



THE WORLD BANK

Review of Bank-Fund Debt Sustainability Framework for Low Income Countries: Public Consultation on Staff Reform Proposals

- ❑ **LIC-DSF Primer**
- ❑ Impact of Changing Debt Landscape on LIC-DSF Implementation
- ❑ Backward-Looking Analysis of Current LIC-DSF
- ❑ Reform Proposals
 - Mechanical risk signals
 - Auxiliary modules and other enhancements
 - DSA workflow
- ❑ Next Steps

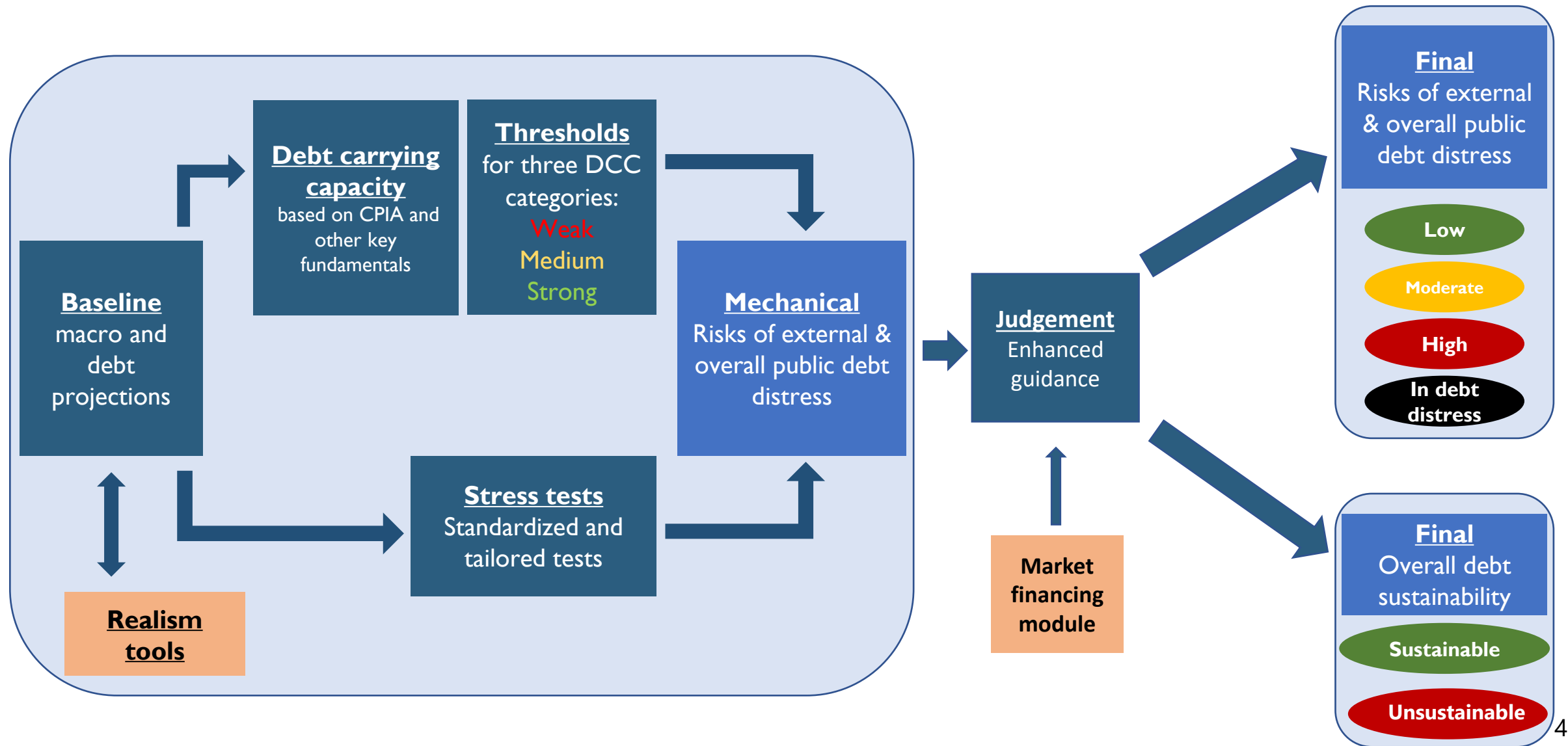
□ What is the LIC-DSF?

