Document of the Inter-American Development Bank

**Barbados**

**Contingent Loan for Natural Disaster Emergencies**

**(BA-O0004)**

**Economic Analysis**

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1. Introduction
   1. Barbados, as most small island developing states (SIDS), is particularly vulnerable to severe natural disasters and climate change. More than half of its residents live in zones of high risk from natural hazards, and about fourth-fifth of the country’s GDP is generated in exposed areas.[[1]](#footnote-2) Located in the Southeastern Caribbean Sea, the country has historically been exposed to tropical cyclones and their associated effects such as flooding and storm surges. Such natural hazards typically put a large proportion of the population, residential and commercial buildings and productive infrastructure at high risk, as the country’s coastal zone is densely populated, and the economy is driven by beach tourism.[[2]](#footnote-3) Because the island’s climate is generally influenced by El Niño Southern Oscillation (ENSO), which affects precipitation levels; drought conditions have been recurrent and impaired water supply to households and the tourism sector.[[3]](#footnote-4) Barbados has been also affected by earthquakes and tsunamis, although its exposure is relatively low.
   2. Despite situated on the southern edge of the Atlantic Hurricane Belt, which makes Barbados less likely to be in the path of tropical cyclones, several major hurricanes have made significant impact on the country.[[4]](#footnote-5) In 1955, Hurricane Janet, the most powerful cyclone of the season, made a direct hit on Barbados as Category 3 with maximum sustained winds of 120 mph and prolonged torrential rains. In the Capital City of Bridgetown, hundreds of buildings were damaged by strong winds, several thousand people were evacuated due to a 2-m storm surge that swept away low‑lying houses, and all electrical and telecommunication services were interrupted.[[5]](#footnote-6) It is estimated that the storm caused 38 casualties, 29,000 residents homeless, over 8,000 homes destroyed, and damage and losses of 14% of GDP.[[6]](#footnote-7)
   3. Since then Barbados has not received any direct hits from any other major hydro‑meteorological system but has nevertheless experienced the effects of other events. In 1980, Hurricane Allen passed just north of Barbados as Category 3, producing damages to private housing, agriculture, and the fishing sector. More recently, in 2010, Tropical Cyclone Tomas made landfall on the south coast of Barbados with wind gusts of 63 mph and produced excessive rainfall, resulting in 1,200 houses damaged and disruption of electricity service and water supply in the affected areas.[[7]](#footnote-8) Due to the country’s significant coastal exposure, the estimated losses reached US$ 68 million (1.5% of GDP), leading to an insurance payout by the Caribbean Catastrophe Risk Insurance Facility (CCRIF) to the Government of approximately of US$8.5 million.[[8]](#footnote-9)
   4. As a member of the Vulnerable Twenty Group (V20), Barbados is highly vulnerable to the adverse impacts of climate change. It has many of the intrinsic vulnerabilities that are associated with SIDS: small and undiversified economy, limited land and natural resource base, concentration of population on low-lying coastal zone, and exposure to extreme weather events.[[9]](#footnote-10) As observed in Barbados’ Second National Communication under the United Nations Framework Convention on Climate Change,[[10]](#footnote-11) the country expects to experience sea level rise, coral bleaching, fluctuations in weather patterns that could lead to more extreme rainfall episodes, and particularly more tropical storms and hurricanes. Without the proper mitigation and adaptation measures to reduce these risks, the impact on the population, economy and coastal resources could be significant, as the effects of climate change intensify across the Caribbean region. According to the Economic Commission for Latin America and the Caribbean (ECLAC), the losses to the tourism sector alone could mount to US$10 billion by 2050 (193% of GDP).[[11]](#footnote-12)
   5. Barbados has a small, open, service-oriented economy. The tourism sector is one of the main sources of foreign exchange reserves, employment and economic growth, accounting for approximately 17% of GDP directly and 31% of GDP when considering indirect spillovers to other sectors.[[12]](#footnote-13) The COVID-19 pandemic has triggered a severe economic recession in the country.[[13]](#footnote-14) The halt on tourism arrivals between March 2020 and July 2020 and the strict 3-month curfew[[14]](#footnote-15) have triggered an halt on economic activity.[[15]](#footnote-16) In early July, Barbados cautiously started reopening the economy for international tourists, after halting local transmission of the disease. Recent forecasts indicate an economic contraction of 8.8% in 2020.[[16]](#footnote-17) The impact on the government’s fiscal stance will also be severe. Compared to FY2019/20, revenues are expected to fall 6.4% in FY2020/21, while expenditures are projected to increase 16.4% in FY2020/21.[[17]](#footnote-18) In response to those challenges, government is in the midst of implementing an ambitious fiscal consolidation program, the Barbados Economic Recovery and Transformation (BERT) program, which was approved August 2018. The BERT became the underlying framework for a US$380 million four-year International Monetary Fund (IMF) Extended Fund Facility program,[[18]](#footnote-19) and sets a debt-to-GDP target ratio of 60% of GDP by 2033.
   6. In this context of ongoing reforms, large contingent fiscal liabilities associated with disasters and climate change pose great risks to the fiscal consolidation process. It is estimated that a major hurricane with a return period of 50 years would cause potential losses of 28% of GDP, while a 100-year return period event would yield losses of 59% of GDP.[[19]](#footnote-20) Thus, the occurrence of a catastrophic natural disaster not only could derail the progress made to achieve debt sustainability,[[20]](#footnote-21) but also undermine the Government’s financial capacity to provide an effective emergency response and post-disaster recovery.[[21]](#footnote-22) The Government is committed to strengthen financial resilience to disasters. It has insurance protection against several hazards through the CCRIF and has recently included natural disaster clauses into the new domestic and external bonds.[[22]](#footnote-23) While Barbados has experienced fewer severe natural disasters than other Caribbean countries; hurricanes and tropical cyclones are likely to be more frequent and intense due to changing climate. These risks underscore the need to continue building fiscal resilience.
