

Online Appendix

Borrowing Costs after Sovereign Debt Relief

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A.1 DSSI Timeline

Our study period analyzing sovereign bond spreads starts on January 1, 2020, when the world is still largely unaware of Covid-19. On that day, the WHO requested information on a cluster of atypical pneumonia cases in Wuhan from the Chinese authorities based on local media statements.³⁰ It is not until February 4 that the WHO Director-General asks the UN Secretary-General to activate the UN crisis management policy in response to the virus and urges members to take action now “while 99% of cases are in China.” A month later, on March 11, the WHO declares Covid-19 a pandemic, with larger outbreaks developing in Western Europe, the Western Pacific Region, and the Middle East.

While the health impacts of the pandemic are concentrated in high-income and upper-middle-income countries at this stage (mid-March to mid-April), the economic repercussions are already visible elsewhere. Lockdowns are suppressing global demand in goods and services, trade is disrupted, commodity prices drop and sovereign spreads in emerging markets and developing countries are rising rapidly (IMF, 2020c).

On March 26, the leaders of the G20 state they are “committed to do whatever it takes to overcome the pandemic” in order to “protect lives”, “restore confidence, preserve financial stability, revive growth and recover stronger” and “provide help to all countries in need of assistance.” In the following weeks, a range of proposals are floated by experts and policy makers (Bolton *et al.*, 2020). In the run-up of the announcement of the DSSI, on April 13, French President Macron called on “massive cancellation” of Africa’s debt, while the next day France’s Foreign Minister Bruno Le Maire announced that “we have obtained a debt moratorium at the level of bilateral creditors and

³⁰This section is based on the WHO timeline of events; see: <https://www.who.int/news-room/detail/29-06-2020-covidtimeline>.

private creditors for a total of USD 20 billion.”

On April 15 the G-20 releases its communique outlining the DSSI as its policy tool to alleviate the economic fallout caused by the pandemic in the world’s poorest countries. The debt service suspension is implemented starting on May 1.

On October 14, given the scale of the Covid-19 crisis, the members of the G-20 agree on a 6-month extension of the DSSI and endorse the option of another 6 months extension if later deemed necessary.³¹ They also announce an agreement in principle on a “Common Framework for Debt Treatments beyond the DSSI,” the terms of which are finalized on November 13. This framework sets out principles for debt restructuring which goes beyond approaches used previously under the Paris Club, and where all G20 and Paris-Club member bilateral lenders as well as private lenders are required to agree on debt treatments of comparable terms.³² While the list of countries eligible to participate in the Common Framework are the same as for the DSSI, the scope of the intervention differs substantially. The treatment under the Common Framework is meant to reduce debt stock and it mandates private sector participation rather than merely encouraging it. Therefore, the effects of eligibility to the DSSI and to the Common Framework becomes hard to disentangle reliably.

³¹See: http://www.g20.utoronto.ca/2020/G20SS_G20_FMCBG_Communique_English.pdf.

³²See: https://www.sciencespo.fr/psia/sovereign-debt/wp-content/uploads/2020/11/English_Extraordinary-G20-FMCBG-Statement_November-13.pdf.

A.2 Data on external public debt from private creditors

We collect data on external public debt from private creditors for 2018 and 2019 from a variety of sources. For 52 countries, these data are available from the World Bank International Debt Statistics (IDS). We take two series (DT.DOD.PRVT.CD and DT.DOD.DPPG.CD) to construct the ratio of public and publicly guaranteed (PPG) external debt from private creditors over total long-term PPG external debt. PPG external debt from private creditors includes bonds that are either publicly issued or privately placed, commercial bank loans from private banks and other private financial institutions, other private credits from manufacturers, exporters, and other suppliers of goods, bank credits covered by a guarantee of an export credit agency.

For the other 16 countries in our sample that are not covered by the IDS, we rely on national sources from Central Banks, Treasuries, Statistical Offices and Debt Management Offices, and on IMF Staff Reports. In the following, we provide a detailed list of sources.

Aruba: data refer to central government external debt, as published by the Central Bank of Aruba in the Annual Statistical Digest (Table C5), available at: <https://www.cbaruba.org/cba/do/getPage/page/annual-statistical-digest.html>.

The Bahamas: data refer to external debt by the central government and are published by the Central Bank of The Bahamas in the Central Bank Quarterly Statistical Digest, available at: <https://www.centralbankbahamas.com/viewPDF/documents/2021-05-31-17-03-07-Quarterly-Statistical-Digest-May-2021Final.pdf>; see Table 6.1.

Bahrain: data on total foreign debt of the Kingdom of Bahrain come from the consolidated final accounts (Appendix 5) published by the Ministry of Finance and National Economy and available at: <https://www.mofne.gov.bh/FinancialFramework.aspx>.

Barbados: data refer to total public sector external debt, as published by Barbados Statistical Service, and available at: <https://stats.gov.bb/statistics/national-summary-data-page/>; see the table “External debt”.

Chile: data refer to central government external debt, as published by the Budget Office at the Ministry of Finance in the Quarterly Report on Central Government Gross Debt, available

at: <https://www.dipres.gob.cl/598/w3-propertyvalue-15501.html>.

Croatia: data from IMF Staff Calculation show that there is no external debt from official creditors.

Hungary: data on central government gross foreign debt are published by the Government Debt Management Agency and are available at: <https://www.akk.hu/statistics/public-debt-finance/central-government-gross-debt>.

Iraq: updated data on government external debt are from IMF Staff Calculation, while published series are available in the IMF Staff Reports, available at: <https://www.imf.org/en/Countries/IRQ>.

Malaysia: data from the Central Bank of Malaysia refer to central government debt denominated in foreign currency and are available at: <https://www.bnm.gov.my/national-summary-data-page-for-malaysia>.

Namibia: data refer to central government external debt, as published by the Government finance statistics Budget Office at the Bank of Namibia, available at: <https://www.bon.com.na/Economic-information/Statistical-information/Government-finance-statistics.aspx>.

Panama: data refer to total public external debt, as published by the Public Finance Directorate at the Ministry of Economy and Finance. Data are available only for 2017 at: <https://fpublico.mef.gob.pa/en/SiteAssets/Home/Documentos/PublicDebt.pdf>. We assume the 2017 share of external public debt from private creditors for 2018 and 2019.

Poland: data on total public sector external debt published by the Ministry of Finance, available at: <https://www.gov.pl/web/finance/public-debt-outstanding-debt>, show that there is no external debt from official creditors.

Romania: data refer to long-term total public sector external debt, as published by Central Bank of Romania in the “Statistics Report on Gross External Debt”, available at: <https://www.bnr.ro/Statistics-report-1124.aspx>.

Suriname: data from the Suriname Debt Management Office refer to central government debt denominated in foreign currency and are available at: <https://www.sdmo.org/debt-data-p>

[ack-of-the-republic-of-suriname](#). Data are only available for 2019. In that year, the stock of FX-denominated debt (USD 2,283 million) is very close to the reported stock of external debt (USD 2,320 million). We assume the 2019 share of external public debt from private creditors for 2018.

Trinidad and Tobago: data refer to central government external debt, as published by the Central Bank of Trinidad and Tobago, available at: <https://www.central-bank.org.tt/statistics/data-centre/debt-annual>.

Uruguay: data refer to central government gross external debt, as published in the Sovereign Debt Report by the Debt Management Unit of the Ministry of Economy and Finance, available at: <http://deuda.mef.gub.uy/7996/12/areas/debt-management-unit---uruguay.html>.

