June 2, 2026

REVIEW OF THE BANK-FUND DEBT SUSTAINABILITY FRAMEWORK FOR LOW INCOME COUNTRIES: BACKGROUND NOTE

OVERVIEW

This background note prepared by staffs of the IMF and WB outlines proposed enhancements to the IMF–World Bank Debt Sustainability Framework for Low-Income Countries (LIC-DSF) to ensure it remains fit for purpose and future-proof in the face of heightened debt vulnerabilities, greater heterogeneity across LICs, and analytical advances since the 2017 Review. The proposals—which have been guided by regular engagements with the IMF and WB Boards and benefitted from extensive engagement with external stakeholders—aim to enhance the framework's predictive power, transparency, and policy relevance, while preserving continuity, tractability, and its role as an early-warning tool for debt stress and unsustainable debt.

The following key enhancements are being considered:

- **Revamped and more comprehensive risk architecture.** The proposed framework distinguishes more clearly between the risks of external and overall public debt stress and the risk of unsustainable public debt.
- **New models for the risk of overall public debt stress and unsustainability, together with an updated model of the risk of external public debt stress.** The mechanical risk signals for external and overall public debt stress would continue to be derived from debt-carrying capacity (DCC)-specific thresholds for debt burden indicators, while the mechanical risk signal for public debt unsustainability would be country-specific. As part of the model refinements, one external debt-burden indicator would be dropped (PV of debt-to-exports), and new overall public debt-burden indicators would be added (GFN-to-GDP; interest-to-total revenues excluding grants), notably to more explicitly capture overall liquidity pressures.
- **Strengthened analysis of domestic debt risks and development of auxiliary modules to underpin the structured application of judgment in the final risk assessments:**
  - **A new domestic debt risk module** would provide solvency and liquidity diagnostics, as well as realism checks for the consistency of the domestic public borrowing plan with maintaining macroeconomic and financial stability. This qualitative risk analysis would complement and reinforce the strong predictive power of the new overall public debt stress model.

    - **A new long-term module** would provide a complementary tool, applied where relevant, to help assess the public debt stress and sustainability implications of policy and investment decisions associated with development and other long-term challenges, including those stemming from climate adaptation.
  - **Additional auxiliary modules to anchor the use of judgment in the final assessments of the risks of public debt stress and external public debt stress, and public debt sustainability.** The public debt stress and sustainability assessments would incorporate information from auxiliary indicators, including information on fiscal and debt-burden pressures in the near-to-medium term, such as the distance of the primary deficit from its debt stabilizing level.
- **Greater granularity of the rating of the risks of debt stress to enhance their policy relevance.** Staffs envisage that the Moderate-Risk rating would continue to be differentiated based on the availability of fiscal space, though this would now be anchored in overall public debt-burden indicators. Staffs would propose introducing a new granularity of the "High Risk" rating across time horizons and types of risk.
- **Enhanced realism tools and recalibrated stress tests.** Forecast accuracy would be promoted by an expanded realism toolkit, while recalibrated standardized, tailored, and customized stress tests would further strengthen the forward-looking assessment of debt risks.
- **Targeted focus on debt data comprehensiveness, transparency, and reliability.** A new debt data confidence flag that takes into account the comprehensiveness, transparency, and reliability of debt data, alongside strengthened guidance on the debt perimeter and adjustments to address debt data gaps, would provide stronger incentives for improving debt data and support more evenhanded treatment of countries.

A schematic overview depicts how these enhancements fit together within the reformed framework. Figure O.1 illustrates the end-to-end flow from data inputs and mechanical signals through staff judgment to the final risk ratings. Table O.1 offers a detailed side-by-side comparison of the current and reformed DSF across all key dimensions.

Table O.1. Overview of Proposed Reforms to the LIC-DSF

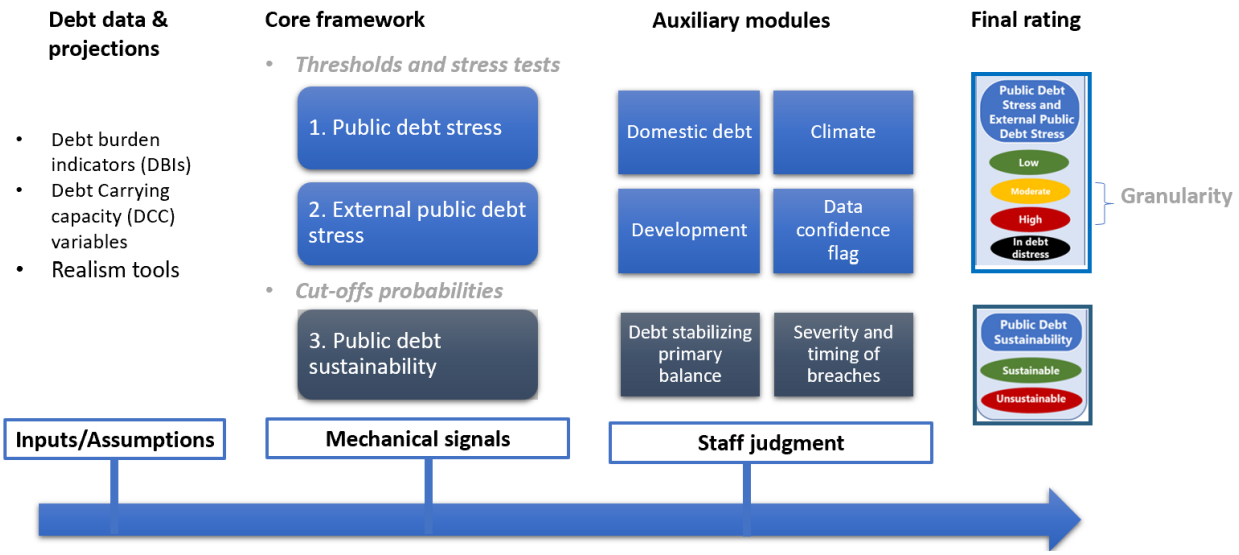
	Current DSF	Reformed DSF
Overall risk architecture	• Single concept of "risk of debt distress," conflating sovereign stress and unsustainability.	• **Revamped risk architecture** distinguishing risks of **external public debt stress**, **overall public debt stress**, and **unsustainable public debt**, within a more coherent and integrated framework.
Underlying regression models	• One external debt stress model.	• **New regression models** for risks of overall public debt stress and unsustainable debt, alongside an updated external debt stress model, jointly estimated within a unified framework.
Debt-carrying capacity (DCC)	• Composite DCC indicator combining CPIA, growth, reserves, remittances, and world growth. • Threshold-based classification into Weak, Medium, and Strong DCC.	• **Refined Composite DCC indicator** with re-estimated weights and updated variables (including output volatility and exposure to global financial conditions), improving differentiation while preserving broad continuity; thresholds for the DCC groups re-estimated.
Debt-burden indicators and thresholds	• External and overall solvency indicators assessed in PV terms. • No risk signal from liquidity indicators for overall debt.	• **Streamlined external indicators** (dropping PV of external debt-to-exports). • **New overall public debt indicators**, including FV of debt-to-GDP, gross financing needs-to-GDP, and interest-to-revenue (excluding grants), better capturing solvency and liquidity pressures.
Mechanical risk signals	• Mechanical signals derived from DCC-specific thresholds for external and overall debt stress. • Sustainability assessment judgment-based, guided by stress models.	• **Mechanical signals retained** for risks of external and overall public debt stress, • **New country-specific mechanical signal for unsustainable debt**, derived from probabilistic models, with final assessments remaining judgment-based.
Standardized and tailored stress tests	• Seven standardized stress tests and a limited set of tailored tests.	• **Recalibrated standardized stress tests** and **enhanced tailored stress tests**, including updated natural disaster tests, a new banking crisis stress test, and a **new domestic financing stress test**.
Domestic debt risks	• Domestic debt vulnerabilities assessed mainly through judgment and selected indicators.	• **New domestic debt risk module** providing solvency and liquidity diagnostics and realism checks for domestic borrowing plans, supporting a graduated scrutiny of domestic debt vulnerabilities.
Long-term risks	• Long-term considerations incorporated mainly through judgment.	• **New long-term risk module** to provide a complementary tool, applied where relevant, to help assess the public debt stress and sustainability implications of policy and investment decisions associated with development and other long-term challenges, including those stemming from climate adaptation

Table O.1. Overview of Proposed Reforms to the LIC-DSF (concluded)

Granularity of risk ratings	• Granularity of Moderate-Risk ratings based on external debt indicators and fiscal space to absorb shocks. • Limited characterization of High-Risk cases.	• **Granularity of Moderate-Risk ratings re-anchored to overall public debt indicators**, still based on fiscal space to absorb shocks. • **New granularity of High-Risk ratings** by time horizon and type of vulnerability.
Realism tools	• Core realism tools focused on fiscal adjustment and growth plausibility.	• **Expanded realism toolkit**, including checks on growth, exports, revenues (excluding grants), and domestic financing assumptions.
Debt data coverage and transparency	• Near-complete debt coverage targeted; guidance on SOE debt inclusion, data gaps addressed through contingent liability stress test.	• **Strengthened focus on debt data quality and transparency, including a new debt data confidence flag,** clarified SOE exclusion criteria, and baseline adjustments to address data gaps.
Use of judgment and guidance	• Enhanced guidance on the application of judgment for short-term breaches and selected debt vulnerabilities.	• **More structured and transparent application of judgment**, integrating mechanical signals, new risk modules, and data quality considerations.

Source: Staffs' analysis.

Figure O1. Overview of Reformed LIC-DSF



Source: Staffs' analysis.

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BACKGROUND

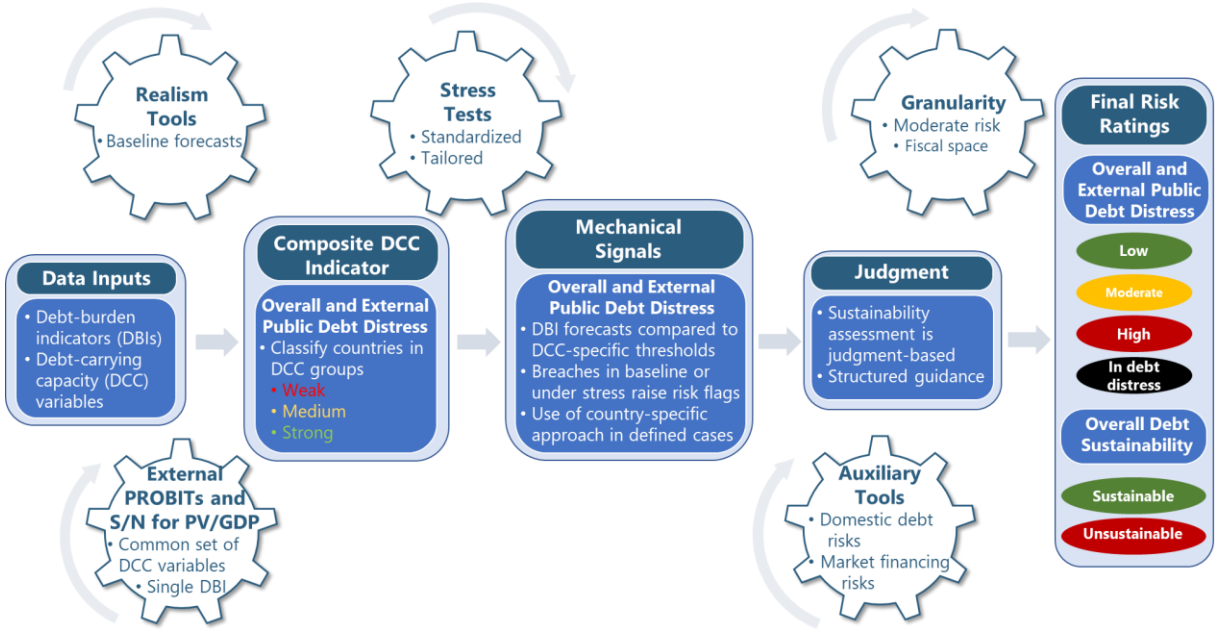
1. The joint IMF-World Bank Debt Sustainability Framework for Low-Income Countries (LIC-DSF) is the cornerstone of the assessment of the risk of public debt stress and sustainability in countries eligible for IMF and/or WB concessional financing. The LIC-DSF plays a central role in IMF and World Bank operations, providing key inputs for macroeconomic analyses and policy advice, as well as for the application of internal policies. Other multilateral development banks, such as the African Development Bank, have also linked their lending policies to the LIC-DSF risk assessments. Debt sustainability analyses (DSAs) also provide early warning signals on the build-up of risks of public debt stress and unsustainability, guiding borrowers and creditors so that pre-emptive actions can be taken to avoid debt distress and restructurings. In cases of sovereign debt restructurings, most prominently under the G20 Common Framework, the joint LIC-DSF has also been used to determine the size of the restructuring envelope required to restore public debt sustainability.

