

Debt Sustainability Framework for Market Access Countries of the Belt and Road Initiative

Ministry of Finance of People's Republic of China

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I. Introduction

1. Financial Connectivity is an important underpinning for the development of the Belt and Road Initiative(BRI). Since 2017, finance ministries of 29 countries have endorsed the Guiding Principles on Financing the Development of the Belt and Road, calling upon governments, financial institutions and enterprises from participating countries of the BRI (hereinafter referred to as BRI countries)to work together to build a long-term, stable, sustainable financing system that is well-placed to manage risks. In 2019, the Ministry of Finance of the People's Republic of China released the Debt Sustainability Framework for Participating Countries of the Belt and Road Initiative (hereinafter referred to as DSF for LIC of BRI), which demonstrated China's positive and open position on debt sustainability, and helped BRI participants to make more robust investment and financing decisions.

2. The global economy is undergoing a difficult recovery, and it is a common challenge for the international community to strike a balance between financing the development needs and maintaining debt sustainability, and to achieve the goals of UN Agenda for Sustainable Development on schedule. Therefore, based on Sovereign Risk and Debt Sustainability Analysis Framework (SRDSF) developed by the International Monetary Fund, as well as the conditions and development stages of BRI countries, we develop this debt sustainability framework for market access countries of the BRI (hereinafter referred to as DSF for MAC of BRI). This framework complements and reinforces the DSF for LIC of BRI released in 2019, and aims to support BRI countries to promote sustainable economic and social development more effectively while ensuring debt sustainability.

3. The DSF for MAC of BRI applies to the debt sustainability analysis (DSA) of BRI market access countries (hereinafter referred to as MACs). MACs refers to countries that are able to tap international capital on a sustained basis through the contracting of loans and/or issuance of securities across a range of maturities, regardless of the currency denomination of the instruments, and at reasonable interest rates.

4. DSA is one of many debt risk assessment methods, and this framework is one of the optional tools for debt sustainability analysis. This framework is a non-mandatory

policy tool. The financial institutions of China and other BRI countries are encouraged to use this framework or other tools for debt sustainability analysis on BRI market access countries, and as an important reference for lending decision making. Given the complexity of debt sustainability analysis, the framework is to be used as a pilot for a certain period of time, followed by revisions and adjustments as needed.

II .Procedures

5. Flow path of the DSA for MAC of BRI includes the following steps: (1) Debt Coverage; (2) Macroeconomic Projections; (3) Realism Tools; (4) Near-Term Risk Analysis; (5) Medium-Term Risk Analysis; (6) Long-Term Risk Analysis; (7) The Use of Judgment and the Overall Risk Ratings; (8) Debt Sustainability Assessment; (9) The DSA Write-Up.

A. Debt Coverage

6. The DSF for MAC of BRI defines the default debt coverage as the future payments of interest and/or principal that are required from general government to the creditor, including debt securities, loans and other accounts payable. General government consists of: (1) all government units of central, state, provincial, regional, and local government, and social security funds imposed and controlled by those units; (2) nonmarket, nonprofit institutions that are controlled by government units^①.

7. We note that public sector included in public debt statistics can be divided into different perimeters, including central government, general government, nonfinancial public sector, and consolidated public sector. Among them, general government is the most appropriate definition of public sector for debt sustainability analysis of market access countries for the following reasons: (1) general government consists of all resident institutional units that fulfill the functions of government as their primary activity; (2) general government also accords well with the statistical requirements for public debt in most market access countries.

8. For countries that do not use general government as the institutional perimeter in public debt statistics, users can make appropriate adjustments to public debt coverage according to the availability of data, and explain the rationality. For example, for countries where only a central government exists (such as small island states), users can use central government debt.

9. The definition of general government and the description of public debt coverage in this framework applies only to DSA for relevant countries and not to other circumstances.

^① In actual use, the scope of nonmarket, nonprofit institutions to be included in general government should be decided according to country-specific situation.

B. Macroeconomic Projections

10. The macroeconomic projection for a 10-year period should be specified. The projections of key macroeconomic variables should be based on the country's economic development plan and its medium and long-term fiscal plan, with comprehensive consideration of the economic development, economic cycle, capital accumulation, population structure, technological progress and other factors affecting the economy. The projection horizon can break down to short-term (1-2 years), medium-term (3-5 years) and long-term (6-10 years). The evolution of these variables is referred to as the "baseline scenario", which represents the most likely scenario given present information.