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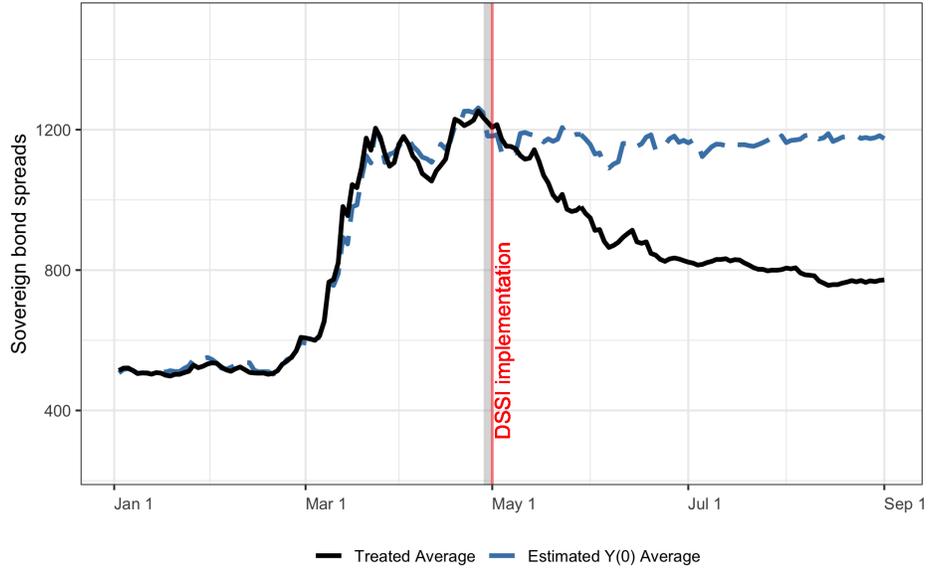
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A.3 Generalized synthetic control method

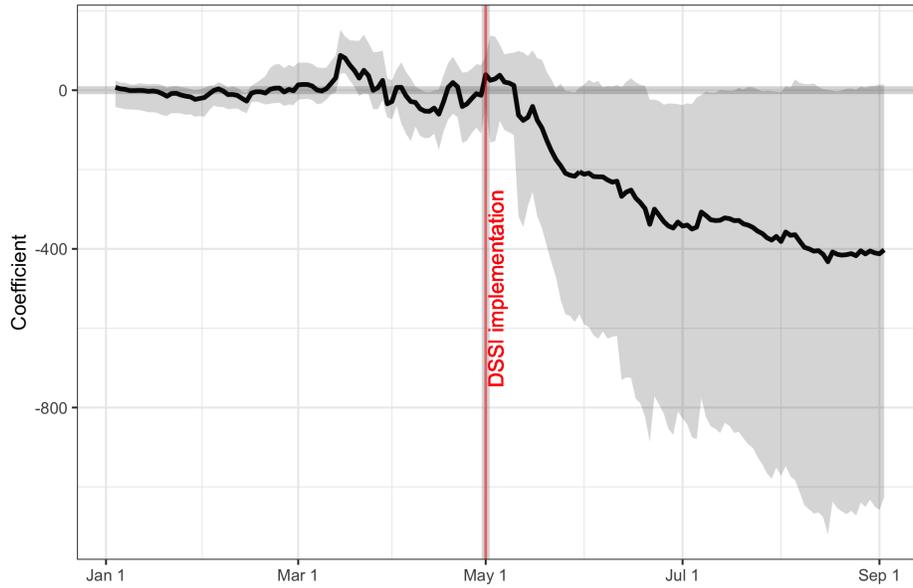
Method. Like the synthetic difference in differences method discussed in the main text, the generalized synthetic control method (Xu, 2017) unifies SC methods with fixed effects models. Furthermore, it allows the treatment date to vary across countries. Based on a model that uses unit-specific intercepts interacted with time-varying coefficients, the generalized SC method allows a correlation between treatment and unobserved, time-invariant country heterogeneities. More specifically, the method first estimates an interactive fixed effects model using only the data from the control group. In a second step, it minimizes the mean squared prediction error of the predicted outcome for each treated unit in the pretreatment period in order to get factor loadings for each treated unit. The third step uses these factor loadings to construct counterfactuals, which are used to estimate an average treatment effect on the treated (ATT). Furthermore, the approach implements a bootstrap procedure to produce confidence intervals around the ATT and thereby allows frequentist inference. The generalized SC method also includes an automatic, data-driven cross-validation procedure that does not require the researcher to make specification choices. (for further details see Xu, 2017, esp. pp 62-64)

Results. Figure A1 plots the results of this analysis and points to a similar, negative effect of the DSSI, which is somewhat larger in size than in the baseline. Panel (a) shows the average bond spreads for both the group of treated countries and for the estimated counterfactuals. Panel (b) plots the estimated ATT, which is between 200 and 400 bps after about one month and is statistically significant at conventional levels during most of the post-intervention period.

Figure A1: Generalized synthetic control method



(a) Average bond spreads: treated and synthetic control



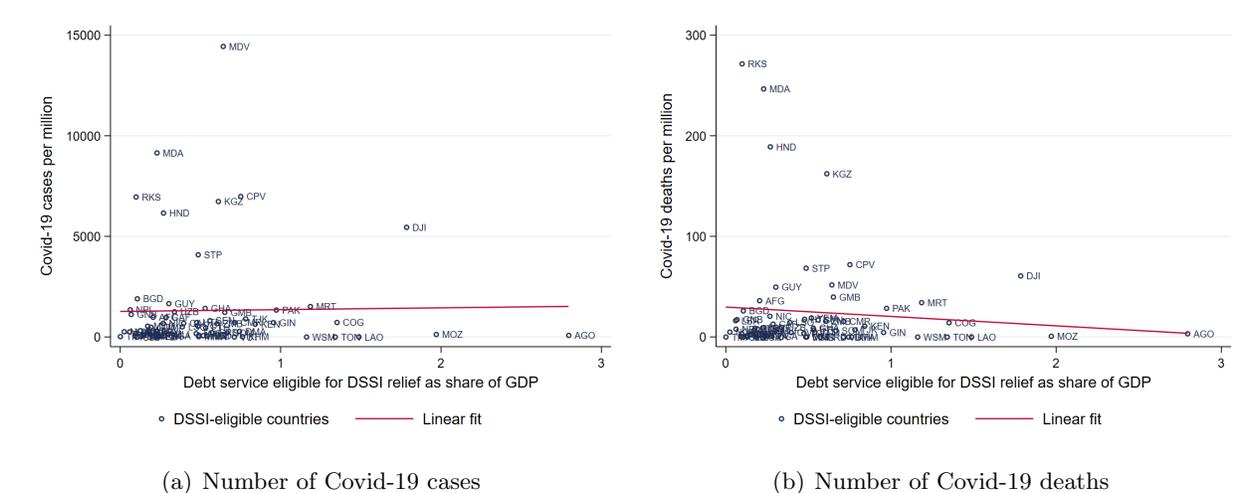
(b) Average treatment effect on the treated (ATT)

Notes: The figures plot the results of applying the generalized synthetic control method proposed by Xu (2017). Panel (a) plots the average bond spreads for the treated countries and their synthetic controls. Panel (b) plots the average treatment effect on the treated (ATT) along with 90% confidence intervals, which are estimated based on a bootstrap procedure. See the description in the main text. Data sources: Bloomberg, Our World in Data, and IMF World Economic Outlook.