- Analytical tool for assessing debt vulnerabilities
 - Jointly developed by IMF and WB in 2005 and periodically updated
 - Used by countries eligible for IMF/WB concessional financing
- Objective
 - Guides borrowing and lending decisions

□ Outputs

- Assessments of risk of public debt distress and sustainability
 - Public debt distress
 - Materialization of acute fiscal or market pressures, without presupposing how it can be resolved
 - Debt unsustainability
 - When public debt distress cannot be resolved without recourse to debt restructuring

Bird's Eye View of Current LIC-DSF



Current LIC-DSF: Composite Indicator of Debt-Carrying Capacity**Institutional
quality**

- WB Country Policy and Institutional Assessment (CPIA) Index

**Economic
Fundamentals**

- Real GDP growth

External Buffers

- Reserve Coverage (in level and squared)
- Remittances-to-GDP

**Exposure to Global
Conditions**

- World growth

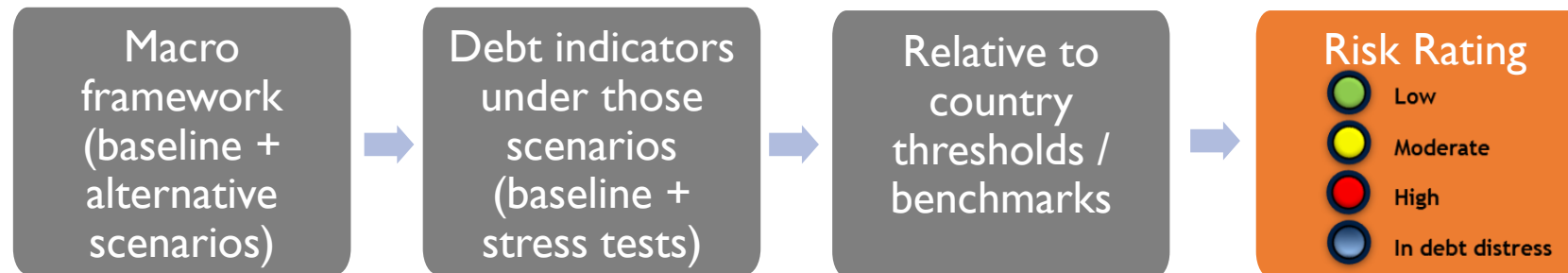
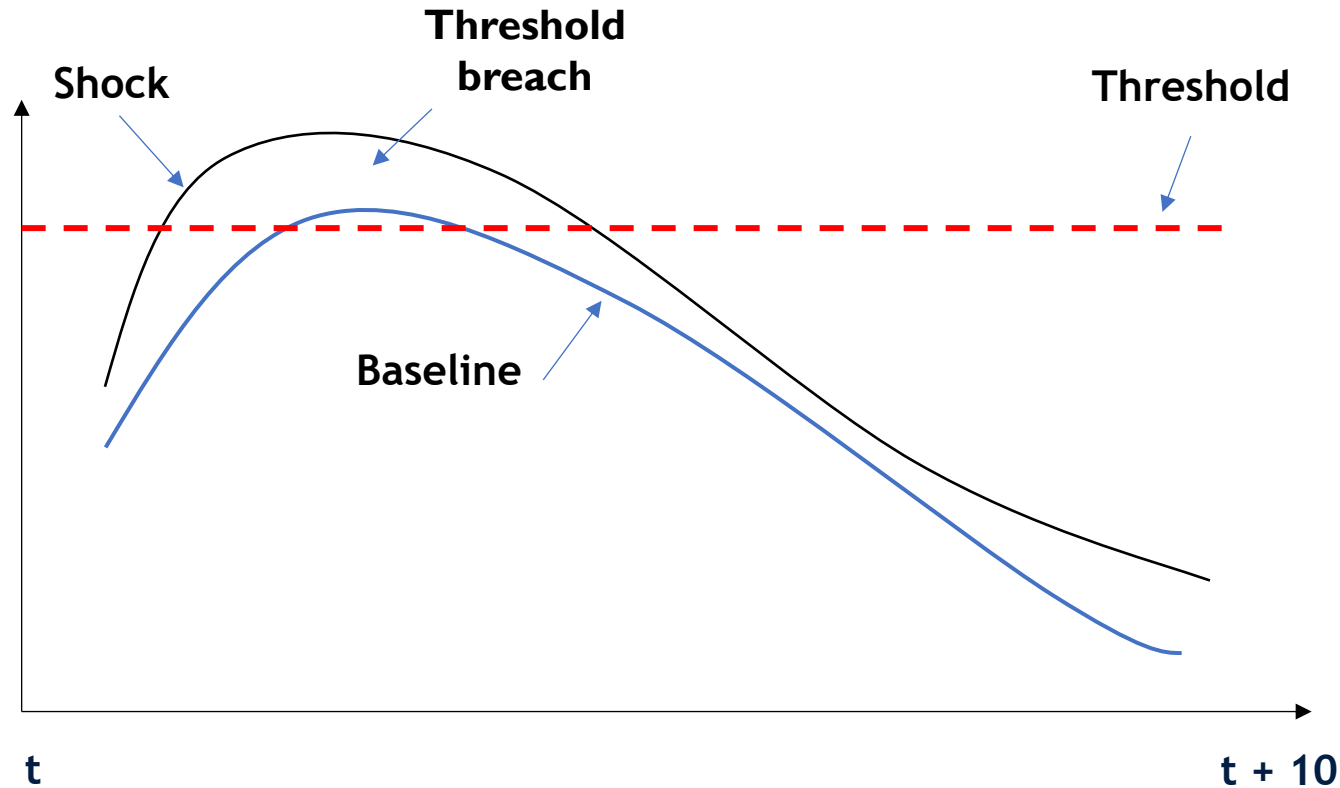
- ❑ Countries are classified by Debt Carrying Capacity into three groups (Weak, Medium, and Strong) based on relative ranking on Composite Indicator
 - Reflecting institutional strength, economic fundamentals, and buffers to absorb shocks
- ❑ Composite Indicator is calculated twice-a-year, using data from Spring and Fall WEOs