11. In addition to macroeconomic variables, the DSF for MAC of BRI template requires projections of changes in debt over the next 10 years, including currency composition, maturity structure, creditor structure, instrument structure and governing law of the debt. Among them, this framework divides creditors into external and domestic creditors. External creditors include official (multilateral and bilateral) and private creditors, while domestic creditors include central banks, commercial banks, and other creditors.

Table 1. Macroeconomic and Debt Variables for the DSF for MAC of BRI

Variable	Historical	Projection
Public sector		
Public sector revenue	√	√
<i>Interest revenues</i>	√	√
<i>Non-interest revenues</i>	√	√
Public sector expenditure	√	√
<i>Interest expenditures</i>	√	√
<i>Non-interest expenditures</i>	√	√
<i>Public Investment</i>	√	√
Public sector assets (liquid and readily available)	√	√
Debt		
Stock of public debt	√	√
Debt structure	√	√
<i>Creditor structure</i>	√	√
<i>Currency composition</i>	√	√
<i>Maturity structure</i>	√	
<i>Instrument structure</i>	√	
<i>Governing law</i>	√	√
Debt service	√	√
New financing		√
<i>Creditor structure</i>		√
<i>Currency composition</i>		√
<i>Maturity structure</i>		√
<i>Instrument structure</i>		√
Macro-economic		
GDP, current prices	√	√
GDP, constant prices	√	√
Current account balance	√	
Inflation rate	√	

International reserves	√	
FDI	√	
Exports of goods and services	√	
Exchange rate (per US dollar, end of period)	√	√
Exchange rate (per US dollar, average)	√	√
Real effective exchange rate	√	√
Other		
Total assets in banking system	√	√
CBOT Volatility Index(VIX, 2010=100)	√	
US 10-year treasury bond yield	√	

C. Realism Tools

12. Examine the realism of baseline scenario, revise the macroeconomic and financing assumptions accordingly. The realism tools that are mandatory includes:

13. **Drivers of debt dynamics.** If there are (1) significant differences between past debt creating flows and projected debt creating flows, or (2) relatively large unexpected changes in public debt, users should give reasonable explanations or revise the projections.

14. **Relationship between fiscal adjustment and growth.** If fiscal adjustment is in the pipeline for a debtor, the feasibility should be assessed first. And if feasible, relationship between fiscal adjustment and growth should then be assessed. If the impact of the fiscal adjustment on economic development is inconsistent with expectations, possible explanations should be considered. Where there are no adequate explanations, consideration should be given to revise baseline macroeconomic projections.

15. **Relationship between public investment and growth^①.** Productive investment, while increasing debt ratios in the short run, can generate higher economic growth, fiscal revenue and export, leading to lower debt ratios over time. Therefore, it is critical to reflect the impact of public investment on economic growth and debt changes. The pulling effect of public investment on economic growth can be marked by the output elasticity. When a new public investment project is implemented, if the economic growth calculated using the historical empirical output elasticity is inconsistent with the actual economic growth, possible explanations or adjustment of macroeconomic projections should be considered.

16. To ensure that macroeconomic projections and debt trend are more realistic and robust, in addition to the above mandatory realism tools, users may also use other realism tools which include fiscal adjustment, real GDP growth, REER gap, output gap revisions, financing terms, among others, according to the availability of data.

^① Users can decide whether to use this realism tool based on the availability of public investment data. At the same time, market access countries have a wide range of investment sources, so for some countries, the contribution of public investment to economic growth may not be significant.

D. Near-Term Risk Analysis

17. The near-term risk analysis measures the risk level of the debtor within 1-2 years, which is based on the risk information variables and historical data of sovereign credit risk events. In order to synthesize different economic development circumstances of individual countries, the DSF for MAC of BRI divides the market access countries into high-income countries and middle-income countries^①, as characteristics of market access countries can vary dramatically. Then, classification & regression tree model and logistic regression model are established respectively to assess the sovereign credit risk. The classification & regression tree model is the main model and the logistic regression model is used to verify the result of the classification & regression tree model.