2. Since its launch in 2005, the LIC-DSF has been subject to periodic reviews to adapt it to the evolving debt risk landscape and keep it up to date with analytical advances. The most recent review in 2017 (i) simplified the framework by reducing the number of thresholds and standardized stress tests; (ii) expanded the measure of debt-carrying capacity to include macroeconomic fundamentals; (iii) strengthened the methodology for assessing overall public debt risks; (iv) introduced new realism tools, tailored stress tests, and a market-financing module to help inform judgment; and (v) enhanced the guidance on the application of judgment to achieve a more evenhanded and structured application.

3. The current 2017 framework provides tools for assessing the risks of external and overall public debt distress and for assessing debt sustainability (Figure 1).[1] The mechanical risk assessment involves comparing a set of solvency and liquidity debt-burden indicators to threshold values chosen for their ability to predict debt distress in the past. Key features of the framework are: (i) country heterogeneity is captured by classifying countries into three groups by debt-carrying capacity — Weak, Medium, and Strong; (ii) near-, medium-, and long-term mechanical signals for public debt distress are derived from the same underlying panel regression model, and are conflated in single ratings of risks of external and overall public debt distress; (iii) structured use of judgment is applied to capture country-specific considerations in the final ratings; and (iv) the sustainability assessment is determined by judgment, based on the size and persistence of the mechanical signals of risks of external and overall pubic debt distress.

[1] In the current LIC-DSF, the term "risk of debt distress" is used as a shortcut to describe the risks of external and overall public debt stress over the entire 10-year horizon relevant to the framework.

Figure 1. Main Features of Current LIC-DSF



Source: IMF and WB (2017).
Notes: S/N – signal-to-noise method used to calibrate the thresholds for PV of public debt-to-GDP ratio.

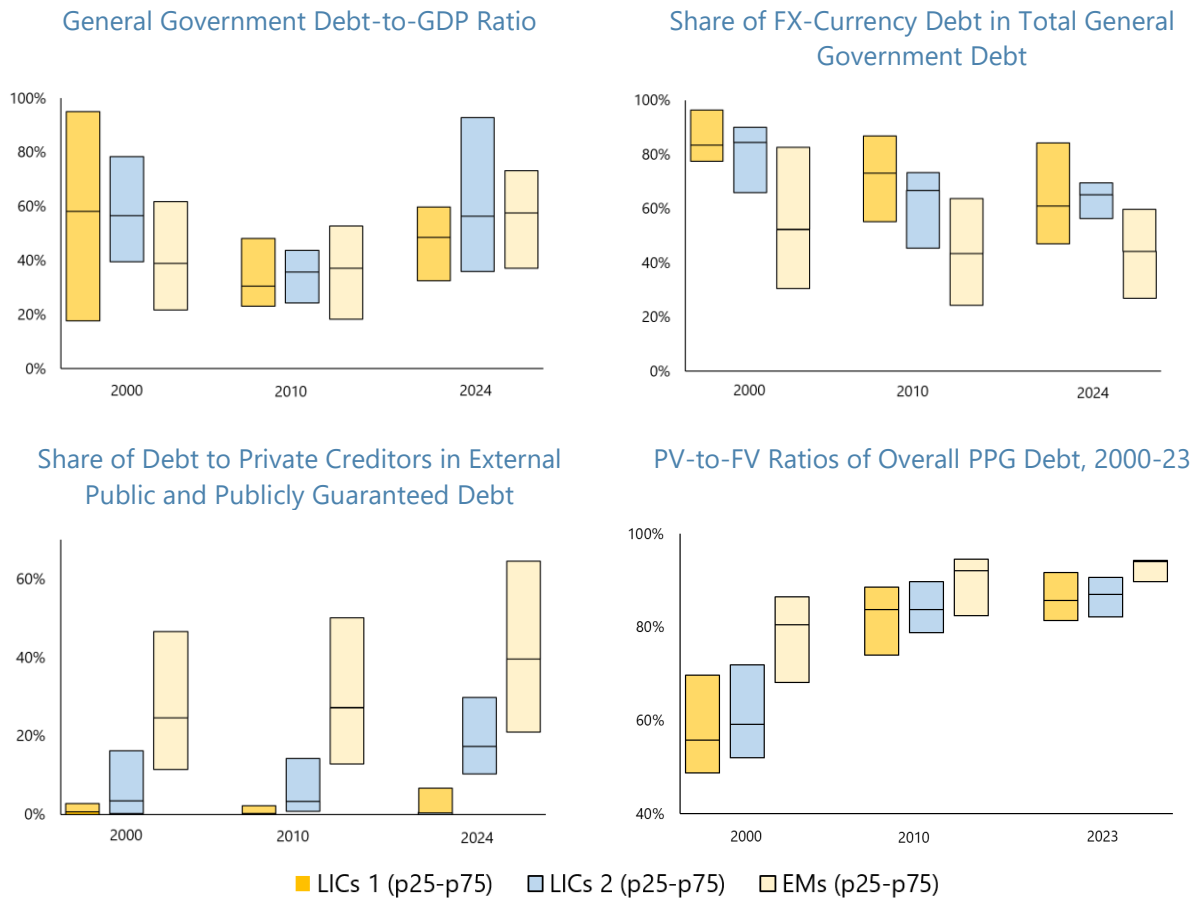
CONTEXT FOR CURRENT REVIEW

4. The current review takes place amidst heightened debt vulnerabilities and increased heterogeneity in LICs' borrowing behavior. Over the last 15 years, overall public debt has increased markedly as a share of GDP across all LICs, mirroring developments in emerging markets (Figure 2, top-left chart). Since the COVID-19 pandemic, LICs have faced relatively diminished access to external financing that added impetus to the ongoing shift toward greater reliance on domestic financing (Figure 3, top-right chart) (IMF and WB, 2025). At the same time, Frontier and other relatively wealthier LICs have decoupled from their peers by increasing borrowing on non-concessional terms, to more closely resemble emerging markets (EMs) (Figure 3, bottom-left chart). This has resulted in a significant narrowing of the gap between the present and face value of overall public debt (Figure 3, bottom-right chart).

5. The interplay between the design of the current LIC-DSF framework and the changing debt risk landscape points to some emerging challenges:

- The absence of a fully calibrated model of overall debt stress, combined with insufficient consideration of domestic debt vulnerabilities despite their rising relevance, increases the likelihood that they are not adequately captured in the public debt stress assessment;
- The lack of a clear mechanical signal for debt sustainability could impede the process of building consensus in the event of debt restructuring;

Figure 2. LICs and EMs: Changes in Debt Risk Landscape, 2000-24
(Percent)



Source: IMF WEO, WB IDS, and staffs' estimates.
Notes: The lower and upper hinges of each box correspond to the 25th and 75th percentiles of the distribution of the indicator at a given point in time, while the line inside indicates the median. EMs – emerging markets; Low-income countries are separated into two groups: "LICs 2" countries include the Frontier LICs and wealthier LICs (with income above 300 percent of the GNI per capita cutoff for IDA), while "LICs 1" countries include the remaining LICs.

- The increased heterogeneity across LICs is stretching the ability of current debt-carrying capacity-specific thresholds to adequately capture differences in repayment capacity;
- The single time horizon of the stress assessments reduces the information content of the stress ratings and complicates their cross-country comparisons;
- The effectiveness of the realism tools in ensuring forecast accuracy may be strained, as uncertainty around forecasts increases with a higher frequency and magnitude of shocks;
- Differences in debt coverage in practice raise uniformity-of-treatment concerns.

6. In addition, since the last LIC-DSF review, there have been important analytical advances in the IMF and WB approaches to debt sustainability analyses. These include the 2021 review of the DSF for market access countries (IMF, 2021 and 2022). The 2023 evaluation of the LIC-DSF carried out by the World Bank Independent Evaluation Group (WB, 2023) also highlighted the need for a more systematic treatment of the long-term impact of climate, further strengthening of the realism tools, and closer scrutiny of differences in the coverage of SOE debt and related contingent liabilities. The joint IMF-WB note on debt vulnerabilities in LICs (IMF and WB, 2025) highlighted important aspects of domestic public debt vulnerabilities in LICs.

7. In light of these developments, the main objectives of the current LIC-DSF Review are to ensure the framework remains "fit for purpose" and to "future-proof" it. At the same time, staffs' approach in this review aims to:

- **Keep the framework comprehensive, transparent, and easy to use.** Conscious of the use of the framework by both creditors and borrowers, the review has sought to keep the tractability of the framework, with a view to limiting transition costs and capacity development needs.

- **Ensure both backward- and forward-looking continuity of the revised framework.** Special emphasis has been put on ensuring that any implied changes in the debt stress and sustainability assessments relative to the latest results under the current LIC-DSF are well understood and economically sound. At the same time, the proposed improvements seek to further align the framework with the Sovereign Risk and Debt Sustainability Framework for Market Access Countries (MAC-SRDSF) to ensure a smooth transition for any Frontier LIC graduating from the LIC-DSF.

IDENTIFYING KEY REFORM AREAS

8. The predictive performance of the LIC-DSF is ultimately determined by the ability of the final risk and sustainability ratings to identify risks of public debt stress and debt unsustainability.[2] This, in turn, depends both on the out-of-sample discriminatory power of the underlying econometric model and on whether the key design features of the framework, taken as a whole, are robust to the changing debt risk landscape.