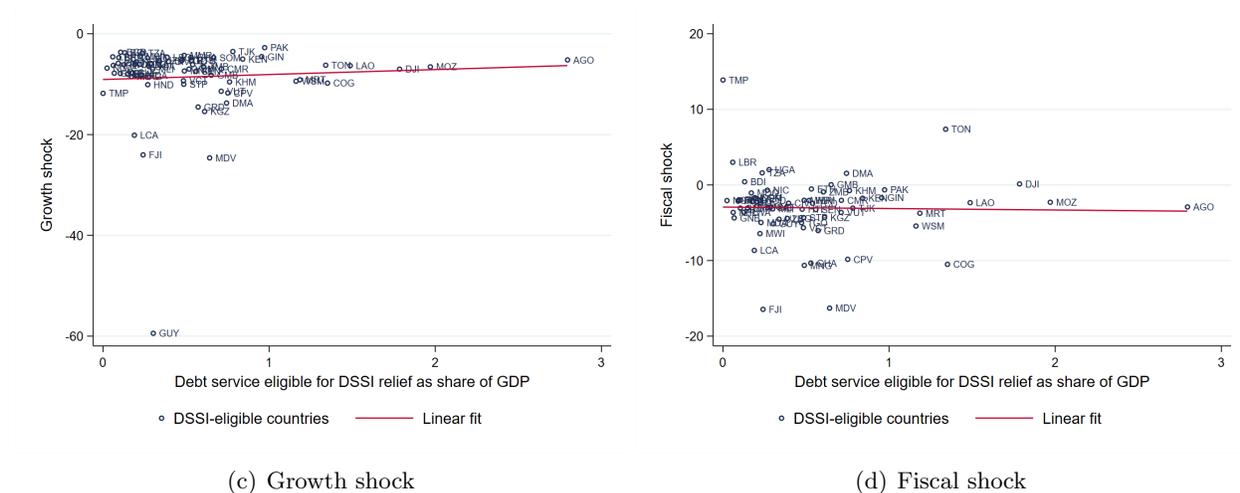
A.4 Appendix Charts

Figure A2: Size of the DSSI relief and the Covid-19 shock

Health shock

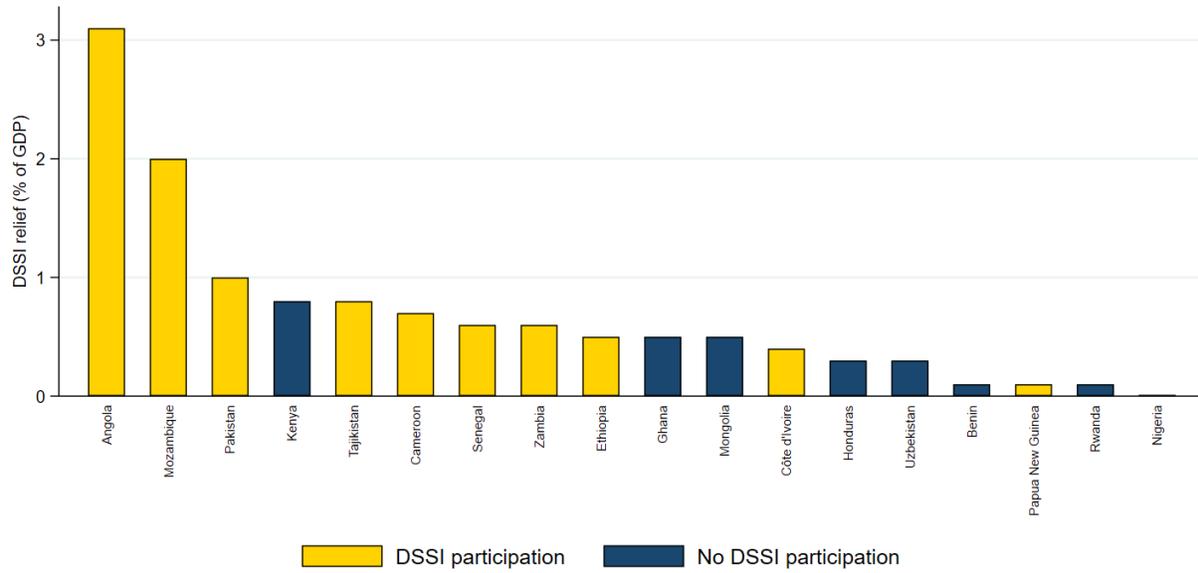


Economic shock



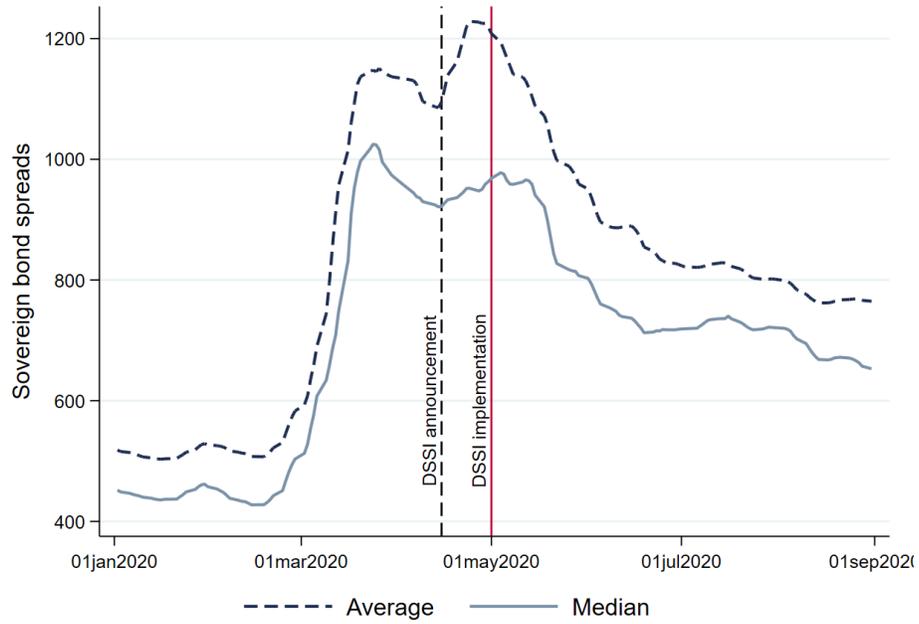
Notes: The figures plot the size of health and economic shocks against the size of the debt service eligible under the DSSI as a share of GDP. Panels (a) and (b) measure the health shock by the number of Covid-19 cases and deaths per million people, respectively. Panels (c) and (d) measure the economic shock by the growth and fiscal shocks, respectively. We calculate these shocks considering real GDP growth and the fiscal balance (as a share of GDP) in 2020 and taking the difference between the projections in the June 2020 release of the IMF World Economic Outlook and the latest pre-pandemic projections released in October 2019. The red solid lines visualize linear fits. Data sources: International Debt Statistics (The World Bank), Our World in Data, and IMF World Economic Outlook.