18. **Classification & Regression Tree Model.** Whether a sovereign credit risk event will occur is predicted based on the classification & regression tree model for high-income and middle-income countries respectively. Risk indicators of the high-income country model include public debt, fiscal balance, current account balance, international reserves, etc. Risk indicators of the middle-income country model include public debt, debt service ratio, international reserves, the yield of the US 10-year Treasury bond, etc. Risk categories can be specified after the baseline scenario and the stress test. In the baseline scenario, the risk probability of year t+1 is projected using year t data. In stress test, the stress is measured by the standard deviation of each variables in the last ten years, then the probability of sovereign credit risk event is obtained from stress test I (economic variables deteriorated by 1 standard deviation), stress test II (economic variables deteriorated by 2 standard deviation) and stress test III (economic variables deteriorated by 3 standard deviation). Final risk level is then obtained based on the baseline scenario and the stress test, which are shown in Table 2.

Table 2. The Risk Level based on Classification & Regression Tree Models

Test Result	Risk level	
	High-income country	Middle-income country
No risk events occurred in baseline scenario and three stress tests.	Low Risk	Low Risk
Risk events only occur in stress test III.	Low Risk	Medium Risk
Risk events only occur in stress tests II and III.	Medium Risk	Medium Risk
Risk events occur in three stress tests.	Medium Risk	High Risk
Risk events occur in both baseline scenario and three stress tests.	High Risk	High Risk

^① To avoid the possible cliff effects, when using classification & regression tree models and logistic regression models, for borderline countries from different income groups, users should use both "high-income country model" and "middle-income country model" to assess risk level, give risk assessment and explain the reasons. The "cliff effects" here refers to the phenomenon that the near-term risk assessments of borderline countries from different income groups may differ significantly when using different income group models.

19. **Logistic regression model.** The risk variables of high-income countries model and the middle-income countries model are both organized in four categories: stress history, macro-economy, debt burden and buffers, as well as global conditions. However, there are differences in the specific risk variables between the two models. Risk variables in each model are shown in Table 3. After calculating the probability of sovereign credit risk events according to the logistic regression model, the following risk thresholds are used to determine the risk level: the signal is low risk if the probability is below 6.3 percent and high risk if the probability is above 19.5 percent; otherwise, the signal is moderate risk.

Table 3. Logistic Regression Model

Risk variables		High-income country model	Middle-income country model
Stress history		--	√
Macro-economy	Current account/GDP	√	√
	Inflation rate	√	--
	Inflow of FDI/GDP	--	√
Debt burden and buffers	Public debt/revenues	√	√
	Change in public debt/GDP	√	√
	Short-term external debt/GDP	--	√
	International reserves/GDP	√	√
Global conditions	VIX (2010=100)	√	--
	US 10-year treasury bond yield	--	√

20. **Determine the Near-term Risk Level.** Near-term risk level can be determined preliminary according to the output of classification & regression tree models, which is verified by the logistic regression model. If outputs of the two models are consistent, the risk level can be directly determined; if not, output of the decision tree model may need an adjustment. The user should explain reasons for such adjustments.

21. In addition, the following points should be given consideration when analyzing near-term risk: (1) users should also pay attention to the main reasons that cause the change of sovereign credit risk, instead of focusing only on the near-term risk level itself; (2) there is no need to analyze near-term risk if the debtor country is already in stress; (3) users should pay attention to the impact from a country's specific characteristics on the model output and adjust the data or risk level accordingly. For example, Sovereign Wealth Fund may not be included in international reserves data, so it is appropriate to adjust the international reserve for a country with massive sovereign wealth fund. Another example is that, remittances may not be included in export earnings when calculating the debt service ratio, so it is appropriate to revised export earning data for countries with a relatively high share of remittances

E. Medium-Term Risk Analysis

22. The DSF for MAC of BRI establishes a Debt Fanchart Index and a Gross Financing Needs Index respectively to evaluate a country's solvency risk and liquidity

risk, and constructs a Medium-Term Index based on the above two indexes to assess the overall level of medium-term risk. In addition, a set of triggered/tailored stress-tests are provided to help capture certain specific risk factors that are not fully covered by the above indexes.