   7. Consequently, this document aims to examine the efficiency of the ex-ante financing arrangement provided by the Bank, through comparison with market‑based financing alternatives that Barbados could choose to mitigate its contingent fiscal liabilities associated with natural disasters. The rapid and timely availability of funds to finance unforeseen public expenditures during natural disasters emergencies, provided by an appropriated risk financing strategy, helps reduce the risks of large and long-lasting impacts on public finances,[[23]](#footnote-24) and contains human and material losses that are critical for a speedy post-disaster recovery of economic activity.[[24]](#footnote-25)
   8. The proposed contingent loan operation delivers not only ex ante financial coverage to the government, it is also a much more efficient option in terms of financial cost and how quickly the resources are disbursed to cover the immediate funding needs in the case of a natural disaster. The availability of secure funds provided by this operation help ease the liquidity pressures that governments usually face during such events as a result of increased unplanned expenditures, lower tax revenues, and incremental constrains in terms of cost and access to loans.
2. Objectives, Assumptions and Alternatives
   1. The general objective of the operation is to alleviate the impact that a severe or catastrophic natural disaster could have on the country’s public finances. The specific objective is to improve the country’s financial risk management of natural disasters by increasing stable, cost-effective, and quick access contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.
   2. As an additionality, the operation seeks to enhance the disaster risk management of the country by fostering improvements in five main areas to be monitored through the Comprehensive Natural Disaster Risk Management Plan (CNDRMP): (i) governance framework; (ii) risk identification; (iii) risk reduction; (iv) disaster preparedness and response; and (v) financial protection.
   3. For the purpose of assessing the efficiency of this operation, this document will focus on the main objective of the program, which is the availability of an efficient and stable ex-ante contingent financing for natural disaster emergencies. The economic analysis carried out uses a cost-effectiveness methodology. This is appropriate because a cost-benefit approach would entail the estimation of contingent benefits, which is a demanding and costly exercise, with little expected return. It should also be regarded that the likelihood of disbursements is low given the contingent nature of the operation. Loan disbursements will only be made upon verification of the occurrence of an eligible event during the period when the loan proceeds are available.
   4. In this context, the cost-effective analysis assesses the efficiency of different financing alternatives that Barbados could ponder to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters. Thus, the goal is to compare the financing conditions of (i) the Bank’s contingent loan with (ii) main market-based debt instruments that the country has access to. That is a commercial credit line (ex ante) or a 10-year sovereign bond issue (ex post).
   5. It is important to highlight that there is no drawdown free if the contingent loan is not drawn. The Bank will only charge a one-time fee of 50 bps at the time of disbursement for each disbursement and will be applicable on disbursed amount only from the regular lending program for Barbados. Additionally, the contingent loan grants the country the option of withdrawing the resources from the undisbursed balances of loans on a list of investment loans previously approved by the Bank and agreed upon with the country in the operation’s loan contract (Automatic Reallocation List - ARL), as compare to using funds from the regular lending program. In this case, the country would already be paying fees for the listed investment loans, therefore it would not need to pay additional loan fees for this proposed contingent loan until disbursement is made. In contrast, commercial credit lines charge fees during the entire disbursement period, regardless of whether disbursements are requested.
   6. Thus, the financial cost of the Bank’s contingent loan would be 0 if the country ends up not using the loan funds, either because of no eligible events occurred or no disbursements were requested; whereas an ex ante commercial credit line would always imply additional financial cost for the country. Thus, among ex ante financing alternatives, the Bank’s loan would be always more cost-efficient. Since no further analysis is required to determine the efficiency of the Bank’s loan, the focus will be on comparing to the main ex post financing alternative, which is a sovereign bond issuance.
3. Economic Costs and Measurement of Effectiveness in terms of Cost
   1. From a financial perspective, the efficiency conditions of a coverage for potential disaster-caused emergencies are (i) its financial cost, and (ii) the quickness in which the borrower can access the resources. Hence, the comparison of financing alternatives will be limited to the above criteria.
   2. The analysis will focus on these two measures:
4. how fast the Bank makes the loan proceeds available to the borrower to cover unexpected public expenditures during emergencies caused by natural disasters; and
5. the cost of the resources, that is, the financial cost per unit of extraordinary emergency expenditure financed by the loan proceeds.
   1. As mentioned in previous paragraph, the analysis uses two key indicators to determine the efficiency of the financing alternatives. Table 1 details the indicator used for each criterion.

