure 3, panel 1).

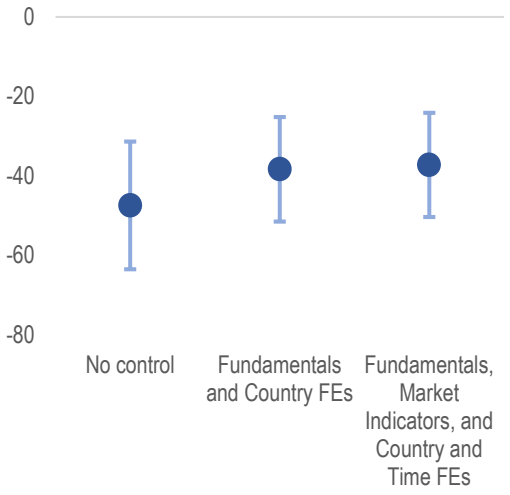
The relative spreads of participating SSA countries, in relation to the average spreads of B-rated countries, **also declined by 43 bps.** The spread gaps—spreads of SSA countries minus average spread of B-rated countries—declined for SSA countries participating in DSSI, compared to that of SSA non-DSSI countries. The extent of the decline is 43–54 bps under different specifications (Figure 3, panel 2).

Figure 3. DSSI Has Helped Reduce the Borrowing Cost of SSA Frontier Markets

(in both absolute EMBIG levels and relative to B-rated countries)

1. Lowered absolute sovereign spreads

(Basis points)

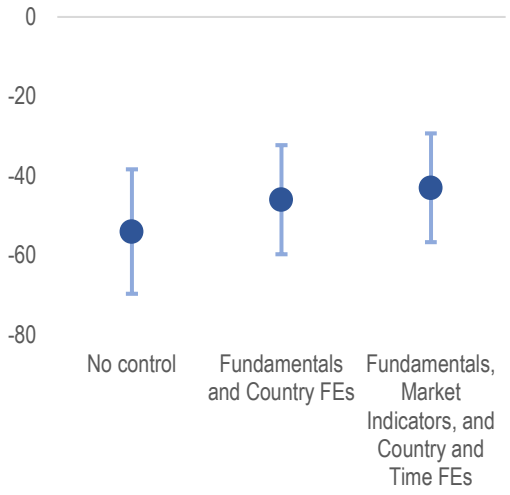


Source: IMF staff calculations.

Note: The point estimates are shown by the circles and the corresponding vertical lines represent the 95 percent confidence intervals. The estimates are from a difference-in-difference analyses with different specifications: starting with no control variable, subsequently adding the countries' fundamentals and country fixed effects (FEs), and finally introducing indicators of global market conditions as well as time FEs. The timeframe is January 1, 2015, to November 12, 2020. The analysis compares SSA frontier markets that have signed-up for the DSSI against other SSA frontier markets that did not sign up or are ineligible for the initiative. EMBIG = emerging market bond index global; SSA = sub-Saharan Africa; DSSI = Debt Service Suspension Initiative.

2. Lowered sovereign spreads relative to the average spreads in B-rated countries

(Basis points)



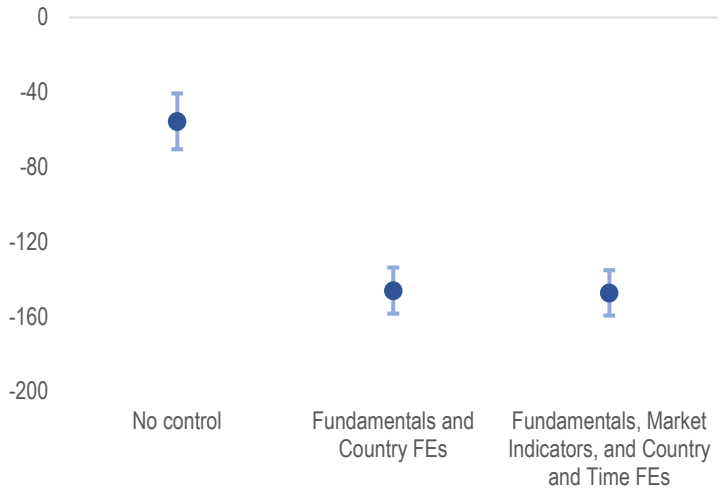
Source: IMF staff calculations.