Current LIC-DSF: Debt Burden Indicator Thresholds by Debt Carrying Capacity ^{1/}
(Index)

Type of Risk	Debt Burden Indicator	Debt Carrying Capacity (DCC)		
		Weak	Medium	Strong
Solvency	PV of Total Public Debt-to-GDP	35	55	70
	PV of External Debt-to-GDP	30	40	55
	PV of External Debt-to-Exports	140	180	240
Liquidity	External Debt Service-to-Revenue	14	18	23
	External Debt Service-to-Exports	10	15	21

Note: 1/ The shown ratios for the PV of total public debt-to-GDP are referred to as “benchmarks,” as they are not derived from the full estimation of a separate model, but by noise-to-signal approach.

Mechanical Risk Signals are Based on Comparing Five Debt Burden Indicators to Thresholds by DCC ...



Risk Flags	Baseline Breaches (number of debt indicators)	Shock Breaches (number of debt indicators)
 Low	0	0
 Moderate	0	1+
 High	1+	1+

- ❑ Separate overall and external mechanical risk signals
 - External risk signal (primary DSF output) determined by examining any breaches of four external debt burden indicators over 10-year timeframe
 - Overall risk signal (supplementary information) determined by also considering PV of total public debt-to-GDP

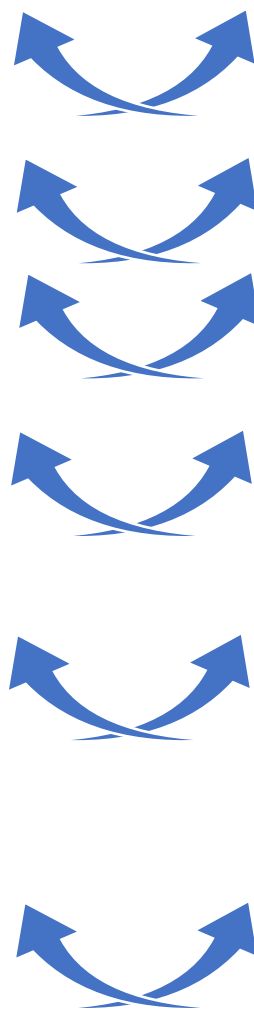
- ❑ In risk assessment, judgment brings in country-specific considerations not fully captured by models
 - Guided by principles outlined in Guidance Note
- ❑ Overall debt sustainability determined by judgment
 - Informed by presence of significant or sustained breaches of debt burden thresholds