**Table 1: Criteria and indicators**

|  | **Criterion** | **Indicator** |
| --- | --- | --- |
| 1 | Quickness in which the resources are made available to cover the emergency needs caused by natural disasters. | Number of days between the date the country submits an eligibility verification request to the Bank, and the date on which the Bank notifies that loan proceeds are available to the borrower. |
| 2 | Financial cost per unit of extraordinary emergency expenditure financed by the loan proceeds. | Interest rate |

1. Availability of Resources
   1. In accordance with the terms specified in the Results Matrix, in the case of a severe or catastrophic natural disaster, the loan proceeds will be available to the country’s request within an estimated period of 30 days, following the eligibility verification request. The estimation is based on the Bank’s operational rules for Contingent Credit Facility for Natural Disaster and Public Health Emergencies (CCF),[[25]](#footnote-26) which include the time the Bank takes to verify the occurrence of an eligible event.
   2. Concerning the ex post financing option, the estimated average minimum time for a country to authorize, manage and issue a sovereign bond in the international market is 90 days. Hence, even with the assumption that time could be reduced by half (45),[[26]](#footnote-27) the Bank’s loan would still be more efficient in terms of how quickly the country can access to the resources to cover the potential emergency needs.
2. Financial Cost
   1. Following the second criterion, the Bank’s proposed contingent loan is an efficient option as long as its financial cost is lower than a comparable alternative, that is, an ex post bond issue by the Government of Barbados. The financial cost of the Bank’s loan[[27]](#footnote-28) is set by the 3-month LIBOR rate (currently at 122 basis points), plus a funding margin of 9 basis points (bps) and a lending spread of 80 bps, which is determined by the Finance Department every 6 months. This implies a financial cost of **211 bps** that would apply to resources from Ordinary Capital. Although given the current situation of the global economy and financial markets, where the LIBOR rate is at historical lows and the US short and long-term public debt yields are putting downward pressure on swap rates, it is likely that the country will opt for fixing the LIBOR rate to hedge against the risk of unfavorable movements in interest rates. If that were the case, the cost of financing the IDB contingent loan would be **191** **bps**.[[28]](#footnote-29)
   2. Regarding the option of obtaining resources from the international capital markets, Barbados restructured its public debt with domestic and external creditors in late 2019 after being downgraded to Selective Default in June 2018. Agreement with domestic creditor was reached in October 2018; while negotiation with external creditors took somewhat longer, reaching an agreement one year later. Under this agreement, the Government of Barbados issued a US$530.6 million international bond in December 2019 with a 6.5% coupon and a maturity date of October 2029. The yields on this bond average 7.79% (779 bps) during June 2020. Although it is not impossible that the country’s external financing cost could fall over the medium‑to-long term, it is unlikely that there will be any sharp drop in the short-term, especially considering the impact of the COVID-19 pandemic on Barbados’ public finances. Moreover, a conservative assumption would be that the government can issue new commercial sovereign bonds with the same financial conditions as the last issuance in December 2019. Thus, the spread between the cost of new debt issuance (650 bps) and the IDB loan cost (211 bps) is **439 bps**.
   3. Furthermore, according to Standard & Poor’s, Barbados has currently a foreign‑currency credit rating of B- with a stable outlook.[[29]](#footnote-30) At the moment, the major rating agencies do not foresee major changes in the country’s credit rating despite the deteriorating global macroeconomic outlook. In other words, the country’s current borrowing conditions are likely to continue in the near‑to‑medium term, therefore the team expects the Bank’s contingent loan to remain the most efficient option throughout the entire lifespan of the loan.
   4. Moreover, in the case of a catastrophic natural disaster event, the spread between the Bank’s contingent loan (ex ante) and a 10-year sovereign bond issue (ex post) would probably be greater, as financing conditions could deteriorate for countries exposed to significant fiscal contingent liabilities.[[30]](#footnote-31) However, this cost-effective analysis takes a conservative approach and assumes that the financial conditions for the government to issue bonds will remain stable.
3. Indicators
   1. Table 2 summarizes the values of the two efficiency indicators for both disaster risk financing options.