23. Solvency Risk Analysis. Solvency risk analysis is based on the debt fanchart. First, the medium-term debt evolution path is determined based on a country’s historical situation and macroeconomic forecast results, and the debt fanchart is drawn accordingly. Second, the following three sub-indicators are calculated based on the debt fanchart:

- **Probability that the debt does not stabilize in medium-term**, defined as the probability that the projected baseline primary balance at t+5 will be lower than the balance required to stabilize t+5 debt. This metric expresses the probability that debt will not be on a stable path by the end of the projection horizon.
- **Debt level at t+5, controlling for debt-carrying capacity**, derived as the debt level (as a percentage of GDP) at t+5 under the baseline scenario multiplied by the “Government Governance Capacity” index, which is the indicator of debt carrying capacity. “Government Governance Capacity” index is constructed based on the relevant studies of the International Monetary Fund and the United Nations.
- **Fanchart width**, derived as the distance between the 5th and 95th percentiles of the debt distribution in the final projection year (t+5). This metric captures the volatility of a country’s debt drivers, and the potential for highly adverse debt realizations in the future, even if starting from a low level.

The three sub-indicators are aggregated into a Debt Fanchart Index(DFI) that weights each indicator by its explanatory power. Risk level of a country’s debt solvency can be determined by comparing the calculated Index with its threshold. Weights of the explanatory power for the three sub-indicators and the threshold of the Index are shown in Table 4.

Table 4. Weights of Solvency Risk Analysis Indicators and Threshold of DFI

Sub-indicators	Weights	Aggregate Index	Threshold
Probability that the debt does not stabilize in the medium-term	0.3157	Debt	Low risk (0, 1.13]
Debt level, controlling for debt-carrying capacity	0.3579	Fanchart	Medium risk (1.13, 2.08]
Fanchart width	0.3264	Index	High risk (2.08, +∞)

24. Liquidity Risk Analysis. Liquidity risk analysis focuses on following risks: (1) the level of gross financing needs (GFN); (2) the possibility that domestic banking system can further meet government financing needs. The DSF for MAC of BRI constructs three sub-indicators to measure the above risks, and further aggregates the sub-indicators into a Gross Financing Needs Index to measure the overall liquidity risk. The three sub-indicators are:

- **5-year Average GFN-to-GDP ratio in the baseline.** GFN-to-GDP ratio reflects the

liquidity risk a country faces in meeting normal debt service terms.

- **Initial bank claims on the government as a percentage of banking system assets.** This indicator gauges the degree to which banking system is already exposed to government debt and the likelihood of its exposure to increase further. In general, the more exposed banking system is to government debt, the less likely it is to increase exposure further, and the higher the likelihood that the government is exposed to liquidity risk.
- **The maximum cumulative change in bank claims on the government under stress scenarios.** This indicator gives a sense of the size and “financeability” of the financing demand that could be placed on banking system under various stress scenarios, such as macroeconomic shocks, a decline in the scale of financing provided by external private creditors, and a shortening of average debt maturity, etc.

The three sub-indicators are aggregated into a GFN Index, weighted by their explanatory power respectively. Comparing the calculated GFI with its threshold can determine the level of a country’s liquidity risk. The weights of the three sub-indicators and the thresholds of the GFI are shown in Table 5.

Table 5. Weights of Liquidity Risk Analysis Indicators and Threshold of GFN Index

Sub-indicators	Weights	Aggregate Index	Threshold
5-year Average GFN-to-GDP ratio	0.3412	Gross Financing Needs Index	Low risk (0, 7.6]
Initial bank claims on the government as a percentage of banking system assets	0.3244		Medium risk (7.6, 17.9]
The maximum cumulative change in bank claims on the government under stress scenarios	0.3344		High risk (17.9, +∞)

25. Triggered Stress Test. Triggered stress tests simulate the debt level and the evolution path of gross financing needs when a country faces a specific shock, so as to capture risk factors that are not fully covered by the DFI and the GFI that countries might face. Users can select from the following stress test scenarios according to the actual situation of a country: (1) contingent liabilities; (2) banking crisis; (3) natural disasters; (4) commodity price shock; (5) real effective exchange rate (REER) shock; (6) abnormal rise of financing cost.

Table 6. Stress Test Scenarios

Stress Test	Trigger	Scenario Design
Contingent Liabilities	Countries with shortfalls between their actual debt coverage and the default debt coverage.	• Tailor parameters based on country-specific information
Banking Crisis	Countries with Financial Soundness Indicators showing vulnerability or credit gap/GDP greater than 10%.	• First year of projection : (1) primary balance deteriorates by 6.8% of GDP for advanced economies and 10% for developing economies ; (2) real GDP growth rate declines by one standard deviation of the growth rates in the decade before the crisis. • Second year of projection : real GDP growth rate declines by one standard deviation of the growth rates in the decade before the crisis.