9. The current LIC-DSF has successfully flagged debt distress episodes ahead of time, but with a persistently high share of LICs rated at high risk, many of which have avoided debt distress thus far. Since its rollout in 2018, all cases of new "In Debt Distress" ratings have been preceded by a "High-Risk" rating in a recent DSA. However, with over one-third of LIC-DSF users rated at high risk in a given year (Figure 3, left panel), the up-to-two-years-ahead probability of debt distress conditional on a "High-Risk" rating has only been around 5 percent. This reflects the

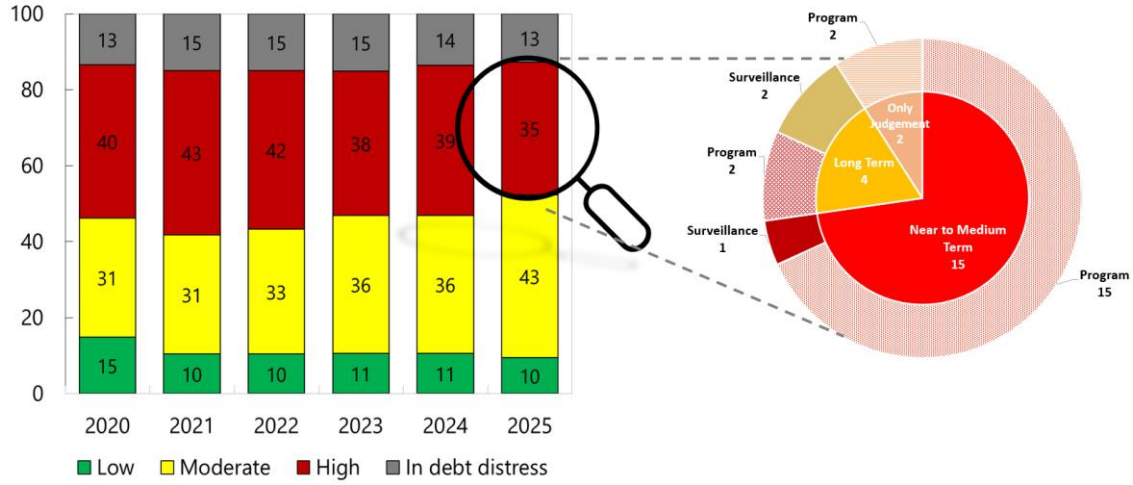
[2] In practice, testing the ratings-based performance of the LIC-DSF entails determining in how many instances "In Debt Distress" ratings have been preceded by a "High Risk" rating in any of the preceding two years. Quantifying the predictive power of the sustainability assessments, in turn, entails tallying how many "In Debt Distress, Unsustainable" ratings have been flagged ahead of time by a "High Risk, Unsustainable" rating in a recent DSA.

LIC- DSF's role as an early warning system that allows countries to take preemptive action to avoid a debt crisis, such as mobilizing concessional financing and implementing reforms, including those supported under IMF programs and WB policy lending.[3] Indeed, zooming in on the latest LIC-DSAs with "High-Risk" external debt distress rating, 15 out of 16 countries with near-to-medium-term (i.e., 1-to-5 years ahead) debt vulnerabilities are implementing reforms supported by an IMF program (Figure 3, right panel). The large, undifferentiated group of countries flagged as being at high risk—in some cases only due to long-term risks—complicates the interpretation of the "High Risk" ratings and can overestimate risks in the near term. It may also inadvertently influence access to financing for some LICs, particularly if lenders rely mechanically on LIC-DSF risk ratings in their lending decisions, or adjust their lending terms based primarily on these ratings.[4]

Figure 3. Latest LIC DSAs: Distribution of External Distress Ratings and Granularity of High-Risk Assessments, December 2025

Distribution of External Risk Ratings in Latest LIC-DSAs (*Share of Countries, Percent*)

Granularity of "High Risk" Ratings by Timing of First Threshold Breaches and Program Status (*Number of Countries*)



Sources: Staffs' analysis of the joint IMF-WB LIC-DSAs.

Notes: The left panel presents the distribution of LICs by external risk rating, based on most recent DSAs issued within the past three years. The right panel breaks down "High Risk" cases by Fund program status and time horizon of the initial breach of debt-burden thresholds (near-to-medium term (1 to 5 years ahead) and beyond).

[3] Early-warning models for rare events will inevitably generate false alarms, given the framework's precautionary purpose.

[4] Through its Grant Allocation Framework, IDA links financing terms to a country's risk of debt distress, effectively providing the most vulnerable countries with pre-emptive debt relief. For example, IDA only countries at High Risk of external debt distress are eligible to receive grant financing from IDA. Other creditors may not be in position to do so.

10. Analysis of the predictive power of the underlying regression model and key design features of the current LIC-DSF identifies some emerging pressure points that should be addressed in the review:

- **Performance and robustness of the underlying regression models.** The out-of-sample performance of the underlying regression models of risks of external and overall public debt stress is in line with the models' in-sample calibration. However, re-estimating the models with revised and updated data suggests that their resilience to changes in the debt risk landscape needs to be strengthened.

- **Reflecting country heterogeneity.** The grouping of countries by debt-carrying capacity (DCC) continues to play a useful role in keeping the framework simple and easy to use. "Cliff effects" from changes in countries' DCC have not had a significant impact on final risk ratings, and there is little evidence of instability in countries' DCC. Cliff effects may nevertheless create some undesirable discontinuities in fiscal policy advice, if not internalized in advance. At first cut, Frontier LICs do not appear to be disproportionately affected by potential gaps in the DCC definition, as their DCC generally aligns well with market signals of credit risk, and they are affected to a similar degree as other LICs by the false positives generated by the model. However, the increased heterogeneity among Frontier and other LICs suggests a need for further analysis of existing and potentially missing variables from the DCC classification and other DCC modalities.

- **Domestic debt vulnerabilities.** The analysis also points to the need to strengthen the assessment of overall public debt distress, especially in light of the increased importance of domestic debt in many LICs.

- **Judgment-based assessments.** Whereas the use of judgment has generally improved outcomes for countries that differ from the representative LIC, its use to reflect long-term considerations in the risk assessment, against the backdrop of no time differentiation of risk ratings, has contributed to a higher rate of false positives (i.e., risk signals not followed by stress events). Consideration of recent debt restructuring cases suggests that the sustainability assessments would also benefit from being informed by model-based signals.

- **Forecast accuracy challenges.** Projections in the short- and medium-term appear fairly accurate, though drawing definitive conclusions is complicated by the COVID-19 shock. Forecasts at longer horizons show some optimism bias in exports and revenue forecasts.

- **Debt coverage.** Comprehensive debt coverage remains key for properly capturing debt risks, as borrowing outside the budgetary government has increased and state-owned enterprises (SOEs) remain a source of heightened fiscal risks in LICs. However, cross-country differences in the completeness of debt data coverage, including that of SOEs, remain a challenge, potentially affecting the quality of some of the risk signals.

- **Incorporation of climate risks and policies.** The coverage of climate risks and policies in DSAs has evolved with the increasing recognition of their macro-criticality, but both the scope and depth of coverage remain uneven, pointing to a need for additional tools to support the assessment.

- **Realism tools and stress tests.** Realism tools can be further strengthened to guard against forecast bias, and stress tests can be retooled.

- **Continuity in risk assessments when countries graduate from the LIC-DSF.** The existence of two debt sustainability frameworks, while justified by the distinct characteristics of LICs and MACs, raises the risk of discontinuity for countries moving from one framework to the other. While there appears a limited risk of discontinuity under the current framework, further alignment of the two frameworks would mitigate this risk further.

POTENTIAL REFORMS

11. This note provides more detail on the package of reforms being considered to strengthen and future-proof the framework, while keeping it tractable and easy to use:

- **Enhancements to the framework's modeling architecture**: (i) re-estimation and recalibration of the external debt stress model, and the development of a new model of and mechanical risk signal for overall debt stress, with new solvency and liquidity debt burden indicators; (ii) updating the measurement of the Composite Indicator of Debt-Carrying Capacity (CI-DCC)—calibrated to better reflect LICs' heterogeneity; and (iii) introducing a new module for the analysis of domestic debt vulnerabilities.

- **A new model-based mechanical signal for overall public debt sustainability**. In addition, the use of judgment in the sustainability assessment will be further supported by auxiliary indicators of fiscal effort in the near-to-medium term, as captured by the distance between the primary balance and the debt-stabilizing primary balance and the magnitude of persistent breaches of debt-burden indicators in the stress models.

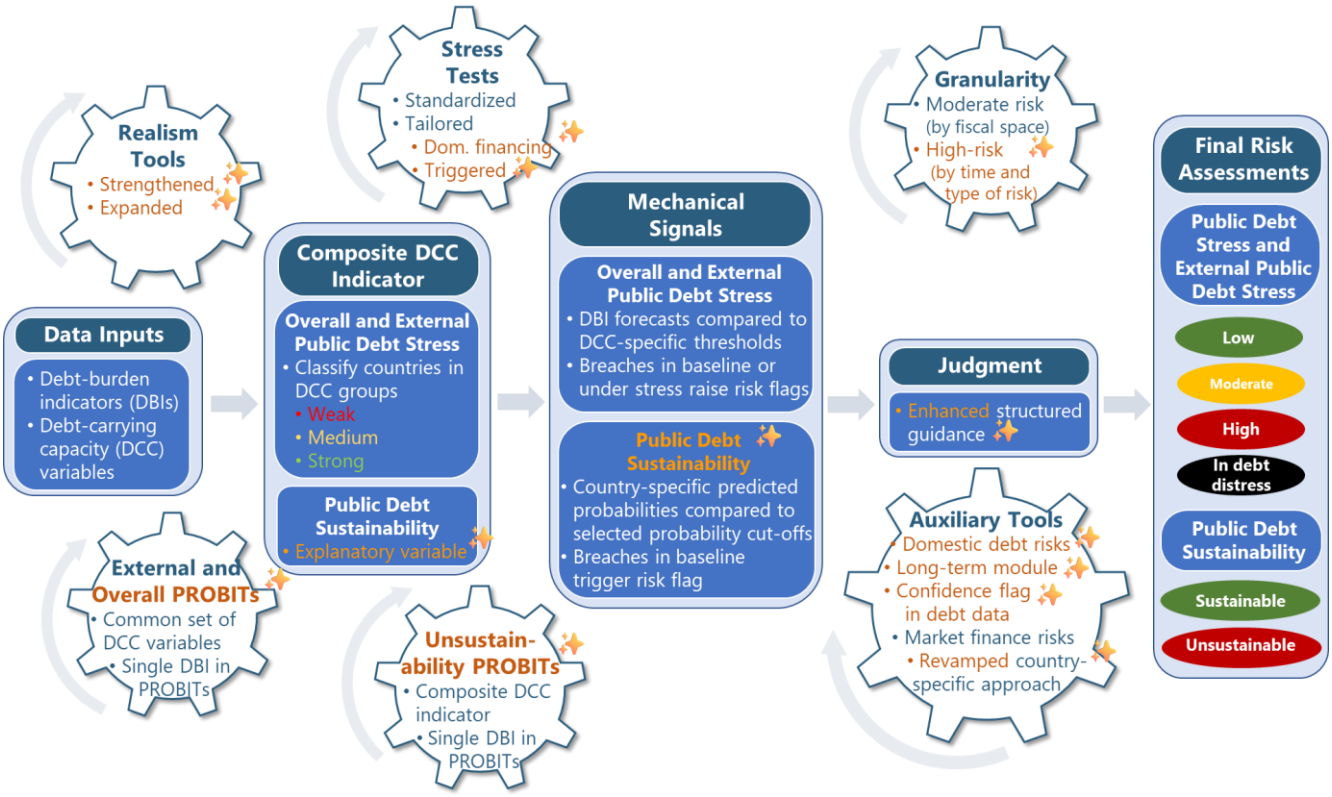
- **The introduction of a new long-term module.** This facilitates the modeling of the impact of development challenges, including those related to climate, and the policies to address them.