**Table 2: Summary of efficiency indicators for two financing options**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Indicator** | **IDB Contingent Loan** | | **Sovereign Bond Issue** |
| **Variable rate** | **Fixed rate** |
| 1 | Number of days between the date the country submits an eligibility verification request to the Bank, and the date on which the Bank notifies that loan proceeds are available to the borrower. | 30 | | 45 |
| 2 | Financial cost (interest rate) | 211 bps | 191 bps | 650 bps |

1. Cost-Effectiveness Analysis
   1. Based on the information discussed in section III, the conclusion is that the Bank’s contingent loan is the most efficient for Barbados. In case the risk of a severe or catastrophic natural disaster materializes, the Bank’s proposed option would be efficient not only in terms of how fast the loan proceeds would be made available to the country to fund the unplanned financial needs, but also in terms of financial cost per unit of extraordinary public expenditure.
   2. Saving in financial costs will enhance the government’s ability to properly finance the extraordinary expenditures caused by natural disaster. Likewise, faster access to resources will ease the liquidity pressures, and help contain human and material losses during emergencies, which in turn increases the likelihood of a speedy post‑disaster economic recovery.
   3. It is important to stress that the assumptions used in the analysis are conservative because financing conditions of alternative options, both in terms of quickness and cost, are assumed to remain constant in the immediate aftermath of a severe or catastrophic natural disaster event. Notwithstanding, historical evidence shows that financing conditions tend to tighten right after the disaster as governments usually face lower tax revenues and increased unforeseen expenditures. This implies that the expected comparative benefit of the Bank’s proposed loan might be even higher, though the real benefits can only be properly measure ex post.
2. Sensibility Analysis
   1. This section analyzes whether the Bank’s contingent loan will remain, and to what extent, the most efficient option for Barbados if the assumptions and financing conditions set in the previous sections change. The analysis shows that the Bank’s loan is the most efficient option in terms of the indicators stablished in ¶3.1: (i) the country would not incur in extra financial cost if no eligible natural disaster events occur or no disbursement requests are sent; and (ii) in case the loan is triggered, its financial cost would be lower than any other financing alternatives.
   2. Though it is not impossible that the credit rating of the Government of Barbados could worsen during the lifespan of this contingent loan operation, in which case the Bank’s option would be even more appealing, the analysis focuses on a scenario where the country reaches better macroeconomic and macro financial conditions levels comparable to similar cases in the region. The financial cost for Dominican Republic, Jamaica and Trinidad and Tobago, whose credit ratings are better, of issuing similar debt instruments in the financial markets is between 380 to 536 bps, which can be interpreted as lower limit references for Barbados should the country improves its credit ratings. Clearly, the Bank’s contingent loan (**211 bps**) would be more efficient in that optimistic scenario (Table 3).