No mechanical
signal for
overall debt
sustainability

LIC-DSF Strengths and Trade-Offs

Strengths

- **Ease of interpretation and uniformity of treatment aided by:**
 - Discrete thresholds defined by debt-carrying capacity
 - Same models used for near-, medium- and long-term risk signals (by predicting the near-term predictors)
 - Single-horizon risk ratings for overall and external debt
- **Combination of model signals and judgment ensures robustness and consistency** by offering flexibility in assessing diverse set of countries
 - Since rollout of current framework, all "In Distress" cases have been preceded by "High Risk" signal
- **Separate external risk assessment**
 - Accounts for concessional borrowing, and relative importance of external debt and challenges in meeting external debt service
 - Domestic distress episodes highly correlated with external distress episodes
- **The near-complete targeted coverage of public debt** ensures all risks are considered



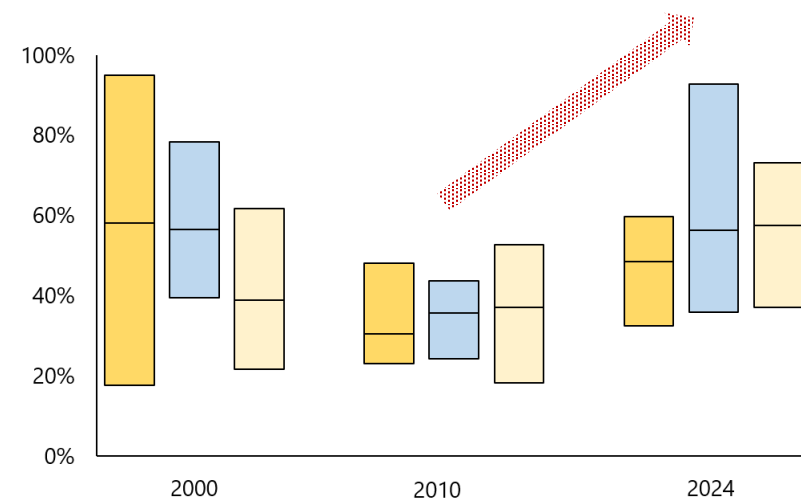
Trade-offs

- **Debt-carrying capacity specific thresholds do not fully reflect heterogeneity** in LICs
- **Risks of optimism bias in projections**
 - Onus on realism tools and review process to mitigate
- **10-year horizon conflates risks** over near-, medium-, and long-term into a single risk rating
- **Lack of mechanical signal for debt sustainability** reduces the transparency of framework
- **Focus on external risk assessment** may limit insight into domestic debt vulnerabilities and quality of overall risk assessment
- **Differences in data availability limit debt coverage** in practice

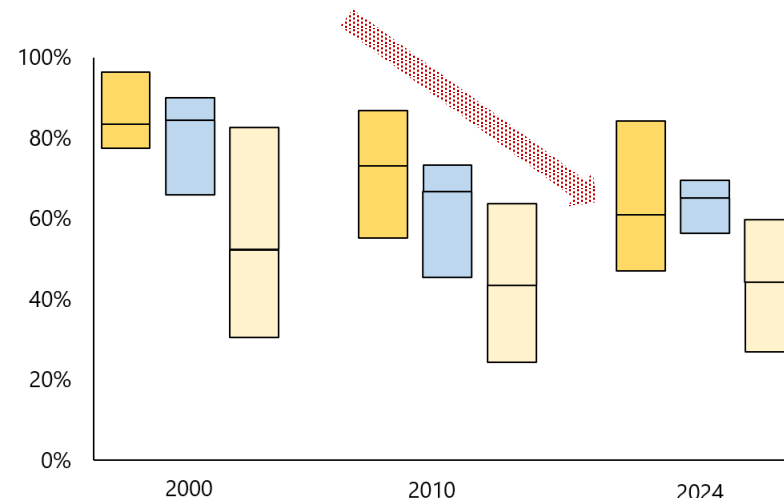
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- ❑ **Impact of Changing Debt Landscape on LIC-DSF Implementation**
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LICs and EMs: Changes in Debt Landscape, 2000-24 (Percent)