- **In addition, the new framework would:** (i) better bring out the importance of, and incentivize improvements in the transparency, reliability, and coverage of debt data—through the introduction of a confidence flag in debt data; (ii) introduce granularity of the "High-Risk" ratings by time horizon and type of risk; ; and (iii) update and enhance realism tools and stress tests.

These proposed reforms are informed by the analysis of the current LIC-DSF's overall performance and key design features as discussed above. The refinements aim to ensure both backward- and forward-looking continuity of the revised framework.

12. In parallel, concerted efforts will be made to simplify other aspects of the framework. Staffs anticipate proposing a reduction in the number of debt-burden indicators used in the external public debt risk assessment, as well as some enhancements to stress tests.

Figure 4 illustrates how the proposed new design features would fit within the existing structure of the LIC-DSF. **Figure 4. Proposed Structure of New LIC-DSF**



Source: Staffs analysis.

Notes: The main new design features of the framework are highlighted and tagged with a ✨. Realism tools and stress tests are updated and further enhanced.

A. Conceptual Framework

13. The potential enhancements to the framework are built around the concepts of the risk of unsustainable public debt and the risks of public debt stress and external public debt stress. The use of the former term remains unchanged from the current LIC-DSF, whereas the latter refines the term "risk of debt distress". This change helps clarify the concepts of the *risk of public debt stress*, *risk of unsustainable debt*, and *risk of debt non-stabilization under the baseline*, which are closely related but ultimately distinct (IMF, 2021 and 2022):

- **Public debt stress refers to the materialization of acute fiscal and/or market pressures related to public debt.** The public debt stress assessment makes no presumption about how the underlying pressures can be resolved. Eliminating or reducing the likelihood of public debt stress can involve policy adjustments and economic reforms alone, or they can be

complemented with external financing support and/or debt relief through a debt restructuring. The intensity of public debt stress spans a broad spectrum that, in the extreme, can render public debt unsustainable. In the existing LIC-DSF, the term "risk of debt distress" is used as a shortcut to describe the risk of public debt stress over the entire continuum of its severity, and as such can be misinterpreted as a risk of debt unsustainability. *Staffs propose to refine the terminology in the new LIC-DSF and adopt the term "risk of public debt stress".*

- **In the context of IMF and WB policies regarding PRGT and IDA-eligible countries, debt sustainability refers to the ability of the sovereign to meet its current and/or future financial obligations, while also preserving growth at a satisfactory level and making adequate progress toward the authorities' development goals (IMF and WB, 2017).** Public debt is, therefore, considered unsustainable when there is no set of politically and economically feasible policies that brings a reasonable prospect that a country can resolve its public debt stress without recourse to debt restructuring (IMF, 2024). The definition of unsustainable debt makes it clear that the associated risk can have both solvency and liquidity dimensions, and further underscores the forward-looking nature of the assessment that ultimately depends on judgment. *The use of the terms "risk of unsustainable debt" and "public debt sustainability" would remain unchanged relative to their use in the current LIC-DSF.*

14. A continued separate assessment of the risk of external public debt stress is warranted given the importance of external financing for LICs, even alongside the growing importance of domestic debt. Most LICs exhibit twin current account and fiscal deficits,[5] underlining the importance of external public borrowing — which remains the most important source of financing across the majority of LICs — in maintaining macroeconomic stability and its potential role as a source of risk. This distinguishes LICs from emerging markets, in which private sector flows generally play a more significant role in financing the country's BOP and there is a presumption of greater substitutability between domestic and external financing, reducing the need for a separate assessment. In principle, external debt should continue to be defined based on the residency of the creditor. At the same time, the shift toward greater reliance on domestic financing (IMF-WB 2025) underscores the importance of better incorporating domestic debt vulnerabilities in the overall debt risk assessment.

B. Underlying Regression Models and Composite DCC Indicator

15. Three interconnected models would form the core of the new framework for the joint assessment of the risks of public debt stress and external public debt stress and unsustainability of public debt. The existing model of the risk of external public debt stress has been re-estimated with revised and update data and complemented with two new, fully fledged models—one to estimate the risk of overall public debt stress (that will inform the assessment of the risk of public debt stress), and one to estimate the risk of public debt unsustainability. All three

[5] This reflects LICs' generally lower stage of economic and financial sector development, characterized by a persistent negative national saving-investment balance and a limited capacity of the private sector to earn or attract foreign currency from abroad.

models comprise a set of PROBITs that include one solvency and two liquidity debt-burden indicators (one per PROBIT), and a common composite indicator of debt-carrying capacity (CI-DCC) (Table 1).

16. Dependent variables. The criteria for identifying the onset of public debt stress to be used in the models for external and overall public debt stress have been refined and expanded. In addition, unsustainable debt events have been identified as a subset of severe public debt stress events that cannot be resolved without debt restructuring. The overall public debt stress and unsustainable debt criteria have also been aligned more closely with those used in the MAC-SRDSF.[6]

17. Debt-burden indicators (DBIs). Staffs would propose streamlining the external DBIs by dropping the PV of external debt-to-exports, which was found to have only a marginal contribution to the system predictive performance. Staffs see merit in better aligning the overall DBIs with those used in the MAC-SRDSF, with overall public debt taken at face rather than present value in the ratio to GDP and the gross financing needs-to-GDP (GFN-to-GDP) replacing the overall public debt service-to-revenues ratio (which was not assigned a benchmark value in the 2017 Review). The proposal also envisions replacing the overall public debt service-to-revenues ratio with the interest payments as a ratio to revenues excluding grants. The DBIs included in the model of public debt unsustainability would be a subset of the indicators used in the models of external and overall public debt stress.

18. The composite DCC indicator (CI-DCC) would be refined to better reflect LICs heterogeneity. The CI-DCC would continue to be constructed as a weighted average of macroeconomic indicators that capture different facets of countries' debt-carrying capacity. Relative to the current LIC-DSF, world growth would no longer be considered in the construction of the composite indicator, reflecting its loss of statistical significance in the regression analysis. In addition to existing proxies for institutional quality (WB Country Policy and Institutional Assessment (CPIA) index), domestic economic fundamentals (real GDP growth), external buffers (reserve coverage and remittances as a ratio to GDP), the new CI-DCC is expected to include measures of exposure to global macro-financial conditions and exogenous shocks:

- The addition of a measure of output volatility would better differentiate countries with more diversified economies, such as many Frontier LICs, from Fragile and Conflict-Affected States (FCS) that are relatively more exposed to shocks. It would also provide a counterbalance to the implied positive impact on CI-DCC scores of FCS from being relatively large beneficiaries of remittance flows or highly concessional financing.

- The exposure to global macro-financial conditions would be captured by the interaction of the interest rate on newly contracted external loans and the share of external in overall public debt. This variable would explicitly account for the trade-offs faced by countries that would like to

[6] The overall public debt stress criteria have been expanded to include measures of inflation spikes, monetary financing, and domestic arrears on government outlays. The unsustainable debt criteria now include periods of very high inflation.

expand their financing options by tapping non-concessional external financing. Under the revised methodology, in the face of higher cost of financing and greater exposure to global macro-financial conditions, maintaining the same CI-DCC score would require countries to have a concurrent strengthening of institutional frameworks, macro-fundamentals or external buffers.

19. The CI-DCC would continue to be used to classify LICs according to their DCC. Countries will be assigned transparently to one of three DCC groups (Weak, Medium, and Strong), based on countries relative standing on the CI-DCC calculated using the centered averages of DCC variables based on the latest five years of historical data and the first five years of projections.

C. Mechanical Risk Signals

External and Overall Public Debt Stress

20. The mechanical signals for the risk of external and overall public debt stress would continue to be generated by breaches of DCC-specific thresholds for debt-burden indicators in the baseline and stress scenarios over the first ten years of the forecast horizon, as follows:

- **"Low Risk"**—when there are no sustained breaches of DCC-specific thresholds in either the baseline or stress scenarios;[7]
- **"Moderate Risk"**—when there are sustained breaches of DCC-specific thresholds occurring only in stress scenarios; and
- **"High Risk"**—when there are sustained breaches of DCC-specific threshold in the baseline.

The external thresholds have been re-calibrated and new thresholds for the overall debt-burden indicators have been selected to achieve predictive power broadly comparable to that at the time of the 2017 review.

21. The final rating of the risk of public debt stress would be expected to continue to be generally informed by the more conservative of the mechanical signals from the external and overall public debt stress models. On the one hand, this reflects the continued importance of external debt stress for LICs, which continue to rely heavily on this source of financing and with still limited substitutability with domestic financing. On the other hand, instances where the mechanical signal from the overall public debt stress model is more conservative than that from the external public debt stress one would generally capture the impact of domestic debt vulnerabilities, highlighting the value-added of the new framework.

Public Debt Sustainability

[7] Sustained breaches will continue to be defined as occurring more than once over the forecast horizon.

22. The planned introduction of a model of risk of unsustainable debt is a key enhancement, as the current LIC DSF relies solely on judgement. The model would be very similar to the stress models, with the probability of unsustainable debt determined by a set of debt burden indicators and the Composite DCC Indicator. Risk flags would be derived from comparing country-specific predicted probabilities to selected probability cut-offs. The calibration would target a lower FPR than in the stress model given that a false positive signal of unsustainability can become a self-fulfilling prophecy if it triggers loss of access to financing. The final sustainability assessment would be informed by the mechanical signal and arrived at with the application of judgement, supported by indicators of the required fiscal effort to stabilize overall public debt dynamics and the severity of projected persistent threshold breaches in stress models in near- to medium-term

23. As in the current LIC-DSF, the mechanical signal for debt sustainability would be generated only in cases of a final rating of public debt stress as "High Risk" or "In Distress", and will be either:

- **"Unsustainable"**— when the country-specific estimates of predicted probabilities from any of the three regression specifications (that are based on different DBIs) equals or exceed the applicable probability cutoff;
- **Sustainable"**—otherwise.