**Table 3: Credit ratings and financing cost\***

|  |  |  |
| --- | --- | --- |
| **Country** | **Rating** | **Yield/Coupon (bps)** |
| Dominican Republic1 | BB- | 536 |
| Jamaica2 | B+ | 502 |
| Trinidad and Tobago3 | BBB- | 380 |
| Barbados | B- | 650 |
| IDB loan4 | AAA | 211 |

\* Average yields during June 2020, IDB calculations based on information from Bloomberg.

\*\* Bond Issue Date: 1/ January 2020 maturing in January 2030; 2/ July 2015 maturing in April 2028; 3/ August 2016 maturing in August 2026; 4/ AAA is the credit rating that the IDB would likely receive as debt issuer given its funding cost.

* 1. The only exogenous variable (to the Bank and the country) that could make the Bank’s contingent loan less attractive would be the LIBOR rate. It would only not be efficient should (i) the LIBOR rate increases substantially during the coverage period, and (ii) the country reaches credit ratings that are on par with that of Trinidad and Tobago or better. However, if the LIBOR rate increases during the lifespan of this operation, it is not reasonable to assume the same sovereign yields. More likely, the yields would rise as well, therefore keeping the favorable cost differential of the Bank’s loan.
  2. As mentioned before, the country has the option to opt for a fixed LIBOR rate instead of floating LIBOR rate. Given that the LIBOR rate is still low by historical standards (Figure 2), it is reasonable that the country would choose a fixed rate. If that were the case, the cost of the contingent loan would be **191 bps**, which is less expensive than issuing sovereign bonds under the best possible conditions (Table 3).
  3. In case the country chooses floating LIBOR rate, the financial cost of the Bank’s loan would be **211 bps**, though it would be exposed to unfavorable movements in interest rates throughout the lifespan of this operation. Based on the historical behavior of the LIBOR (Figure 2), the annual standard deviation is 42.9%, or 13.4 bps over the current 3-month LIBOR (31 times 42.9%).

**Figure 2: 3-month LIBOR, US$ (%)**

Source: Federal Reserve Bank of St. Louis

|  |  |
| --- | --- |
| **LIBOR analysis** | |
| **Minimum** | **0.22285** |
| **Maximum** | **10.62500** |
| **Mean** | **3.69529** |
| **Median** | **3.43750** |
| VOLATILITY: |  |
| **Annualized standard deviation (%)** | **42.92181** |

* 1. Further analysis would be done if the country prefers the option of floating LIBOR rate. The expected future volatility of the LIBOR would be estimated through Monte Carlo simulations, which in turn serves as input to define probabilistic scenarios of the ranges of the LIBOR rate for the next 5 years. Thus, the simulations would provide a good estimation of the probability that the financial cost of the Bank’s loan would increase substantially over the period of analysis.
  2. Likewise, it is possible to estimate the net present value (NPV) of the two main financing options available to the country under different scenarios. One possible scenario could be that the country requests the maximum disbursement amount (US$ 80 million) during the second year of the coverage period (5 years), as a result of a catastrophic natural disaster event that affects up to 10% of the overall population. In that scenario, the alternative financing option would be a sovereign bond issue right after the natural disaster event (second year). Some assumptions are needed to carry out the comparison: (i) the LIBOR rate is set for the IDB loan (**191 bps**); and (ii) the bonds issued have a 10-year maturity and their rate is based on Barbados current risk premium on the international sovereign debt market (**650 bps**).
  3. The NPV of the cost of financing US$ 80 million through the Bank’s contingent loan in the second year of the coverage period, with a discount rate of 12%, would be US$27 million. In contrast, using the same discount rate, the NPV of issuing sovereign bonds to raise the same amount would be US$55.1 million. Therefore, the Bank’s loan is 51.1% cheaper than the alternative option. For more information, please refer to the [calculation spreadsheet](http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=EZSHARE-668898470-28).