Figure A3: Participation in the DSSI and potential debt relief



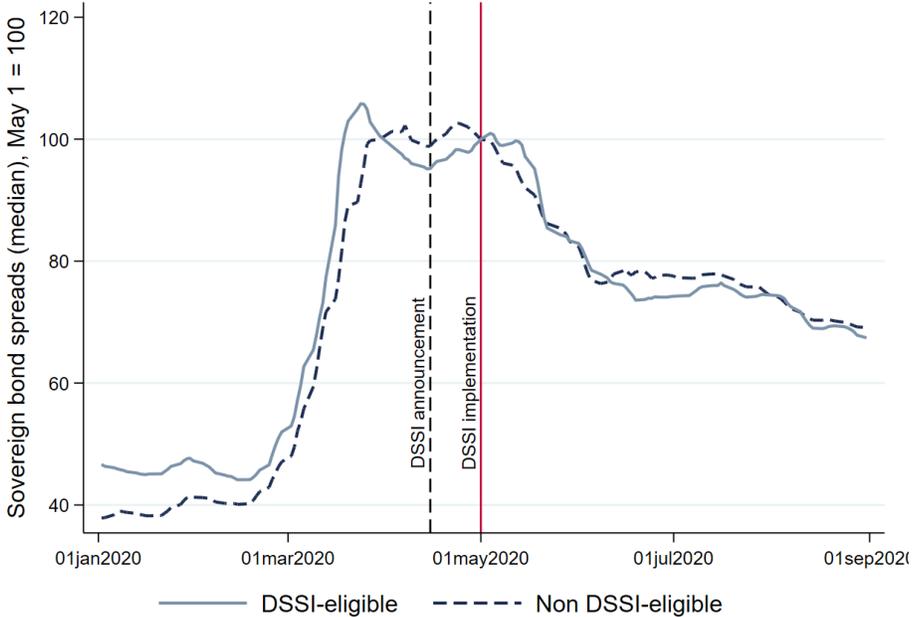
Source: The World Bank. DSSI participation is as of September 17, 2020 and the DSSI relief is computed as the potential debt service postponed between May and December 2020, as a share of 2019 GDP.

Figure A4: Sovereign bond spreads in DSSI-eligible countries



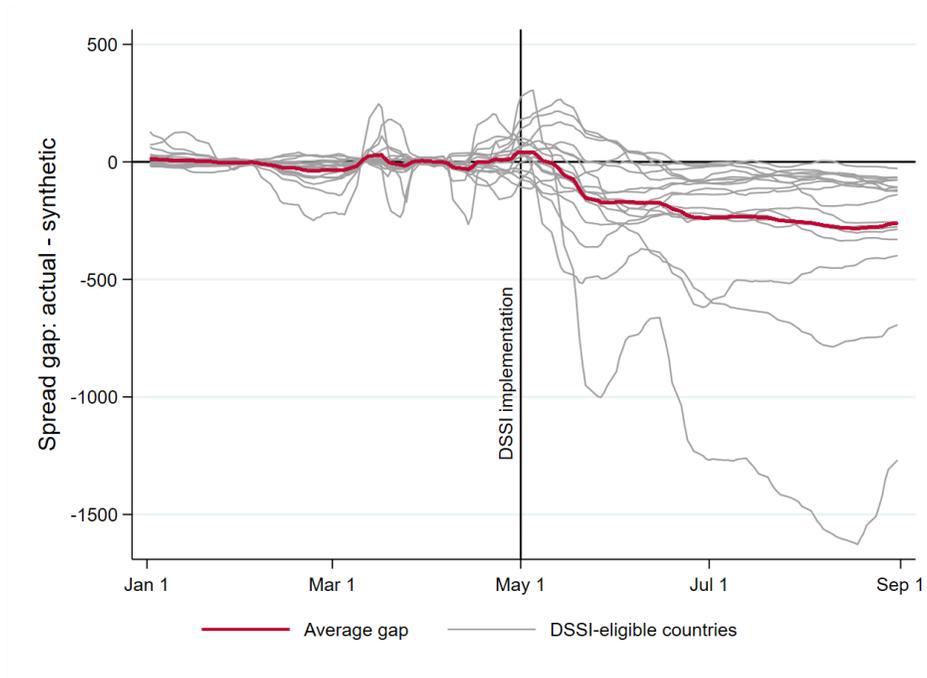
Notes: The figure plots the average and median sovereign bond spreads for countries eligible for the DSSI. Country-level sovereign bond spreads are 7-day moving averages. Data source: Bloomberg.

Figure A5: Sovereign bond spreads around the DSSI implementation: eligible vs non-eligible countries



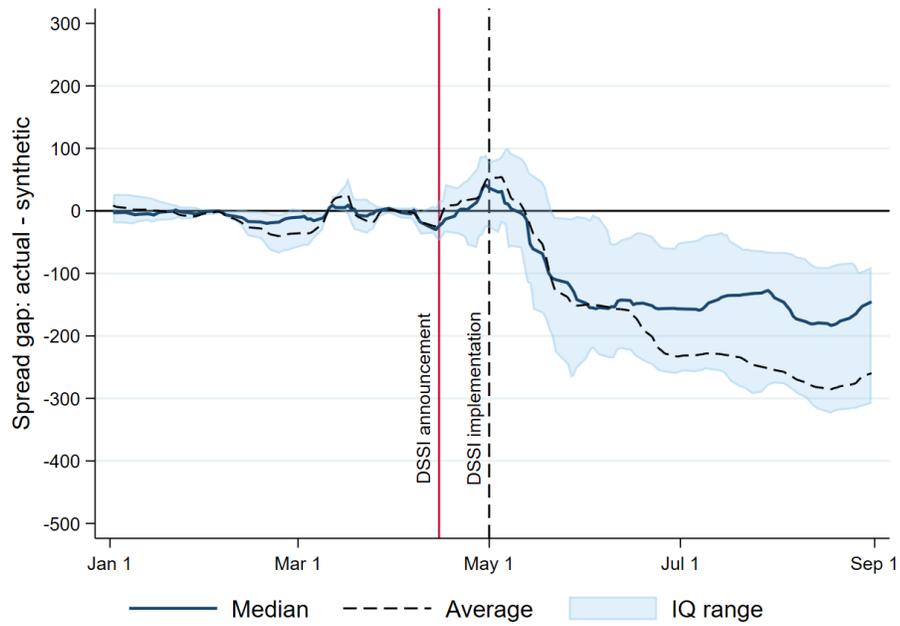
Notes: The figure plots the median sovereign bond spreads for DSSI-eligible and ineligible countries. Values are normalized relative to May 1 (= 100). Country-level sovereign bond spreads are 7-day moving averages. Data source: Bloomberg.

Figure A6: Sovereign bond spread gaps of all DSSI-eligible countries



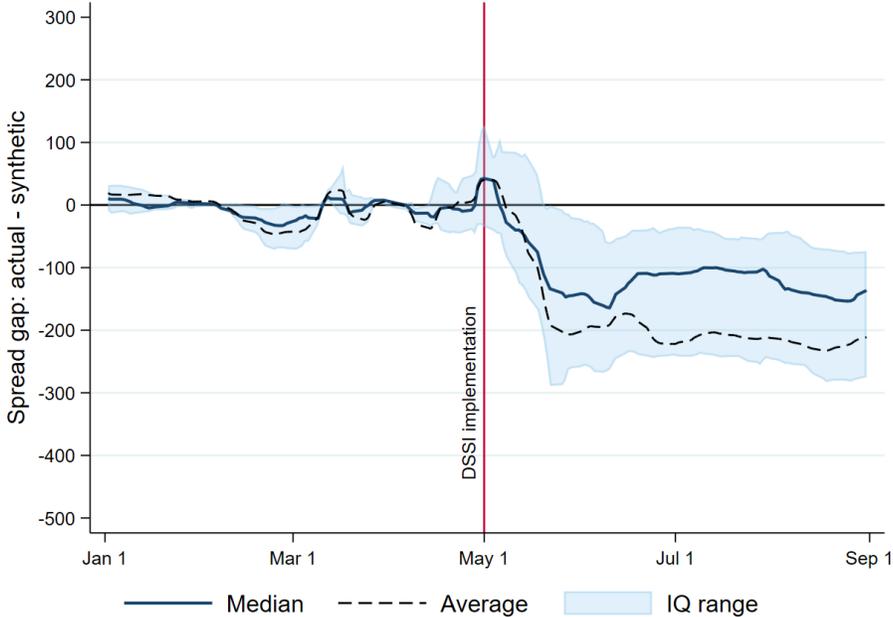
Notes: The figure plots, for all DSSI-eligible countries, the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). The red solid line represents the average of the country-specific spread gaps. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A7: DSSI announcement as treatment