Natural Disaster	Countries that meet a frequency criterion (2 disasters every three years) and economic loss criterion (above 5% of GDP per year), based on the EM-DAT database.	<ul style="list-style-type: none"> • Second year of projection: (1) a one-off shock of 4.5 percentage points of GDP to public debt-to-GDP ratio; and (2) real GDP growth is lowered by 1.3 percentage points.
Commodity Price Shock	Commodity exporters and commodity importers with sizeable subsidies.	<ul style="list-style-type: none"> • For commodity exporters, real GDP growth is reduced by 1.1 percentage points and fiscal revenues-to-GDP are reduced by 1.4 percentage points for each 10-percent contraction of commodity prices in the second and third year of projections. • For commodity importers with sizeable subsidies, fiscal expenditure-to-GDP ratio is increased by 0.9 percentage points for each 10-percentage point increase in commodity prices in the second and third year of projections. • For both commodity exporters and commodity importers with sizeable subsidies, in the fourth and fifth years of projections, real GDP growth and fiscal revenues-to-GDP will converge to their baseline projections gradually.
REER shock	Countries with initial over-valuation of REER higher than 5%, and changes in REER over the medium-term horizon that are insufficient to eliminate the overvaluation.	<ul style="list-style-type: none"> • In cases of countries with floating exchange rate regimes, per 1 percentage point of currency depreciation, inflation increases by 3 basis points for advanced economies and by 25 basis points of emerging market economies. • In cases of countries with other exchange rate regimes, an devaluation shock equal to the depreciation shock is applied by lowering the GDP deflator in equal steps for the projection horizon.
Abnormal Rise of Financing Cost	Countries that issue sovereign bonds at floating interest rates, or have a relatively high proportion of short-term debt.	<ul style="list-style-type: none"> • A 400 BPs increase (sustained for 3 years from the second year of projection) in the cost of new public debt and shortening of maturities of new commercial external borrowing (to 5-year maturity, or 2/3 of the assumed maturities, whichever is shorter, with grace periods adjusted proportionally), and one-off FX depreciation equivalent to 15 percent in the second year.

26. **Determine Medium-Term Risk Level.** The DFI and GFI are standardized and averaged to derive the Medium-term Risk Index. Users can preliminarily determine the medium-term risk level according to the following criteria: the signal is low risk if Medium-term Risk Index is below 0.257 and high risk if Medium-term Risk Index is above 0.395; otherwise, the signal is moderate risk. Final medium-term risk level is obtained by combining the risk level of the preliminary judgment and the stress test results.

F. Long-Term Risk Analysis

27. In the DSF for MAC of BRI, the long-term debt projections of a debtor country will be compared with its debt solvency. Then the long-term risk rating is derived based on the comparison result.

28. **Long-term debt projection.** In the baseline scenario, the macroeconomic projections are extended to the next 6 to 10 years, with focus placed on the impacts

from economic growth and public finance on debt burden. The DSF for MAC of BRI considers the impact of individual characteristics of different countries on debt burden, including but not limited to: (1) increase of fiscal expenditure (such as pension and social security expenditure) due to population ageing; (2) the impact of changes in natural resource related income on the public debt burden; (3) measures to deal with climate change (such as those coping with natural disasters and energy structure transformation) ,which will bring additional burden on government revenue and affect public debt level; (4) impact of possible large debt amortizations on debt burden.

29. Determine the long-term risk rating. The DSF for MAC of BRI uses a variety of methods to assess the debt solvency of a debtor country, which is expressed as public debt as a share of GDP. The assessment of debt solvency takes into account the repayment history of the debtor country, as well as the projections of economic growth, fiscal position, interest rate and exchange rate. Because of the uncertainty of long-term macroeconomic projections, users should approach the long-term risks rating with care. Users can assess the long-term risks rating by referring to the following principles: in the next 6-10 years, (1) if public debt /GDP is well below the country's solvency and there is no obvious upward trend, the risk rating is deemed as low risk; (2) if public debt /GDP has a significant upward trend and a high probability of exceeding the country's solvency, the risk rating is deemed as high risk; (3) in other scenarios, the risk rating is deemed as medium risk.