Note: This figure compares gaps between the average spreads in B-rated countries (that is, ALB, BLZ, CRI, EGY, JAM, JOR, LKA, MNE, MNG, PNG, SLV, TUR, and UKR) and spreads of SSA DSSI-participant countries, against comparable gaps for non-DSSI SSA countries. Three of the B-rated countries (PAK, PNG, and MNG) are eligible for the DSSI, and two of them have signed up to participate. The point estimates are shown by the circles and the vertical lines represent the 95 percent confidence intervals. The estimates are also from DID analyses with different specifications: starting with no control variable, subsequently adding the countries' fundamentals and country FEs, and finally introducing indicators of global market conditions as well as time FEs.

The scale of reduction in spreads is larger for non-SSA DSSI participants than SSA participants. The impact of DSSI participation on spreads holds for a larger sample including participating non-SSA B-rated countries, namely Pakistan and Papua New Guinea, but the magnitude is much higher, around 147 bps (Figure 4). Further analysis indicates that the average decrease in spreads is larger for non-SSA B-rated DSSI participant countries than for SSA participants. This could partly be due to the low amount of DSSI savings for SSA countries, and the fact that the average decrease in spreads is larger for those with relatively higher liquidity benefits from DSSI.

Figure 4. Participation in DSSI is Associated with a Much Larger Reduction in Sovereign Spreads for B-Rated Countries Than for SSA Countries

(Basis points)



Source: IMF staff calculations

Note: The point estimates are shown by the circles and the corresponding vertical lines represent the 95 percent confidence intervals. The estimates are from DID analyses with different specifications: starting with no control variable, subsequently adding the countries' fundamentals and country fixed effects (FEs), and finally introducing indicators of global market conditions as well as time FEs. The analysis pool together SSA countries and other B-rated countries (that is, ALB, BLZ, CRI, EGY, JAM, JOR, LKA, MNE, MNG, PNG, SLV, TUR, and UKR). Three of the B-rated countries (PAK, PNG, and MNG) are eligible for the DSSI, and two of them have signed-up to participate. SSA = sub-Saharan Africa; DID = difference-in-difference; DSSI = Debt Service Suspension Initiative.

The results are subject to the usual statistical uncertainties. Extensive robustness checks—by changing the timeframe of analysis, accounting for possible autocorrelations, introducing a trend variable, and conducting event study—support the main findings, but also reveal some uncertainties around the estimated impact. The figures and tables are excluded for conciseness, but the authors find the following results: (1) restricting the analysis timeframe (from 2015–20 down to 2016–20 and 2017–20) does not change the results, but further restricting the analysis period to just the past 2–3 years (2018–20 and 2019–20) weakens the statistical significance and magnitude. This could partly be due to the limited temporal variation in fundamentals, which are recorded on annual basis. (2) Accordingly, the authors exclude the fundamentals and focus on the few months in 2020 around the time when the first SSA country signed up for the DSSI and analyze the changes in spreads around that event. The results from this event study are consistent with the main findings, which are based on data spanning the 2015–20 period. (3) Introducing a trend variable, in lieu of the variable indicating post-DSSI timeframe in DID regression, does not change the general finding, but lowers the magnitude of the estimated impact. (4) Allowing for a more flexible clustering of errors (Cameron and Miller 2015) by country and year renders the coefficients insignificant, without changing the magnitude. However, it is not clear how well the clustering approach works given the small number of clusters. Finally, imposing a panel specific autocorrelation

of order one—PSAR(1)—decreases the magnitude of the coefficient and precision of the estimates. This is not the case when the estimates are corrected for an overall first order autocorrelation/AR(1), during which the estimate declines but still remain statistically significant.