1. Conclusions
   1. A cost-effective contingent loan that provides ex ante financial coverage is necessary for countries highly exposed to natural hazards such as Barbados, where the risk of catastrophic natural disasters is high. The absent of a proper risk financing solution makes the country’s public finances vulnerable to unpredictable shocks and could even put the incipient economic recovery in jeopardy.
   2. The economic analysis shows that the Bank’s contingent loan is the most efficient and cost-effective option, compared to other risk financing instruments such as a commercial credit line (ex ante) or a sovereign bond issue (ex post). Issuing bonds to cover the extraordinary expenditures in the aftermath of a natural disaster event not only is more expensive, but also less efficient in terms of how fast the country can access to the proceeds. Likewise, a commercial credit line has higher financial cost.

1. World Bank (2012). [Disaster Risk Management in Latin America and the Caribbean Region](http://documents.worldbank.org/curated/en/826811468010903390/pdf/642600WP0Box3700LAC0CountryPrograms.pdf). [↑](#footnote-ref-2)
2. Department of Emergency Management (2014). [Country Document for Disaster Risk Reduction: Barbados](http://dem.gov.bb/public/downloads/BarbadosDocumentDRR.pdf). [↑](#footnote-ref-3)
3. FAO (2016). [Drought Characteristics and Management in the Caribbean](https://reliefweb.int/sites/reliefweb.int/files/resources/Drought%20characteristics%20and%20mgmt%20in%20the%20Caribbean.pdf). [↑](#footnote-ref-4)
4. CDEMA (2017). Snapshot Document: Barbados. [↑](#footnote-ref-5)
5. Longshore (2010). Encyclopedia of Hurricanes, Typhoons, and Cyclones. [↑](#footnote-ref-6)
6. IDB (2019). Public Expenditure Review for Barbados: Climate Change and Disaster Risk Management Analysis. [↑](#footnote-ref-7)
7. CDEMA (2010). [Summary of Impact of Hurricane Tomas on CDEMA Participating States](https://www.cdema.org/HurricaneTomasSummaryofImpactandNeedsAssessment.pdf). [↑](#footnote-ref-8)
8. CCRIF (2010). [Tropical Cyclone Tomas (AL212010). Event Briefing, Eastern Caribbean Impact.](https://www.ccrif.org/sites/default/files/publications/20101031_CCRIF_EventBriefing_TCTomas_ECarib.pdf) [↑](#footnote-ref-9)
9. IDB (2014). [Regional Study: LAC Small Island Development States](https://publications.iadb.org/publications/english/document/Background-Paper-LAC-Small-Island-Development-States.pdf). [↑](#footnote-ref-10)
10. Government of Barbados (2018). [Barbados’ Second National Communication Under the United Nations Framework Convention on Climate Change](https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/4693851_Barbados-NC2-1-Barbados%20SNC%20FINAL%20April%202018.pdf). [↑](#footnote-ref-11)
11. ECLAC (2011). [An Assessment of the Economic Impact of Climate Change on the Tourism sector in Barbados](https://repositorio.cepal.org/bitstream/handle/11362/38602/LCCARL314_en.pdf?sequence=1&isAllowed=y). [↑](#footnote-ref-12)
12. <https://wttc.org/Research/Economic-Impact>. [↑](#footnote-ref-13)
13. On 11 March 2020, the World Health Organization (WHO) declared  
    the outbreak of COVID-19, the disease caused by the 2019 novel coronavirus, or nCoV-2019, which affects the respiratory system, a pandemic. To date (September 15, 2020), the WHO has reported more than 29,155,581 confirmed cases globally, resulting in more than 926,544 deaths. In Barbados, these figures are 183 and 7, respectively. [WHO Coronavirus Disease (COVID-19) Dashboard](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200803-covid-19-sitrep-196-cleared.pdf?sfvrsn=8a8a3ca4_4). [↑](#footnote-ref-14)
14. The authorities set curfews between April to July 2020. [↑](#footnote-ref-15)
15. IMF (2020). [Barbados: Third Review Under the Extended Arrangement](https://www.imf.org/en/Publications/CR/Issues/2020/06/08/Barbados-Third-Review-Under-the-Extended-Arrangement-Requests-for-Augmentation-of-Access-and-49491), June 2020. [↑](#footnote-ref-16)
16. ECLAC (2020). [Addressing the Growing Impact of COVID-19 with a View to Reactivation with Equality: New Projections](https://www.cepal.org/en/publications/45784-addressing-growing-impact-covid-19-view-reactivation-equality-new-projections), July 2020. [↑](#footnote-ref-17)