G. The Use of Judgment and the Overall Risk Ratings

30. the DSF for MAC of BRI combines the near-, medium- and long-term analysis results and makes a preliminary assessment of a country's overall debt risk rating. Then, the preliminary assessment result will be adjusted based on the analysis of the expected Loss Given Default (LGD) and the opinions of country experts.

31. A preliminary assessment of a country's overall debt risk rating. Based on the near -, medium - and long-term assessment results, a country's overall risk rating is given preliminary according to the following rules: (1) overall risk rating should be selected from the results obtained in the near -, medium - and long-term assessments; (2) if a risk rating appeared more often than others, it is recommended to take that rating as the overall risk rating, strong reasons would be needed if overall risk rating is determined otherwise; (3) if the short-, medium- and long-term assessment results are all different, it is recommended to mainly consider the short- and medium-term assessment results to determine the overall risk level.

32. Using judgment. The judgment of debt risk should consider both the possibility and the severity of risk events. Therefore, users may adjust the preliminary overall risk rating when necessary, considering the expected Loss Given Default (LGD) and country experts' advice.

(1) Expected LGD. The DSF for MAC of BRI constructs a sovereign debt default

model to estimate a country's expected LGD. At the same time, the DSF for MAC of BRI calculates the actual distribution of LGD based on global historical default data, which serves as a comparison benchmark and a reference for risk rating adjustment. If the overall risk rating is adjusted based on LGD, users should explain the reasons and show the unadjusted overall risk rating in the DSA write up .

A country's expected LGD is compared with the historical distribution, and the risk rating will be adjusted according to the following rules:

- If the expected Loss Given Default is predicted to be lower than the 25% sub-point a downward adjustment may be considered as appropriate, such as from high risk to medium risk;

- If the expected Loss Given Default is higher than 75% sub-point , an upward adjustment may be considered as appropriate, such as from low risk to medium risk ;

- In other cases, there is generally no need to adjust the overall risk rating.

- In addition, the DSF for MAC of BRI provides an additional tool to analyze the expected Loss Given Default (LGD) of different creditors. This tool helps to improve the pertinence of risk analysis.

(2) Judgment of country experts. The users, as country experts, should also analyze factors which are not considered in the risk assessment, based on the specific situation of the debtor country and the actual use of the debt (such as whether it is used to increase productive assets, whether it is conducive to increasing future fiscal revenue, etc.). Considerations should also be given in the expert judgment if a country's future debt trends are likely to be significantly affected by other factors not taken into account in the baseline scenario. For example, for some countries, country expert should give considerations if there is sufficient evidence that certain mega projects supported by loans are economically sound and can help to break through infrastructural bottlenecks, such as those in energy and transportation. If adjustments are necessary, country experts should give sufficient justification.

H. Debt Sustainability Assessment

33. In general, a country rated at “low risk” or “medium risk” means that the debt is sustainable. However, it should be noted that an assessment for a country as “high risk” does not automatically mean that debt is unsustainable in a forward-looking sense. Therefore, in order to draw a conclusion on debt sustainability, it is necessary to take into account the following factors: (1) the debt risk rating of a debtor; (2) debt evolution trend (up, flat or down); (3) whether the primary fiscal balance and debt repayment arrangements to ensure the stability of debt are economically and politically feasible; and at the same time, whether the economic and social development goals of a country can be fully promoted. The conclusion of debt sustainability can be described as sustainable with high probability, sustainable but not with high probability, or unsustainable.

I. The DSA Write-Up

34. The DSA write-up (refer to appendix for more details) contains: (1) public debt coverage and debt situation; (2) background on macro-economic forecasts; (3) examination on realism of the baseline scenario; (4) near-term risk assessment; (5) medium-term risk assessment; (6) long-term risk assessment; (7) overall risk rating and debt sustainability analysis; (8) authorities' views.

III .Application

A. Managing Debt Risks

35. The DSA Write-up for applicable countries, in principle, may be prepared on a regular or ad hoc basis as needed. With comprehensive assessment of the country's future development potential, debt carrying capacity, debt sustainability, the 2030 Agenda for Sustainable Development and other common development agenda, DSA results can serve as important reference for relevant financial institutions in China and other BRI countries to conduct categorized management on debt risks and make sound lending decisions.