D. Auxiliary Modules

Domestic Debt Risk Module

24. Staffs propose a new module for tracking domestic public debt risks to support a differentiated analysis of domestic debt vulnerabilities in DSAs.[8] The proposed new tool would include:

- **Core diagnostics of recent developments and projections of the levels and trends of relevant domestic public debt solvency and liquidity indicators.** The charts in Figure 5 display historical values and projections for the domestic public debt-to-GDP ratio and the domestic public debt service-to-revenue (excluding grants) ratios for an illustrative country case. To gauge the implied degree of risk, these projected paths can be compared against their historical patterns and the experience of other LICs, as captured by: (i) the medians of average projected values over the near-to-medium term for LIC-DSF users with non-zero domestic public debt and domestic public debt service, and (ii) analysis of LICs that experienced domestic debt stress over the past decade. Countries would be classified as low-, closer- or heightened-scrutiny cases depending on whether forecasts of solvency and liquidity indicators are below or

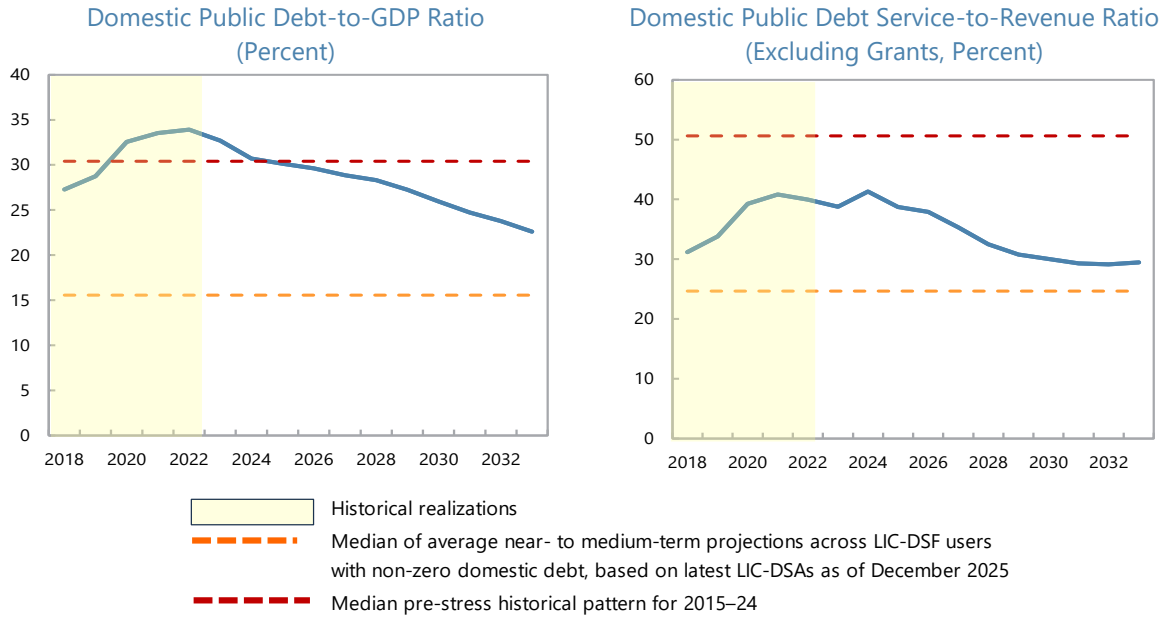
[8] This builds and expands on the differentiated approach already described in the 2024 Supplementary Guidance Note.

above their medians across all LICs, and whether they exceed the cross-country medians observed in past stress events.

- **Realism tools for closer scrutiny of the consistency of the domestic public borrowing plan with maintaining macroeconomic and financial stability.** The charts in Figure 6 would benchmark the net domestic public debt issuance, and the exposures of the domestic banking system and non-banks to the sovereign, to the distribution of the respective ratios across all LICs, highlighting cases where it falls in the upper percentiles of the distribution. The analysis would also be expected to take into consideration signs of market pressures in domestic government bond markets, such changes in demand across tenors.

- **These cross-country comparisons would be intended as a first step in analyzing domestic public debt vulnerabilities and, as such, would not be construed as indicative of any desired level, which would be strictly country-specific.**

Figure 5. Core Diagnostics of Domestic Public Debt Indicators, 2018-32
(Percent)



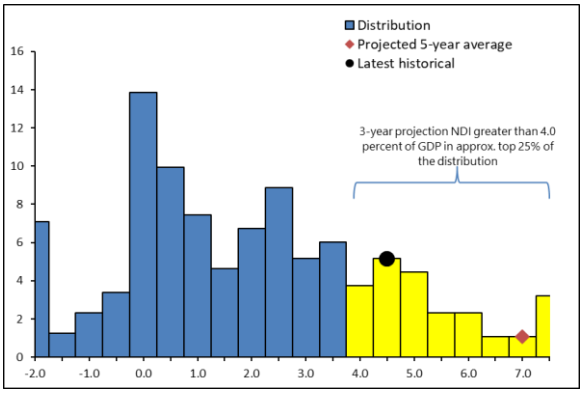
Borrowing Assumptions (average over 10-year projection)	Value
Shares in new domestic debt issuance	
Medium and long-term	75%
Short-term	25%
Borrowing terms	
Domestic MLT debt	
Avg. real interest rate on new borrowing	4.2%
Avg. maturity (incl. grace period)	8
Avg. grace period	4
Domestic short-term debt	
Avg. real interest rate	1.1%

Sources: Country authorities and Bank-Fund staffs' estimates and projections

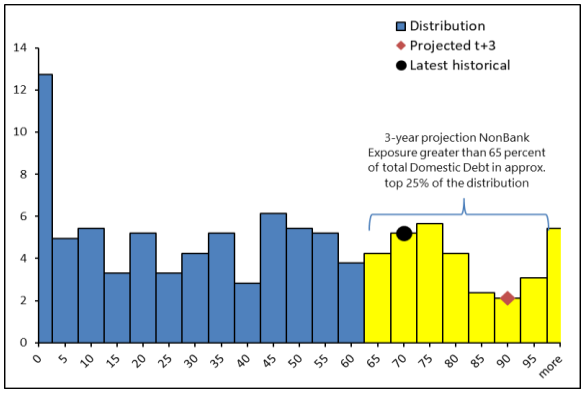
25. Staffs envisage that the domestic debt vulnerabilities analysis will serve as a qualitative input into the use of judgment in the overall public debt risk and sustainability assessments. Taking account of any country-specific considerations, concerns about the trajectory of domestic public debt dynamics and/or the consistency of the domestic public borrowing plan with maintaining macroeconomic and financial stability would serve as relevant signals to inform teams' judgment on the final rating of the risk of overall public debt stress and on the assessment of overall public debt sustainability.

Figure 6. Realism Tools for Domestic Public Debt Borrowing Plan and Financial Sector Exposure to Public Sector

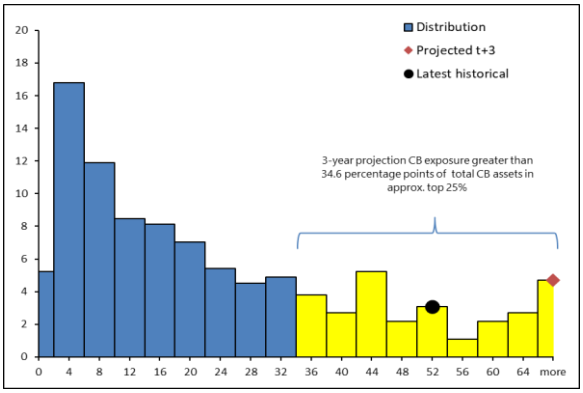
Net Domestic Public Debt Issuance[1/]
(Percent of GDP)



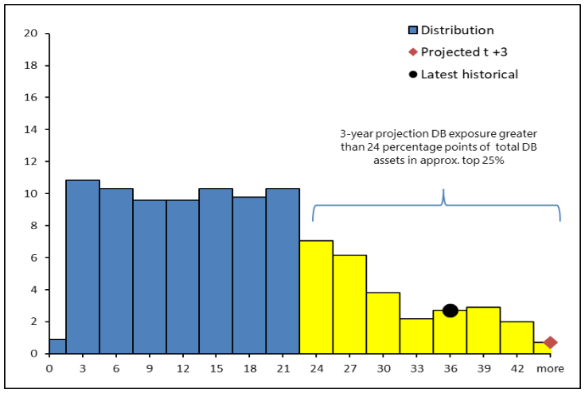
Non-Bank Exposure[2/]
(Percent of Total Domestic Debt)



Central Bank Exposure[2/]
(Percent of Total Central Bank Assets)



Domestic Bank Exposure[2/]
(Percent of Total Domestic Bank Assets)



Sources: Country authorities, IMF IFS, and Bank-Fund staff estimates and projections.
Notes: The distributions reflect historical data from 2014-25. 1/ Net domestic debt issuance, as defined in the 2024 Supplementary Guidance Note, is an estimate based on the calculated public gross financing need, net of gross external financing, drawdown of assets, other adjustments, and domestic debt amortization. It excludes short-term debt with original maturity of less than one year. 2/ Domestic non-banks' exposure is calculated as their holding share of total debt using data from Arslanalp and Tsuda (2014). Both the central bank and banking-sector exposures to the public sector—which is the sum of claims on the central government, local government, and public non-financial corporations—are calculated as percentages of their balance sheets, using IMF IFS data. All are projected three years ahead by assuming that the central bank and domestic commercial banks will absorb the same share of newly issued public debt as their shares in outstanding public-sector debt.

Long-Term Module

26. The new long-term module would be a complementary tool, applied where relevant, for assessing the public debt stress and sustainability implications of policy and investment decisions associated with development and other long-term challenges, including those stemming from climate adaptation.

27. The introduction of a long-term module would provide an interface between the LIC-DSF and quantitative tools for assessing the impact on public debt vulnerabilities of policy and investment decisions associated with development and other long-term challenges. These can include climate adaptation, as well as the need to close critical human capital and infrastructure gaps, as relevant. The general approach would be to extend the projections into the longer term and overlay them with model-generated impulse responses that capture how key macroeconomic factors would be impacted by the specific challenges under consideration.

28. The module would help model the public debt stress and sustainability implications of planned policy measures and different scenarios to help underpin policy discussions. The resulting insights would not generate mechanical signals, and would serve to inform policy choices, and could also be incorporated, where relevant, in the final risk and sustainability assessments through the application of judgment. In such instances, the exercise of judgment would need to remain mindful of the large uncertainty associated with long-term projections and assumptions, and unavoidably wide confidence bands.

- **Modelling the impact of planned policies over the medium-to-long term.** Where the authorities are considering changes to baseline policies, country teams would have the option of using the long-term module to model alternative policy scenarios in the first ten years of the forecast period. Policy discussions could then focus on the policy and financing mix, including the share of public versus private investment, that would be consistent with an unchanged public debt stress assessment over that forecast horizon under that alternative policy scenario. To facilitate the analysis, the long-term module would include charts with projections of all debt burden indicators used in the external and overall public debt stress assessments over the first ten years of the forecast period.

- **Modelling the impact of long-term challenges and policies to address them beyond the first ten forecast years.** Alternative scenarios would allow users to calibrate different assumptions about the policy and financing mix to address these long-term challenges, including the share of public versus private investment. Given the uncertainty about countries DCC classification beyond the medium-to-long term (up to 10 years ahead) and the fact that some Frontier LICs can reasonably be expected to graduate from the LIC-DSF in the long run, the focus of the analysis would be on whether the projected public debt-to-GDP would remain consistent with maintaining public debt sustainability in the long run. Projections of the GFNs -to-GDP ratio would further allow investigation of a sustainable financing mix. Guidance to teams on evaluating the dynamic stability of the public debt-to-GDP ratio, and supporting GFNs-to-GDP ratio will be provided in the new Guidance Note.

Long-term Projections of Debt-burden Indicators

29. The analysis of long-term challenges would be based on extended projections of key macroeconomic and debt-burden indicators. The extended projections (up to a maximum of 30 years) would build on the 10-year baseline forecasts provided by country teams by assuming the economy would remain on the implied steady-state path.