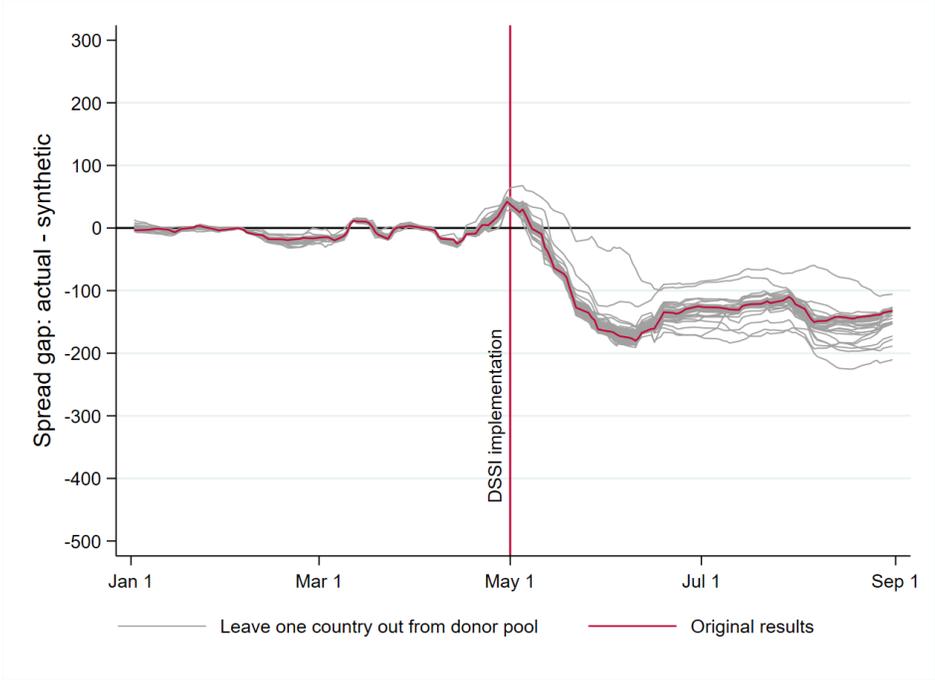
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). The treatment in this specification is the DSSI announcement on April 15, 2020 and is indicated by the solid vertical line. The dashed vertical line corresponds to the DSSI implementation (May 1, 2020). The solid (dashed) line is the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A8: Sovereign bond spreads in DSSI-eligible countries vs. their synthetic controls, dropping Argentina, Barbados and Venezuela



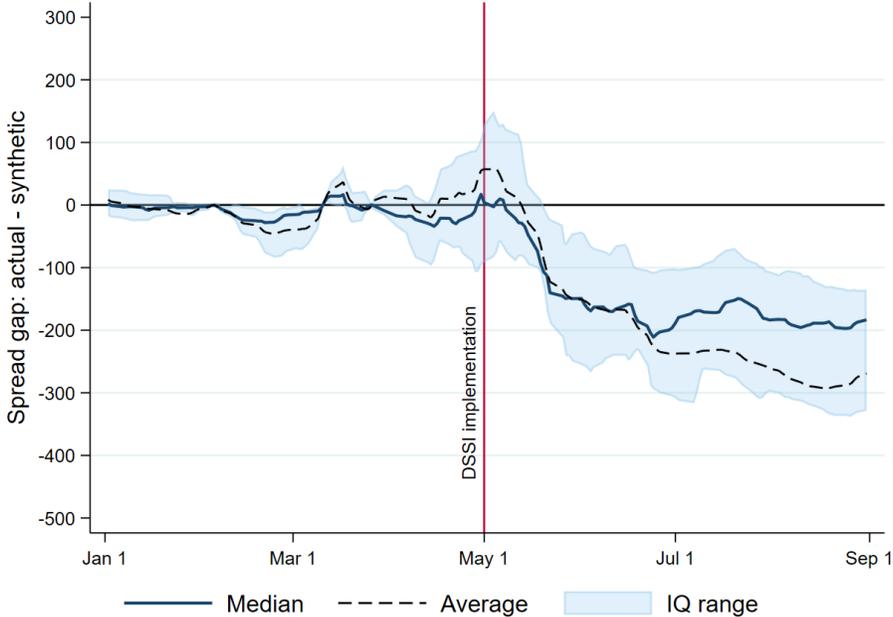
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the donor pool excludes Argentina, Barbados and Venezuela. The solid (dashed) line represents the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A9: Sovereign bond spreads in DSSI-eligible countries vs. their synthetic controls, dropping one country at the time from the donor pool



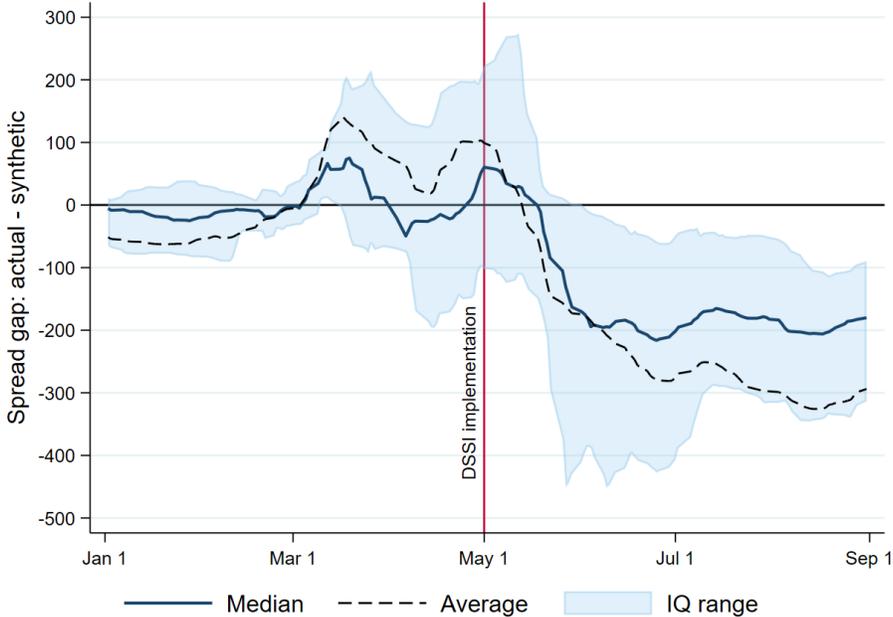
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, one country at a time is excluded from the donor pool to construct 52 SCs for each of the treated countries. The solid gray lines represent the median values of the spread gaps across all possible donor pools (each one constructed dropping one country). The solid red line represents the median value of the spread gaps in the sample of DSSI-eligible countries using the entire donor pools (as in Figure 1). The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A10: Sovereign bond spreads in DSSI-eligible countries vs. their synthetic controls, dropping April 6 as matching date