B. Facilitating International Cooperation

36. To build a long-term, stable, sustainable financing system that is well placed to manage risks is a long term task for BRI. We encourage all participants to adhere to the principle of extensive consultation, joint contribution and shared benefits, take the DSF for MAC of BRI as a fundamental tool for financing cooperation, giving full play to the leading role of public funds as well as mobilizing long-term capital and private capital, and bring more benefits to people of all BRI countries.

Appendix: THE DSA WRITE UP

The DSA write up is encouraged to follow the outline below.

Country X Debt Sustainability Analysis	
Risk of sovereign distress:	low/medium/high
Near-term Risk	low/medium/high
Medium-term Risk	low/medium/high
Long-term Risk	low/medium/high
Sustainability assessment	sustainable with high probability / sustainable but not with high probability / unsustainable

The chapeau paragraph should specify the country's near-term, medium-term, long-term and overall risk levels. Disclosing the risk rating signaled by the model and how judgment has been applied if relevant. For high-risk countries, conclusions of sustainability assessments and related explanations should be provided. Commentary should be given on any necessary details of key risk points. The positive and negative factors for future development should be noted and relative policy suggestions should be provided.

Public Debt Coverage and Debt Situation

- The default debt coverage used for analysis should be general government debt.
 - Table: the coverage of the public debt
- In addition to debt coverage, the structure of public debt (currency, maturity, creditor, instruments and governing law) should also be analyzed.

Background on Macro Forecasts

- Box to describe in detail the main assumptions in the macroeconomic framework underlying the DSF for MAC of BRI, including projections of real sector (real economic growth with main drivers of growth, and inflation), fiscal variables (medium- and long- term fiscal measures and primary balance), public debt (debt scale, debt structure, debt repayment, borrowing costs and duration of financing) and others (exchange rate and assets of the banking system).

Examination on Realism of the Baseline Scenario

- Analysis of debt dynamics indicators
 - Charts: Debt-creating flows; Comparison of historical and forecast scenarios for debt dynamics indicators
- Analysis of the relationship between fiscal adjustment and GDP growth
 - Charts: Relationship between fiscal adjustment and GDP growth
- Analysis of the relationship between public investment and GDP growth

➤ Charts: Relationship between public investment and GDP growth

- Other realism tools (if data are available).

Near-Term Risk Analysis

- Near-term risk assessment and key risk points.

➤ Charts: Results of classification & regression tree model and logistic regression model

Medium-Term Risk Analysis

- Solvency risk analysis should cover three indicators and DFI index, the solvency risk level and the related explanations. The three indicators are: (1) probability that debt does not stabilize in the medium term, (2) debt level controlling for debt-carrying capacity, (3) fanchart width. In addition, stress tests should be conducted on the debt path based on the reality, and the results should be explained.

➤ Table: Solvency risk analysis and stress test

- Liquidity risk analysis should cover three indicators and GFN index, the liquidity risk level and the related explanations. The three indicators are: (1) average GFN-to-GDP ratio in the baseline, (2) initial bank claims on the government expressed as a percentage of banking system assets; (3) the maximum cumulative change in bank claims on the government under stress scenarios. In addition, stress tests should be conducted on financing need based on the reality, and the results should be explained.

➤ Table: Liquidity risk analysis and stress test

- In medium-term risk assessment, the DFI index and the GFN index are combined into the medium-term risk index, which is compared with the relevant threshold to report the preliminary medium-term risk level. Then, combined with the results of stress test, the final medium-term risk assessment result is given with key risk points explained.

Long-Term Risk Analysis

- Predict the evolution path of public debt, and compare it with debt solvency. Report the final long-term risk assessment result and the relevant explanations.

➤ Charts: Long-term risk analysis

Overall Risk Rating and Debt Sustainability Assessment

- Assess overall risk, which is based on expected default loss ratio and expert judgment, but should reside within the range of assessments at the near-, medium-, and long-term analysis. For high-risk countries, sustainability assessments conclusions should be given.

➤ Charts: Expected default loss rate(if necessary)

- Discusses significant risks affecting debt risk and sustainability, and makes policy recommendations.

Authorities' Views

The DSF assumptions and results should be fully discussed with the authorities of the debtor country. The authorities' views, including any disagreement with staff's main findings, should be reflected in the concluding section of DSF write-ups.