17. Revenues are forecast to fall from 31.2% of GDP in FY2019/20 to 29.2% of GDP in FY2020/21. Expenditures are expected to increase from 27.4% of GDP in FY2019/20 to 31.9% of GDP in FY2020/21. [↑](#footnote-ref-18)
18. UNISDR (2015). [Global Assessment Report on Disaster Risk Reduction 2015](https://www.preventionweb.net/english/hyogo/gar/2015/en/home/index.html). Return periods estimates are a measure of average frequency and intensity of events. For example, a return period of 50 years means that one would expect, on average, two major hurricanes within a certain radius over the next 100 years. [↑](#footnote-ref-19)
19. UNISDR (2015). [Global Assessment Report on Disaster Risk Reduction 2015](https://www.preventionweb.net/english/hyogo/gar/2015/en/home/index.html). Return periods estimates are a measure of average frequency and intensity of events. For example, a return period of 50 years means that one would expect, on average, two major hurricanes within a certain radius over the next 100 years. [↑](#footnote-ref-20)
20. IMF (2019). Op cit. See Annex V, Building Resilience to Natural Disasters and Climate change. [↑](#footnote-ref-21)
21. Standard & Poor’s (2015). The Heat Is On: How Climate Change Can Impact Sovereign Ratings. According to the report, a 250-year tropical storm that impacts Barbados could lead a downgrade of its credit rating of up to 5 notches, and therefore, raising the cost of financing. [↑](#footnote-ref-22)
22. The clauses would enable the Government to capitalize interest and defer principal maturities due for two years in the event that a natural disaster hits the country and triggers a payout above US$5 million by CCRIF. [↑](#footnote-ref-23)
23. The literature of natural disasters and their fiscal impact is extensive and well documented. Government spending tends to increase, budget balances usually worsen, and public debt typically rises. See, for example, The Dealing with Increased Risk of Natural disasters (Freeman et al. 2003); Economics of Natural Disasters. (Cavallo and Noy, 2009); and The Fiscal Implications of Hurricane Strikes in the Caribbean (Quattara and Strobl, 2013). [↑](#footnote-ref-24)
24. IDB (2010). Natural Disasters Financial Risk Management. Technical and Policy Underpinnings for the Use of Disaster-Linked Financial Instruments in Latin America and the Caribbean, [IDB-TN-175](https://publications.iadb.org/bitstream/handle/11319/1564/Natural%20Disasters%20Financial%20Risk%20Management.pdf?sequence=1&isAllowed=y). [↑](#footnote-ref-25)
25. Document GN-2502-3. [↑](#footnote-ref-26)
26. The timetable for issuing sovereign bonds varies depending on a range of factors, such as the the structure and complexity of the securities being issued; the parties and their jurisdictions; whether the issuer is a first-time issuer; and whether the sales will be made into the US. Typically, the process could take months, but assuming ideal conditions, it could be reduced to 6 or 8 weeks. See Accessing the International Debt Capital Markets, Herbert Smith Freehills. [↑](#footnote-ref-27)
27. The calculation is based on the latest information on interest rates and loan charges published by the Finance Department (2nd quarter 2020). [↑](#footnote-ref-28)
28. Information provided by the Finance Department, as of June 16, 2020. The IDB fixed rates assume a fixed rate conversion by the Bank with the same tenor as the remaining life of outstanding sovereign bonds (approximately 10 years), plus a lending margin of 80 bps. [↑](#footnote-ref-29)
29. The rating was assigned by S&P in December 2019 after Barbados reached an agreement with external creditors. Barbados has a Caa1 rating with stable outlook from Moody’s. [↑](#footnote-ref-30)
30. According to a report by Standard & Poor’s, a once-in-250 year natural disaster (tropical storm) would have strong effects on Barbados’ public finances, mainly due to increased government spending and the resulting economic downturn. This could in turn lead to downgrades of its credit rating of up to 5 notches, and therefore, raising the cost of financing. See The Heat is On: How Climate Change Can Impact Sovereign Ratings (Standard & Poor’s, 2015). [↑](#footnote-ref-31)