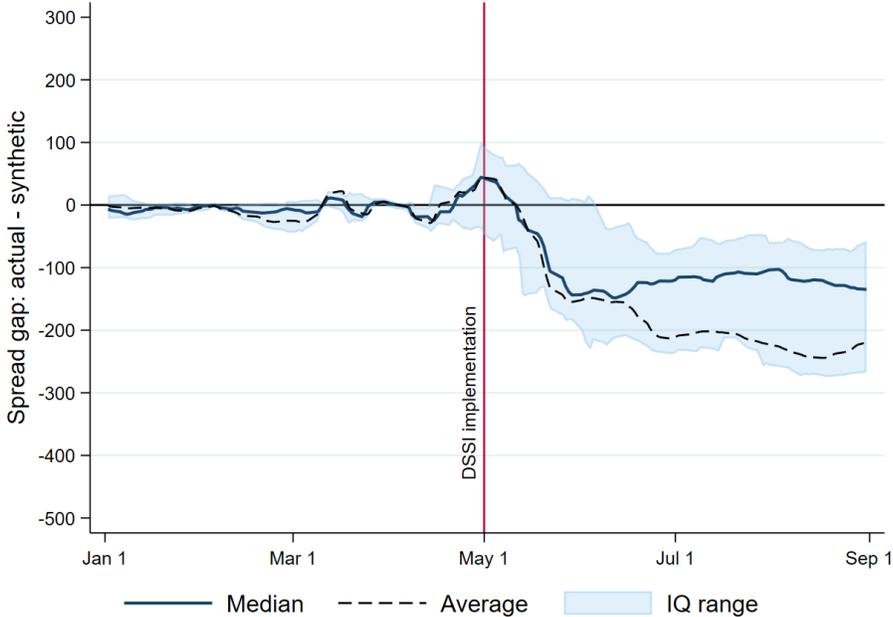
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the SCs are constructed using the spreads on only three dates in the pre-treatment period, excluding April 6. The solid (dashed) line represents the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A11: Sovereign bond spreads in DSSI-eligible countries vs. their synthetic controls, matching on average pre-DSSI spreads



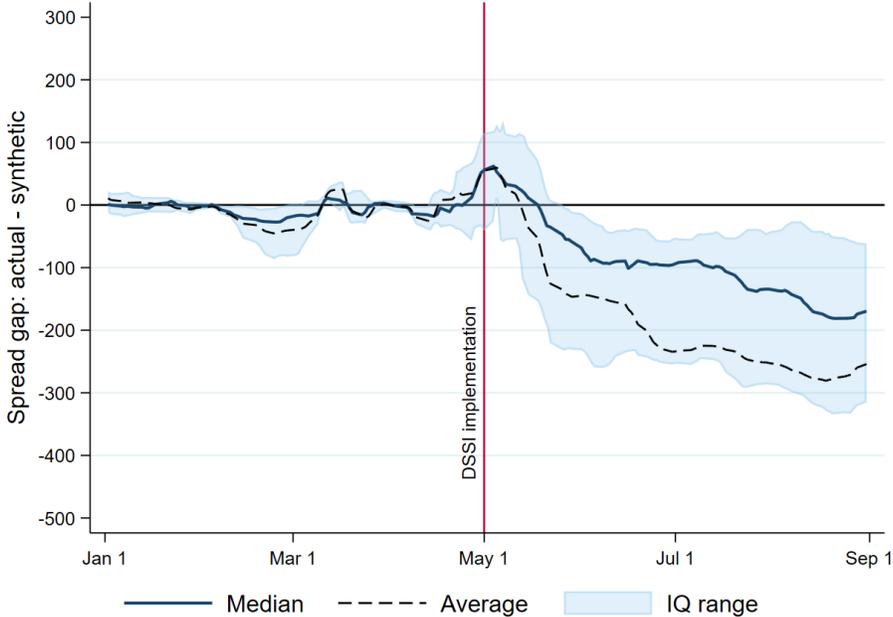
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the SCs are constructed using the average value of spreads in the pre-treatment period. The solid (dashed) line is the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A12: Sovereign bond spreads in DSSI-eligible countries vs their synthetic controls, controlling for sovereign credit rating



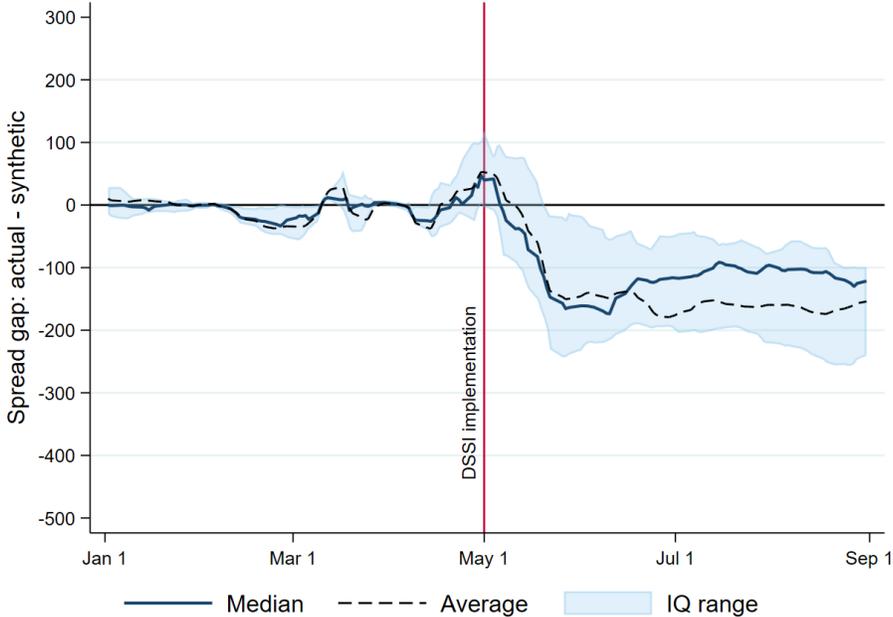
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the SCs are constructed using also a measure of sovereign credit ratings in the pre-treatment period. The solid (dashed) line is the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A13: Sovereign bond spreads in DSSI-eligible countries vs their synthetic controls, controlling for the Covid-19 growth shock



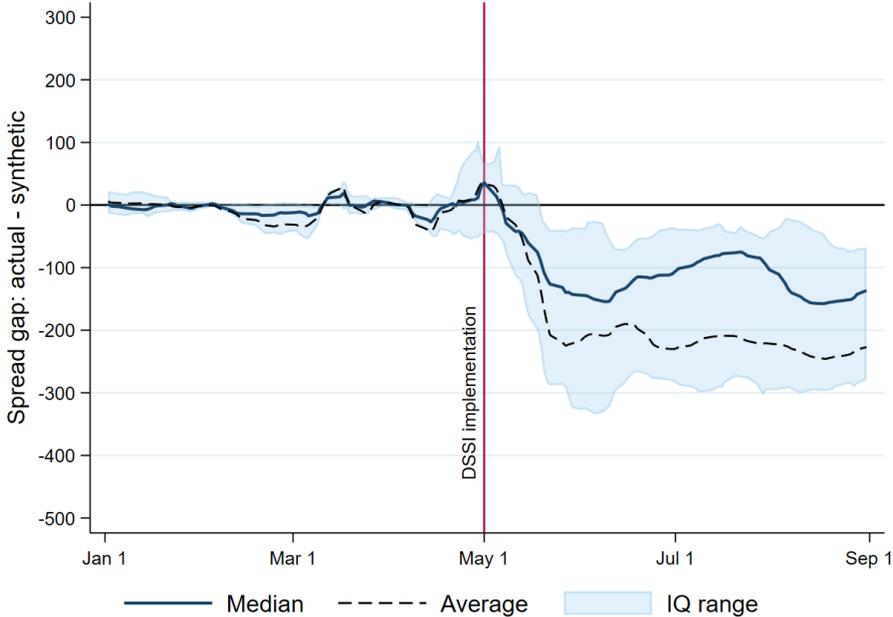
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the SCs are constructed by also using a measure of the growth shock due to the Covid-19 pandemic. This is calculated considering real GDP growth in 2020 and taking the difference between the projections in the June 2020 release of the IMF World Economic Outlook and the latest pre-pandemic projections released in October 2019. The solid (dashed) line represents the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A14: Sovereign bond spreads in DSSI-eligible countries vs their synthetic controls, controlling for the full set of macroeconomic variables