Incorporating Impact of Climate Risks and Policies

30. Climate risks and related policies affect debt sustainability through their impact on macroeconomic variables. The long-term climate module would assess debt-related impacts of (i) physical climate risks, which encompass gradual long-term shifts in climate and extreme weather events that are increasing in frequency and intensity; and (ii) the benefits and costs of policies (including investments) to increase countries' resilience to climate change and support the energy transition.

31. The impact of climate-related risks and policies would be assessed by considering the potential impact on the trajectories of overall public debt and GFN as ratios to GDP under different warming scenarios. The extended projections of macroeconomic indicators would be overlayed with the impact of physical climate risks, under a moderate warming scenario that also incorporates the impact of recurrent natural disasters, calibrated to the specific country. This would generate a "climate risk adjusted path" of projections.[9] This would be augmented with a confidence band to reflect the inherent uncertainty around the specific warming scenario associated with these extended projections.[10] The resulting climate risk-adjusted trajectory could be considered a "no-extra-adaptation" scenario (i.e., a scenario that does not add any additional adaptation investments beyond what is already included in the baseline). Policy scenarios could then be used to model the expected fiscal costs and payoffs of adaptation and domestic mitigation policies and investments. Alternative scenarios would allow users to benchmark different assumptions about the government's share in additional economy-wide spending on climate-related policies consistent with maintaining an unchanged debt risk outlook.

32. While the long-term module would allow the integration of climate impacts in DSAs via different modelling techniques, two complementary approaches would be made available as standard options at the launch of the new LIC-DSF. Box 1 shows the results of application of the two modelling techniques in an illustrative country case, capturing the trade-off between higher spending on adaptation investment (leading to an increased debt-to-GDP ratio) and reduced GDP

[9] These include the impacts of slow-moving temperature increases and climate-related natural disasters in highly exposed and less resilient countries.

[10] The confidence interval captures two sources of uncertainty: parameter and warming sensitivity in different climate models, as well as different adaptation speeds. The calibrated warming scenarios range from +1.8°C to +4.4°C by 2100.

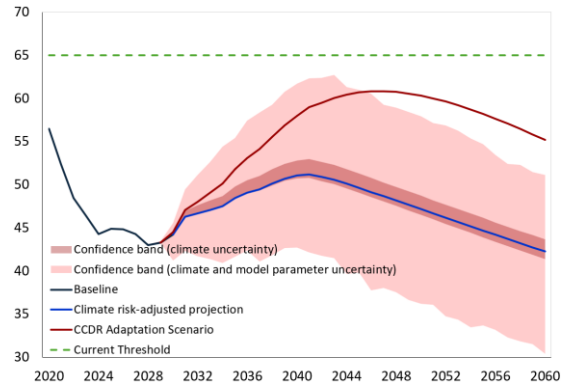
losses from natural disasters relative to the "no-extra-adaptation" scenario. Country teams would be able to select whichever approach is the most relevant, taking into account country specificities.

Box 1. Modelling the Impact of Climate Risks and Policies

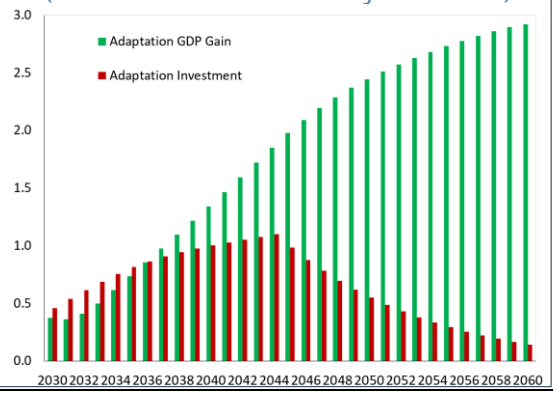
This box presents an illustrative example of the application at different time horizons of the two default approaches for integrating climate impacts in DSAs, that will be included in the long-term climate module (Box Figures 1.1 and 1.3). In both cases, the starting point of the analysis is the climate risk-adjusted projection of the public debt-to-GDP ratio. The confidence intervals capture different sources of uncertainty in forecasts. The figures also include policy scenarios of the expected fiscal costs and payoffs of adaptation policies. To highlight the range of options that would be available to country teams, the two adaptation scenarios use different calibrations. Box Figures 1.2 and 1.4 highlight the cost of adaptation investment and the benefit, in terms of avoided income losses, relative to the no-adaptation scenario.

The presented results are country-specific and should not be construed of being representative for all LICs. They highlight the need to strike a careful balance between the fiscal cost of adaptation investment and the positive impact it has in terms of preventing future income losses.

Box Figure 1.1. Public Debt-to-GDP Ratio
(Percent)



Box Figure 1.2. Avoided Income Losses as Result of Additional Adaptation Investment
(Percent of climate risk-adjusted GDP)

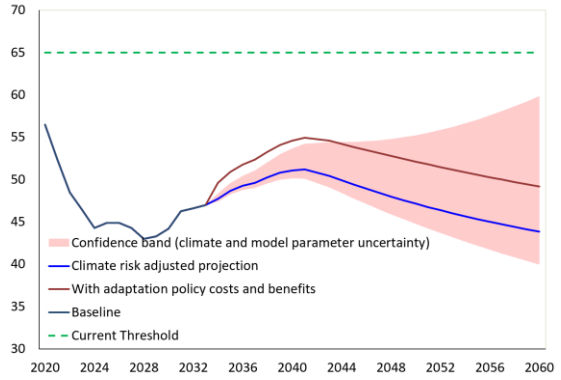


Source: Staffs estimates

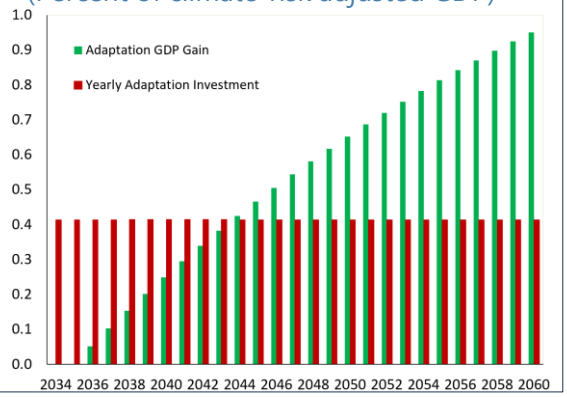
Notes: Using granular, spatially disaggregated geophysical and sectoral data as inputs into sectoral biophysical models, which are then aggregated through a macro-structural model to quantify physical and transition channels, estimate damages, and simulate adaptation expenditures per year.

Box 1. Modelling the Impact of Climate Risks and Policies (concluded)

Box Figure 1.3. Public Debt-to-GDP Ratio
(Percent)



Box Figure 1.4. Avoided Income Losses as Result of Additional Adaptation Investment
(Percent of climate-risk adjusted GDP)



Source: Staffs estimates.
Notes: The approach pairs reduced-form estimates of the macroeconomic effects of slow-moving temperature increases, with dynamic general equilibrium modelling of recurrent natural disasters and the climate investment-growth-debt nexus.

Source: Staff analysis.

33. The proposed new framework would continue to include a tailored natural disasters stress test. The calibration of the tailored natural disasters stress test will be updated to reflect the latest available, country-specific information on the effect on debt of extreme climate-related events.

Incorporating Impact of Development Challenges and Policies

34. The development module would provide an interface between the LIC-DSF and quantitative tools for assessing the impact of policies to address a range of long-term development challenges. Development policies – including public investments in human and physical capital, infrastructure, structural reforms, and sectoral interventions – can enhance potential growth through various channels, such as productivity improvements, labor force development, and improved resource allocation. A dedicated framework can help explore how scaling-up development interventions would affect growth and debt dynamics over the longer term. Importantly, while increased public investment financed solely from debt would generally worsen debt burden indicators initially, the resulting growth dividends could strengthen fiscal revenues and partially improve debt dynamics in second-round effects.

35. As with the climate module, the development module would allow the integration of development challenges and policies in DSAs via different modelling techniques. Box 2 shows

the results of application of two possible techniques in an illustrative country case. Country teams will be able to select the most relevant approach, taking into account country specificities.

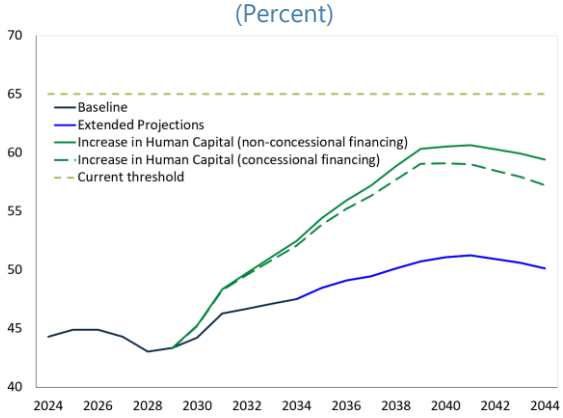
Box 2. Modelling the Impact of Development Spending

The box presents an illustrative example of the application of the two default approaches for modelling the impact of development spending on macroeconomic outcomes. In both cases, the starting point of the analysis are the extended projections of the public debt-to-GDP and GFN-to-GDP ratios. The figures also include policy scenarios of increased development spending. To highlight the range of options that would be available to country teams, the two scenarios use different calibrations.

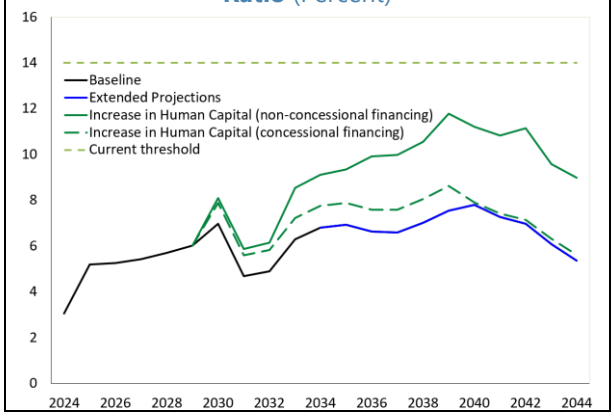
The presented results are country-specific and should not be construed of being representative for all LICs. They highlight the need to strike a careful balance between the fiscal cost of development spending and the positive impact it has on the real economy

Box Figures 2.1 and 422 illustrate the impact on DBIs of an increase in spending on human capital by 1 percent of GDP per year for ten years. In the initial years, higher spending translates directly into larger deficits and borrowing needs, while growth dividends and revenue feedbacks remain limited. Improvements in human capital progressively raise potential output, strengthen revenues, and moderate the pace of debt accumulation. Financing conditions play a central role over time, with concessional financing tempering the trajectories of public debt stock and gross financing needs.

Box Figure 2.1. Public Debt-to-GDP Ratio (Percent)



Box Figure 2.2. Gross Financing Needs-to-GDP Ratio (Percent)

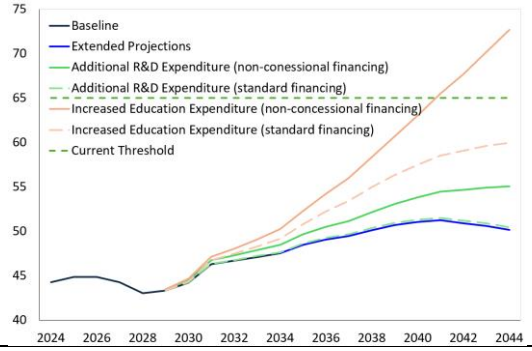


Source: Staffs estimates.
Notes: The simulations are based on the Sustainable Development Goals Financing Tool.