Finally, it is important to acknowledge the following caveats. This policy note focuses on the immediate effects DSSI participation might have had on sovereign spreads, and it is not intended to analyze its long-term implications nor estimate the associated reductions in debt servicing costs or savings from new bond issuance. The identification does not disentangle the effect of IMF emergency financing from DSSI participation as the SSA countries that have participated in the initiative also accessed the Fund's Rapid Financing Instrument. Furthermore, studying whether the Initiative has helped or hindered access to capital markets, affected credit rating or investors' risk perception is quite important but it is beyond the scope of the current study.

CONCLUSION

Despite initial hesitation, many SSA countries have signed-up for the DSSI. Countries were concerned regarding the potential implications of participating in the initiative on their borrowing costs or sovereign credit ratings and weighed this risk against the liquidity benefits. The initiative provided much needed fiscal space. However, with limited private creditors participation, the savings from the initiative have been small, especially compared to the needs of countries in the region.

The sovereign bond spreads of SSA frontier economies participating in the DSSI fell by 37 bps, on average, compared with nonparticipants in the region. Although it was unclear a priori whether DSSI participation would lower or increase a country's borrowing costs, the analysis suggest that it helped lower the absolute and relative borrowing costs for SSA frontier markets. Relative to B-rated countries, SSA DSSI participants saw a 43 bps decrease in spreads, compared that of nonparticipants in the region. These estimates are subjected to uncertainty, but generally confirm that participation did not adversely affect the borrowing cost of SSA frontier markets.

The DSSI was not intended to address long-term debt sustainability issues, which requires a comprehensive, country-specific strategy. Although the DSSI provides valuable liquidity support, the initiative does not provide direct debt relief and does not address any underlying sustainability issues. The Common Framework for Debt Treatments aims to fill this gap by facilitating the coordination of debt treatments tailored to the specific situation of the debtor country and fair burden sharing, ensuring a broad participation of creditors, including non-Paris Club official creditors and the private sector.

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ANNEX: EMPIRICAL STRATEGY

To analyze the effects of DSSI on participating countries' borrowing cost, the authors compare the sovereign spreads of the countries that have signed-up to participate in the initiative with that of nonparticipants (either because the countries have opted not to participate or are ineligible), before and after the DSSI. This is captured well in a difference-in-difference framework summarized by the following equation:

$$y_{it} = \alpha_1 Post_t + \alpha_2 * DSSI_i + \alpha_3 * Post_t * DSSI_i + X'_{iy}\beta + X'_{gt}\mu + \gamma_i + \gamma_t + \varepsilon_{it}$$

- where y_{it} is the spreads (EMBIG) of country i at time/date t. In Figure 3, panel 2, it represents the gaps in spreads between an SSA country i and the average spreads of B-rated countries.
- $Post_t$ is a dummy equal to one on or after May 1 to capture when the DSSI was launched (that is, when the first country signed-up for the initiative on May 1, 2020). It is zero for the period before that, for all countries.
- $DSSI_i$ is equal to 1 if country i is one of those that have signed-up to participate in the initiative, and zero for other countries. Accordingly, the interaction between $DSSI_i$ and $Post_t$ will be equal to one for participating countries after May 1. The main coefficient of interest is α_3, which captures the differential changes in spreads associated with the countries' participation in the initiative.
- X_{iy} and X_{gt} are country-specific fundamentals (debt-GDP ratio, inflation, terms of trade, and governance index) measured annually and global market indicators (S&P returns, volatility index/VIX, and the average spreads of the B-rated countries), respectively. The average spreads of B-rated countries are excluded when the dependent variable is gaps in spreads.
- γ_i and γ_t are country and time (month and day) fixed effects, respectively.
- ε_{it} is the error term.