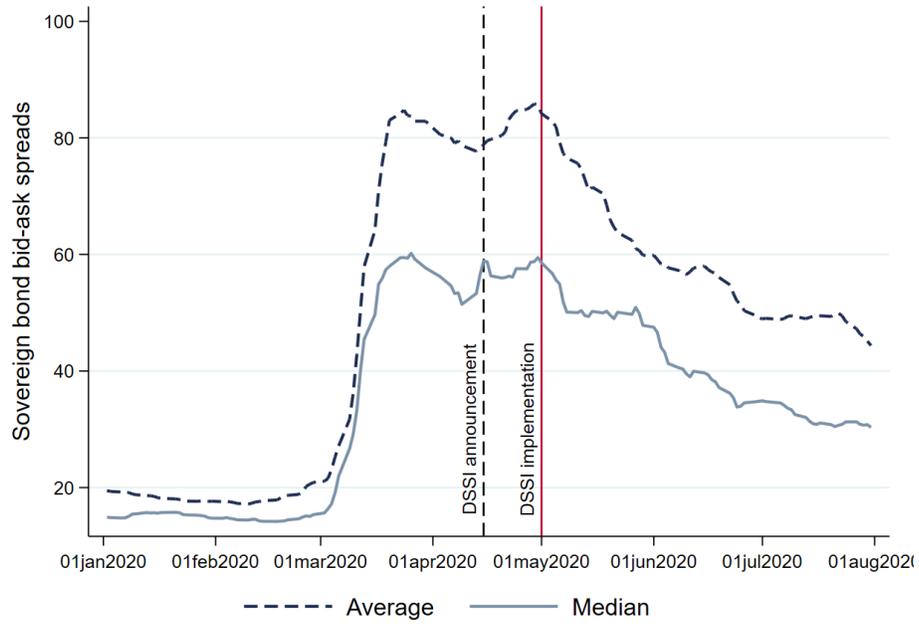
Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the SCs are constructed using a larger set of macroeconomic controls measured in 2019, which include: i) the logarithm of GDP, ii) the logarithm of GDP per capita, iii) life expectancy, iv) a measure of political stability, and v) a measure of trade openness (exports plus imports over GDP). The sample excludes Papua New Guinea, Serbia, Trinidad and Tobago and Venezuela due to missing of data. The solid (dashed) line represents the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A15: Sovereign bond spreads in DSSI-eligible countries vs their synthetic controls, matching only on pre-treatment bond spreads



Notes: The figure plots the difference between the actual sovereign bond spreads and those of the respective synthetic control (*spread gap*). In this specification, the SCs are constructed using only the lagged sovereign bond spreads data on the four dates considered in the baseline. The solid (dashed) line represents the median (average) value of the spread gaps in the sample of DSSI-eligible countries. The shaded area indicates the interquartile range. The vertical line indicates the DSSI implementation on May 1, 2020. Country-level sovereign bond spreads are 7-day moving averages. Sources: Bloomberg, Our World in Data, World Bank IDS, IMF World Economic Outlook and National Authorities.

Figure A16: Sovereign bond bid-ask spreads in DSSI-eligible countries



Notes: The figure plots the average and median sovereign bond spreads for countries eligible for the DSSI. Country-level sovereign bond spreads are 7-day moving averages. Data source: Bloomberg.

A.5 Appendix Tables

Table A1: Determinants of DSSI participation

	(1)	(2)	(3)	(4)
GDP per capita (ln)	-0.40*	-0.49*	-0.75**	-1.03**
	(0.19)	(0.20)	(0.27)	(0.32)
External debt (% GNI)		-0.01	-0.01	0.00
		(0.01)	(0.01)	(0.02)
PPG external debt (% GDP)		0.03	0.02	0.01
		(0.02)	(0.02)	(0.03)
Total debt service (% GNI)			-0.01	-0.25
			(0.03)	(0.22)
PPG debt service (% GNI)			0.36*	0.81**
			(0.17)	(0.31)
Current account balance (% GDP)				0.02
				(0.02)
Trade (% GDP)				0.00
				(0.01)
FDI inflows (% GDP)				0.00
				(0.06)
Remittances (% GDP)				0.03
				(0.02)
Observations	69	66	66	54
Pseudo R^2	0.05	0.10	0.18	0.26

Notes: Probit regressions with an indicator for *DSSI participation* as the dependent variable. Standard errors in parentheses. The sample includes all countries that are eligible to participate in the DSSI. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01.

Table A2: Descriptive Statistics: Participants and Non-participants

	Participants		Non-participants		Difference	
	Mean	SD	Mean	SD	b	t
GDP per capita (ln)	7.25	0.56	7.56	0.49	0.31	(1.25)
External debt (% GNI)	66.07	36.83	63.99	77.65	-2.08	(-0.07)
PPG external debt (% GDP)	39.87	19.55	30.14	16.02	-9.73	(-1.16)
Total debt service (% GNI)	6.38	3.46	14.59	32.26	8.22	(0.72)
PPG debt service (% GNI)	3.83	2.36	2.35	1.45	-1.48	(-1.64)
Current account balance (% GDP)	-1.01	12.98	-5.08	3.20	-4.07	(-0.96)
Trade (% GDP)	55.09	27.96	61.18	29.10	6.09	(0.44)
FDI inflows (% GDP)	2.77	4.67	4.77	5.41	2.01	(0.83)
Remittances (% GDP)	5.19	8.53	6.92	7.42	1.73	(0.46)
Observations	10		8		18	

Notes: The sample includes the 18 DSSI-eligible countries with data on sovereign bond spreads.