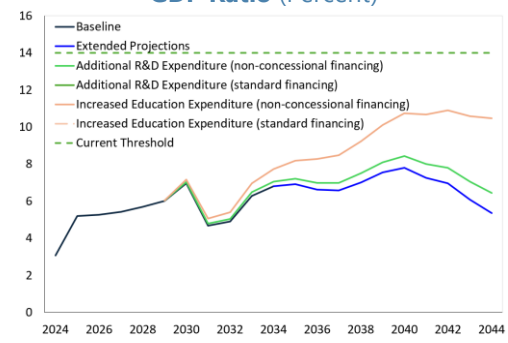
Box 2. Modelling the Impact of Development Spending (concluded)

Box Figures 2.3 and 2.4 illustrate the impacts on DBIs of increases in spending on R&D, education, and to increase female labor force participation. The R&D scenario assumes a permanent additional government spending of 0.3 percent of GDP, that would increase total factor productivity by 0.09 percentage points. The female labor force participation scenario assumed a 2.5 percentage points increase through elimination of the gender gap in secondary and tertiary education through increased government spending by 0.17 percent of GDP per year, until it reaches 1.2 percentage points above the baseline where it is kept. Simulations were carried out using the standard mix of concessional and non-concessional financing, as well as under purely market-based non-concessional financing. The surge in public debt-to-GDP and GFN-to-GDP in the non-concessional financing scenarios highlight the relevance of adequate funding schemes for development policies.

Box Figure 2.3. Public Debt-to-GDP Ratio (Percent)



Box Figure 2.4. Gross Financing Needs-to-GDP Ratio (Percent)



Source: Staffs estimates.
Notes: The simulations are based on combination of MFMod-GJ and MFMod.

Auxiliary Sustainability Indicators

36. Staffs envisage the use of auxiliary indicators of fiscal and debt-burden pressures in the near-to-medium term to inform the final assessment of debt sustainability:

- **Distance between the primary deficit and the debt stabilizing primary deficit (DSPD).** This indicator reflects the fiscal effort required to stabilize the public debt-to-GDP ratio at recent historical levels. It can provide a useful yardstick to judge the political and economic feasibility of the adjustment needed to stabilize the public debt-to-GDP ratio, especially in non-program cases

- **Magnitude of persistent breaches of DBIs used in the stress assessments.** Forecasts of the persistence of public debt stress beyond five years provides a useful yardstick to judge the political and economic feasibility of economic policies aimed at preventing public debt stress from evolving into unsustainability. This is reflected in the current practice of using information about the pattern of threshold breaches in informing the sustainability judgment.

37. The modalities of use of these auxiliary sustainability indicators, including the reference values against which their values will be compared, will be detailed in the new Guidance Note.

Confidence Flag on Debt Data

38. Staffs propose to introduce a new confidence flag on the underlying debt data that would inform judgment toward the final risk and sustainability assessments, and improve their cross-country comparability (Figure 7). The proposed tool would summarize key information on debt data coverage, transparency, and reliability based on:

- **A summary measure of debt coverage used in the DSA, which would highlight whether the full public sector perimeter is captured in the analysis.**
- **A composite signal would be determined based on two indicators of data reliability:** (i) historical debt data revisions between the most recent DSA and earlier vintages, which may signal underlying data reporting weaknesses and risks of debt surprises[11]; and (ii) discrepancies in public and publicly guaranteed external debt data reported in the DSA and in the WB International Debt Statistics (IDS) database, which provides an indication of the comprehensiveness of published debt data.[12]
- **A summary of the World Bank's Debt Reporting Heatmap would provide a high-level view of debt data transparency** based on observed government reporting practices across key dimensions.

E. Data Inputs and Tools

Debt Coverage

39. The framework would continue to target a near-complete coverage of external and domestic public and publicly guaranteed (PPG) debt. The debt perimeter of the DSA includes both external and domestic debt of the public sector—defined as central, state, and local governments, social security and extra-budgetary funds, the central bank, and state-owned non-financial public enterprises (or SOEs)—as well as the private debt guaranteed by the public sector.

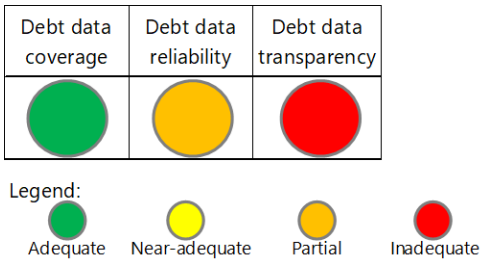
40. The principle that the debt perimeter of the DSA would include all SOE debt, except if the SOE poses limited fiscal risks, is expected to be maintained. A conservative approach to the

[11] Country teams will have the option to highlight cases where large debt data revisions stem from authorities' efforts to improve debt coverage rather than from poor quality of statistics, thus avoiding an inadvertent perception that this indicator is penalizing countries for data improvements.

[12] This indicator uses discrepancies between IDS and DSA at the total external PPG debt level, but the new LIC DSF template will have internal checks and in cases where differences are small at an aggregate level but large at the level of individual creditors country teams and DSA reviewers will be required to evaluate discrepancies at a disaggregate level.

inclusion of SOE debt reflects the reality that SOEs generally account for a significant share of economic activity in LICs and often undertake uncompensated quasi-fiscal activities.[13] Current practices for the exclusion of SOE debt stem from the guidelines laid out in the 2017 LIC-DSF Guidance Note; these criteria are expected to be further clarified and streamlined in the new Guidance Note.

Figure 7. Confidence Flag in Debt Data



Source: Staffs proposal.
Notes: Debt data coverage classification reflects the public sector perimeter used in the DSA (proposed to be based on the most recent DSA). The composite measure of debt data reliability combines information about: (i) Revisions of historical external and domestic debt data between the most recent DSA and the DSA vintage from two-years ago. (ii) Comparison of USD discrepancies between WB IDS (DRS) and DSA data. The indicator on debt transparency is based on World Bank Debt Reporting Heatmap (updated annually) www.worldbank.org/en/topic/debt/brief/debt-transparency-report.

Realism Tools

41. The proposed new framework would enhance the existing realism tools, while introducing complementary tools to cover the projections for growth, exports, and revenues (excluding grants), and financing assumptions:

- **The framework would retain and update the three core realism tools from the current framework:** (i) the decomposition of debt dynamics across DSA vintages to flag implausible shifts in debt-creating flows; (ii) the benchmarking of planned fiscal adjustment against cross-country and country-specific historical distributions; and (iii) consistency checks between fiscal adjustment and growth based on plausible fiscal multipliers. Their empirical bases would be refreshed and their benchmarking expanded beyond Fund-supported programs.
- **These tools would be complemented by new checks, illustrated in Figure 8, on:**
  - **Real GDP Growth**—comparing baseline projections to 10-year historical averages to flag unusually high or low projected growth.

[13] SOE debt has been included by presumption in the perimeter of the LIC-DSF since its inception, as low-income countries often lack the institutional framework and capacity to ensure the commercial viability of SOEs and the adequate recording of their operations in general government statistics.

- **Changes in the ratios of exports and revenues (excluding grants) to GDP**—flagging large projected changes over the five-year forecast horizon, both relative to each country's own history and across LICs. When such flags are raised, an assessment would be made as to whether the projected changes in exports or revenues are likely to be realized, taking into consideration country-specific factors.

- **More systematic scrutiny of financing assumptions**, including new diagnostics on the assumptions for the maturity structure and cost of new domestic borrowing, to help identify cases where gross financing needs may be understated (due to potentially unrealistic assumptions about the feasibility of longer-tenor issuance or borrowing terms).

Figure 8. Proposed New LIC-DSF: New Realism Tools

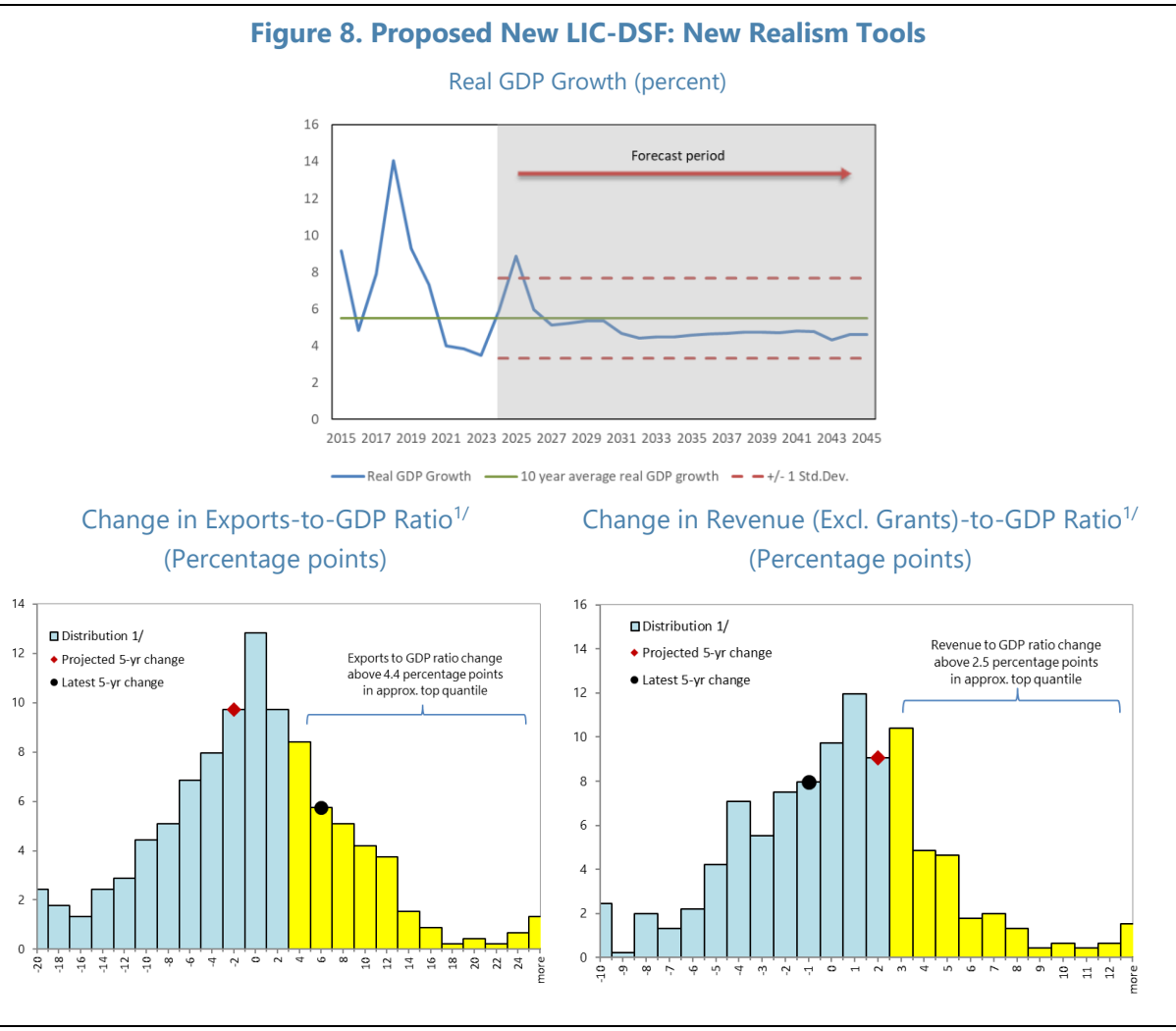
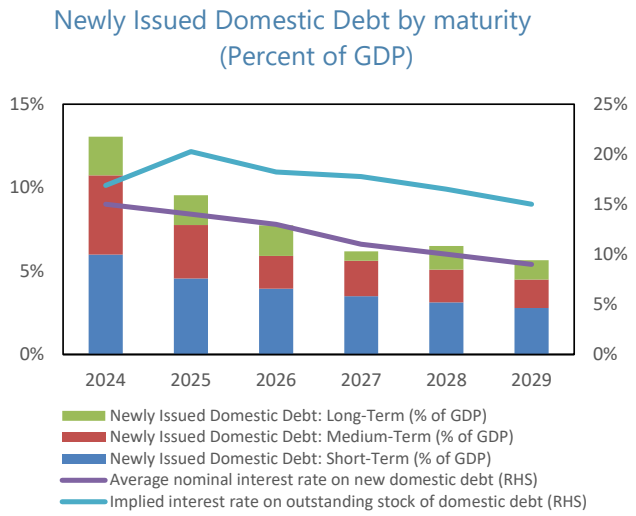


Figure 8. Proposed New LIC-DSF: New Realism Tools (concluded)



Sources: LIC DSAs database and staffs' calculations.

1/ The histograms are based on all LIC-DSAs over 2015-2024. The bottom and top 2.5% are trimmed to exclude outliers. Projected 5-year changes are relative to the latest data outturns. The latest 5-year changes capture the difference between the variable outturns in periods t and t - 5.

Stress Scenarios

42. The proposed new framework would retain enhanced versions of the existing standardized, tailored, and customized stress tests, which would continue to provide mechanical signals for the "Low" and "Moderate" risk ratings. As in the current LIC-DSF, standardized stress tests would be activated for all LIC-DSF users, while tailored stress tests would be triggered only for the relevant countries. Stress tests would be applied to both external and overall public DBIs. A new triggered banking crisis stress test would apply only to overall DBIs (as it would be modelled assuming new debt created is only financed domestically).

43. The standardized and tailored stress tests will be updated and recalibrated using the revised and extended dataset compiled in this Review:

- **The standardized stress tests will continue to be implemented as in the current LIC-DSF;**[14]
- **Staffs propose enhancing the existing tailored stress tests by updating the natural disasters test, enhancing the banking crisis stress test, and introducing a domestic financing stress test:**
    - **Natural disasters.** The country-specific triggers for the stress-test will be revised to reflect enhanced data availability and analytical advances. The calibration methodology will also be

[14] The standardized stress tests assess the impact of a one standard deviation shock to (i) real GDP growth; (ii) export growth; (iii) the primary balance; (iv) other flows (transfers and FDI); (v) the exchange rate; and (vi) a combined stress scenario that reflects a scenario where multiple adverse shocks hit the economy simultaneously.

improved to make growth impacts country—and source-specific, capturing the effect of five types of climate-related natural disasters—storms, floods, droughts, heatwaves, and cold snaps. Non-climate-related natural disasters—earthquakes—would also be captured. Country teams would continue to have the option to adjust the parameters of the scenario to reflect country-specific circumstances.

- **Banking crisis stress test.** The current standardized assumption of a uniform exposure to potential liabilities stemming from financial sector vulnerabilities would be replaced by a new, triggered banking crisis stress test, similar to the one used in the MAC-SRDSF, which will be activated when macro-financial indicators signal heightened risks. The default calibration, which users can tailor further, would include a direct, first-round effect of a banking crisis resolution on the primary deficit of 10 percent of GDP, benchmarked by the median fiscal cost of systemic banking crises in LICs reported in Laeven and Valencia (2020) and a second round effect of real GDP growth, inflation, and interest rates.

- **Domestic financing stress test.** A new tailored stress test would be applied to LICs with non-zero domestic debt. The scenario would assess the impact on overall debt-burden indicators of a deterioration in the availability of external financing that results in a shift towards shorter-term domestic debt. The calibration would be tailored to reflect country-specific circumstances.

44. In addition, the commodity price shock and market financing shock will be updated and recalibrated. The contingent liability stress test would remain unchanged, while the use of customized alternative scenarios would continue to provide flexibility to assess other country-specific risks not covered by the standardized and tailored stress tests.

F. Use of Judgment

45. The structured and transparent use of judgment to capture country-specific considerations in the final assessments of risk and sustainability is expected to remain an integral part of the current LIC-DSF. As in the current LIC-DSF, the application of judgment would be expected to be highlighted in the DSA summary and justified in the DSA write-up. Under staffs' proposal, the use of judgment would be better grounded on signals from the new auxiliary modules (Section D); the new Guidance Note will provide further elaboration on its structured use to account for country-specific considerations.

G. Final Risk Ratings

46. Under the proposed new LIC-DSF, the final stress and sustainability ratings would continue to combine information from mechanical risk signals and the structured and transparent application of judgment. As in the current LIC-DSF, the mechanical risk signals would provide a first pass in determining the final rating, while judgment — informed by the auxiliary modules and country-specific considerations—would be used, where appropriate, in the final

decision. The assessment would also be expected to take account of the main risks to the assessment, including those related to factors such as data quality, macroeconomic uncertainty, policy implementation risks, and global conditions, among others.

47. The final rating of the risk of public debt stress would be expected to continue to be at least as conservative as the rating of external public debt stress. This reflects the continued importance for LICs of external financing in contributing to macroeconomic stability while also representing a key source of risk. The ratings scale would remain unchanged: **Low Risk**, **Moderate Risk**, **High Risk**, or **In Debt Distress**. Further guidance on the use of the different ratings will be provided in the new Guidance Note.

48. For cases of a high risk of public debt stress or in debt distress, the public debt sustainability would be assessed as either Sustainable or **Unsustainable**.

H. Granularity of Stress Ratings

"Moderate Risk" Rating

49. As in the current LIC-DSF, Moderate Risk ratings will provide granularity on available fiscal space; however, this would now be anchored on the overall public DBIs. This would align it more closely with the concept of fiscal space, which inherently encompasses the entirety of public spending, irrespective of whether it is domestically or externally financed. The estimate of fiscal space would continue to be derived from the minimum distance (from below) between debt-burden indicators and their DCC-specific thresholds. This distance from below to thresholds—or fiscal space to absorb shocks—would continue to be assessed against the distribution of shocks that have historically been associated with downgrades from Moderate to High Risk of debt stress.

50. Using the tool, countries at Moderate Risk of public debt stress would be classified according to the fiscal space to absorb shocks. Specifically, a Moderate-Risk country would be classified as having:

- **"Limited fiscal space to absorb shocks"** — if a median-size observed shock would lead to threshold breaches, excluding cases of marginal and/or temporary breaches. This would be the case if at least one debt-burden indicator lacks sufficient distance to withstand a shock equivalent to the median observed shock.

- ***"Substantial fiscal space to absorb shocks"*** — if threshold breaches would occur only under shocks in the top quartile of the observed distribution. This would be the case if *all* debt-burden indicators have sufficient distance to withstand all but the top-quartile observed shock.

51. Similar to the approach taken in the long-term module, the analysis would primarily focus on the overall public debt-to-GDP and GFN-to-GDP ratios, with other debt-burden indicators considered only when there are conflicting signals. The new Guidance Note will provide guidance on how to incorporate information from these auxiliary signals and will also

establish the implied distances to thresholds using the same empirical methodology applied in the last review.

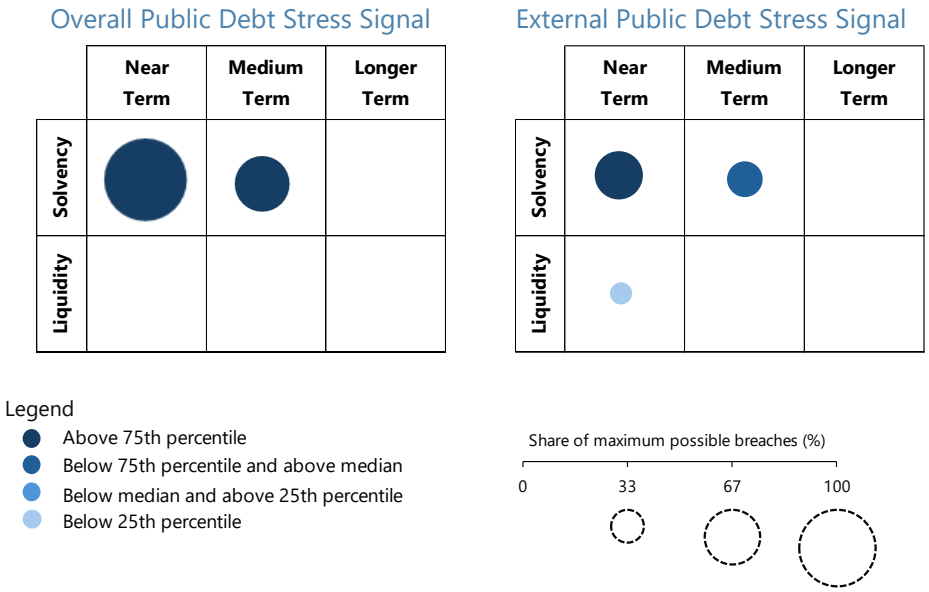
52. In addition to providing insights into the robustness of the "Moderate Risk" rating around the baseline, this granularity would also help inform discussions of the benefits and costs of scaling-up development spending to address human capital and development gaps. For instance, countries rated at Low or Moderate Risk of public debt stress with Substantial Fiscal Space could be good candidates for activation of the long-term module to explore the potential benefits and costs of stepped-up development spending.

"High Risk" Rating

53. Staffs propose to complement the "High Risk" stress ratings with a new snapshot of the intensity and persistence of underlying debt vulnerabilities by time horizon and type of risk. Figure 9 illustrates a candidate proposal, which uses the average size and frequency of threshold breaches to capture the intensity and persistence of debt vulnerabilities.

54. The proposed contextualization of the "High-Risk" rating is expected to enhance the clarity, consistency, and policy relevance of the LIC-DSF as an framework for flagging debt risks ahead of time and guiding the policy adjustments needed to mitigate them.

Figure 9. Proposal for Granularity of "High Risk" Ratings in New LIC-DSF



Source: Staffs' analysis.

Notes: For each debt burden indicator, threshold breaches (i.e., positive difference between debt burden indicator values and their DCC-specific thresholds expressed in percent) are averaged over three time horizons: near term (1-2 years ahead), medium term (3-to-5 years ahead), and longer term (beyond 5 years). The values for the solvency indicator and the maximum of the values for the two liquidity indicators are compared with the interquartile range of such breaches across all LIC-DSAs with "High Risk, Sustainable" ratings over 2007-25, and shown as heatmap disks. The size of the disks indicates the number of projected breaches, expressed as a percentage of the maximum possible for each time horizon.

NEXT STEPS

55. Once the new framework is approved, a transition period of approximately 9-12 months will be needed before it can be fully implemented. This will provide the necessary time for staffs to finalize the new template, user manual, and Guidance Note, and to begin rolling out training for staffs and country authorities.

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