Table A3: Sample and sovereign bond data

Country	Spread Index	DSSI			
		Eligibility	Participation	Relief (% GDP)	
Angola	J.P. Morgan EMBIG Angola Sovereign Spread	1	1		3.1
Argentina	J.P. Morgan EMBI Plus Argentina Sovereign Spread	0	0		
Armenia	J.P. Morgan - EMBIG Armenia Sovereign Spread	0	0		
Aruba	J.P. Morgan CACI - Aruba Sovereign Spread	0	0		
Bahamas, The	J.P. Morgan CACI - Bahamas Sovereign Spread	0	0		
Bahrain	J.P. Morgan MECI Bahrain Sovereign Spread	0	0		
Barbados	J.P. Morgan CACI - Barbados Sovereign Spread	0	0		
Belarus	J.P. Morgan EMBIG Belarus Sovereign Spread	0	0		
Belize	J.P. Morgan EMBIG Belize Sovereign Spread	0	0		
Benin	Weighted Average Sovereign Spread	1	0		0.1
Bolivia	J.P. Morgan - EMBIG Diversified Bolivia Sovereign Spread	0	0		
Brazil	J.P. Morgan EMBIG Brazil Sovereign Spread	0	0		
Cameroon	J.P. Morgan EMBI Global Cameroon Sovereign Spread	1	1		0.7
Chile	J.P. Morgan EMBIG Chile Sovereign Spread	0	0		
China	J.P. Morgan EMBIG China Sovereign Spread	0	0		
Colombia	J.P. Morgan EMBIG Colombia Sovereign Spread	0	0		
Costa Rica	J.P. Morgan CACI - Costa Rica Sovereign Spread	0	0		
Côte d'Ivoire	J.P. Morgan - EMBIG Ivory Coast Spread to Worst	1	1		0.4
Croatia	J.P. Morgan EMBIG Croatia Sovereign Spread	0	0		
Dominican Republic	J.P. Morgan EMBIG Dominican Republic Sovereign Spread	0	0		
Ecuador	J.P. Morgan EMBIG Ecuador Sovereign Spread	0	0		
Egypt	J.P. Morgan EMBIG Egypt Sovereign Spread	0	0		
El Salvador	J.P. Morgan EMBIG El Salvador Sovereign Spread	0	0		
Ethiopia	J.P. Morgan EMBI Global Ethiopia Sovereign Spread	1	1		0.5
Gabon	J.P. Morgan EMBIG Gabon Sovereign Spread	0	0		
Georgia	J.P. Morgan EMBI Global Georgia Sovereign Spread	0	0		
Ghana	J.P. Morgan EMBIG Ghana Sovereign Spread	1	0		0.5
Guatemala	J.P. Morgan CACI - Guatemala Sovereign Spread	0	0		
Honduras	J.P. Morgan - EMBIG Honduras Sovereign Spread	1	0		0.3
Hungary	J.P. Morgan EMBIG Hungary Sovereign Spread	0	0		
India	J.P. Morgan - EMBIG India Sovereign Spread	0	0		
Indonesia	J.P. Morgan EMBIG Sovereign Spread Indonesia	0	0		
Iraq	J.P. Morgan EMBIG Iraq Sovereign Spread	0	0		
Jamaica	J.P. Morgan CACI - Jamaica Sovereign Spread	0	0		
Jordan	J.P. Morgan MECI Jordan Sovereign Spread	0	0		
Kazakhstan	J.P. Morgan EMBIG Kazakhstan Sovereign Spread	0	0		
Kenya	J.P. Morgan EMBI Global Kenya Sovereign Spread	1	0		0.8
Lebanon	J.P. Morgan EMBIG Lebanon Sovereign Spread	0	0		
Malaysia	J.P. Morgan EMBIG Malaysia Sovereign Spread	0	0		
Mexico	J.P. Morgan EMBIG Mexico Sovereign Spread	0	0		
Mongolia	J.P. Morgan - EMBIG Mongolia Sovereign Spread	1	0		0.5
Morocco	J.P. Morgan EMBIG Morocco Sovereign Spread	0	0		
Mozambique	J.P. Morgan - EMBIG Mozambique Sovereign Spread	1	1		2.0
Namibia	J.P. Morgan EMBIG Namibia Sovereign Spread	0	0		
Nigeria	J.P. Morgan EMBIG Nigeria Sovereign Spread	1	0		0.0
Pakistan	J.P. Morgan EMBIG Pakistan Sovereign Spread	1	1		0.1
Panama	J.P. Morgan EMBIG Panama Sovereign Spread	0	0		
Papua New Guinea	JP Morgan EMBIG PapuaNewGuinea Sovereign Spread	1	1		0.1
Paraguay	J.P. Morgan - EMBIG Paraguay Sovereign Spread	0	0		
Peru	J.P. Morgan EMBIG Peru Sovereign Spread	0	0		
Philippines	J.P. Morgan EMBIG Philippines Sovereign Spread	0	0		
Poland	J.P. Morgan EMBIG Poland Sovereign Spread	0	0		
Romania	J.P. Morgan - EMBIG Romania Sovereign Spread	0	0		
Russia	J.P. Morgan EMBIG Russia Sovereign Spread	0	0		
Rwanda	Weighted Average Sovereign Spread	1	0		0.1
Senegal	J.P. Morgan EMBIG Senegal Sovereign Spread	1	1		0.6
Serbia	J.P. Morgan EMBIG Sovereign Spread Serbia	0	0		
South Africa	J.P. Morgan EMBIG South Africa Sovereign Spread	0	0		
Sri Lanka	J.P. Morgan EMBIG Sri Lanka Sovereign Spread	0	0		
Suriname	J.P. Morgan EMBIG Suriname Sovereign Spread	0	0		
Tajikistan	J.P. Morgan EMBIG Tajikistan Sovereign Spread	1	1		0.8
Trinidad and Tobago	JPMorgan EMBIG Trinidad and Tobago Sovereign Spread	0	0		
Tunisia	J.P. Morgan EMBIG Tunisia Sovereign Spread	0	0		
Turkey	J.P. Morgan EMBIG Turkey Sovereign Spread	0	0		
Ukraine	J.P. Morgan EMBIG Ukraine Sovereign Spread	0	0		
Uruguay	J.P. Morgan EMBIG Uruguay Sovereign Spread	0	0		
Uzbekistan	CEMBI Broad Div. Uzbekistan Sovereign Spread	1	0		0.3
Venezuela	J.P. Morgan EMBIG Venezuela Sovereign Spread	0	0		
Vietnam	J.P. Morgan EMBIG Vietnam Sovereign Spread	0	0		
Zambia	J.P. Morgan - EMBIG Zambia Sovereign Spread	1	1		0.6

Notes: The table lists all countries in the sample. It specifies the spread index used in the analysis (retrieved from Bloomberg) and indicates countries that are eligible for the DSSI. For Rwanda and Benin, the spread series is a weighted average of the outstanding international bonds (issues under foreign law and in USD or Euro), as computed by IMF Staff from Bloomberg data. The last three columns indicate countries that are eligible for the DSSI, those who announced their participation (as of September 2020) and the DSSI relief computed as the potential debt service postponed between May and December 2020, as a share of 2019 GDP.

Table A4: Descriptive Statistics: Treatment Group and Donor Pool

	Treated Group		Donor Pool		Difference	
	Mean	SD	Mean	SD	b	t
GDP per Capita (ln)	7.39	0.54	8.91	0.66	1.52	(9.66)
GDP (ln)	3.70	1.11	4.61	1.83	0.92	(2.51)
GDP Growth	4.96	2.77	2.54	3.79	-2.42	(-2.89)
Socio-Demographic:						
Population (Millions)	48.29	65.16	88.91	272.34	40.62	(1.00)
Population Density	108.66	118.61	172.68	307.13	64.02	(1.26)
Secondary Education	36.65	36.31	56.28	20.25	19.64	(1.36)
Life Expectancy	65.19	5.33	74.62	3.51	9.42	(7.00)
Political Stability (WGI)	-0.66	0.76	-0.21	0.74	0.45	(2.19)
Fiscal:						
Public Debt (% GDP)	54.63	22.43	58.89	27.02	4.26	(0.66)
PPG External Debt (% GDP)	35.54	18.24	30.95	20.10	-4.59	(-0.84)
Fiscal Balance (% GDP)	-3.12	3.31	-3.54	5.23	-0.42	(-0.39)
Total Debt Service (% GNI)	10.03	21.27	8.63	6.88	-1.40	(-0.27)
PPG Debt Service (% GNI)	3.17	2.09	3.77	2.77	0.60	(0.88)
Debt to Private Creditors (% Public Debt)	29.96	16.93	59.81	26.33	29.85	(5.47)
Financial:						
International Reserves (% GDP)	0.04	2.18	0.29	2.20	0.24	(0.41)
Current Account Balance (% GDP)	-4.58	10.85	-2.86	5.33	1.72	(0.65)
Trade (% GDP)	57.95	27.77	75.37	36.55	17.42	(2.05)
FDI Inflows (% GDP)	3.66	4.96	3.89	7.82	0.23	(0.15)
Remittances (% GDP)	5.96	7.87	4.82	5.83	-1.15	(-0.56)
Observations	18		52		70	

Notes: The sample includes our sample of 18 DSSI-eligible countries (the treatment group) and 52 non-eligible countries (the donor pool) with data on sovereign bond spreads.