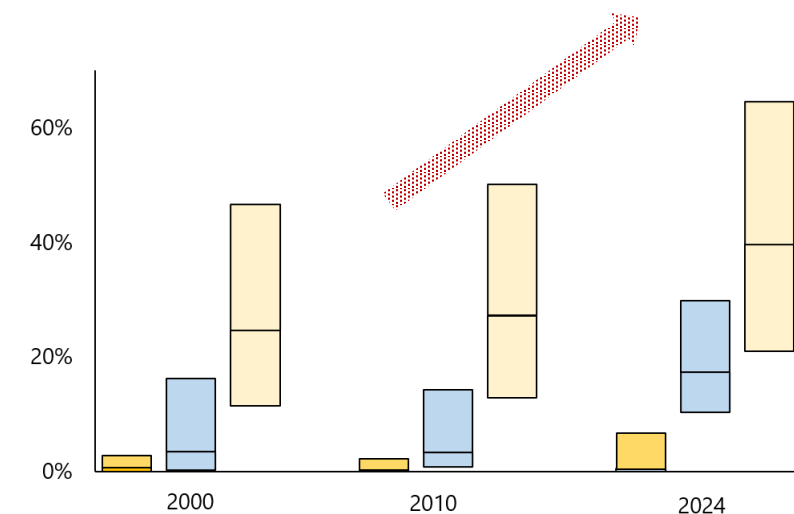
General Government Debt-to-GDP Ratio



Share of FX-Currency Debt in General Government Debt



Share of Debt to Private Creditors in External Public and Publicly Guaranteed Debt



■ LICs 1 (p25-p75) ■ LICs 2 (p25-p75) ■ EMs (p25-p75)

Source: IMF WEO and WB IDS databases and Fund staff analysis.

Notes: The lower and upper hinges of each box correspond to the 25th and 75th percentile of the distribution of the indicator at a given point of time, while the inside line indicates the median.

Low-income countries are separated in two groups: **LICs 2** countries include the Frontier LICs and other LICs with income > 300 percent of the GNI per capita cutoff for IDA. **LICs 1** countries include the remaining LICs. **EMs** – emerging markets.

- ❑ Debt burdens have increased across-the board over the past 15 years
- ❑ Importance of domestic debt has increased
 - As share of FX-currency in total general government debt has fallen across low-income countries
- ❑ Since 2010, frontier and other wealthier LICs have decoupled from other LICs, when it comes to reliance on external borrowing from private creditors, and now more closely resemble lower income EMs than other LICs

Review Context

Impact of Changes in Debt Landscape on LIC-DSF Implementation

Trade-offs

- Debt-carrying capacity specific thresholds do not fully reflect heterogeneity in LICs
- Onus on forecast accuracy
- Focus on external risk assessment
- 10-year horizon conflates risks over entire time horizon in single risk rating
- Lack of mechanical signal for debt sustainability
- Differences in data availability limit debt coverage in practice



Emerging Challenges

- Potential inability to fully capture increased country heterogeneity could unduly limit access to financing or risk over-borrowing
- Effectiveness of realism tools in ensuring forecast accuracy could be strained as uncertainty around forecasts increases with a higher frequency & magnitude of shocks
- Lack of fully developed framework inhibits quality of incorporation of domestic debt vulnerabilities in overall risk assessment
- Lack of time-horizon differentiation of risk assessment complicates interpretation of risk ratings
 - High risk countries have different risk profiles (by risk type and time horizon)
- Absence of clear framework for sustainability assessment could impede consensus among creditors in debt restructurings
- Cross-country differences in debt coverage raise uniformity of treatment concerns

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Overall, LIC-DSF Remains “Fit-for-Purpose”, but can be Improved to “Future-Proof” It

Emerging Challenges (1)

- Potential inability to fully capture increased country heterogeneity could unduly limit access to financing or risk over-borrowing
- Lack of fully developed framework inhibits quality of incorporation of domestic debt vulnerabilities in overall risk assessment
- Absence of clear framework for sustainability assessment could impede consensus among creditors in debt restructurings

Main Findings from Backward-Looking Analysis (1)

- LIC-DSF accurately flags debt distress with somewhat high rate of false positives (in line with 2017 calibration)
- Increased LIC heterogeneity challenging model performance on re-estimation
- Grouping countries by DCC plays useful role in keeping framework easy to use
 - “Cliff Effects” can cause policy discontinuity if unanticipated, but size generally not big enough to affect final risk rating
 - Frontier LICs DCC generally aligns well with market signals, but more analysis of existing and potentially missing country characteristics warranted
- Use of two frameworks (LIC-DSF and MAC-SRDSF), while justified by country specificities, could lead to discontinuity in risk assessments
- Need to strengthen the assessment of overall public debt distress
- Sustainability assessments would benefit from being informed by model-based signals

Overall, LIC-DSF Remains “Fit-for-Purpose”, but can be Improved to “Future-Proof” It (2)

Emerging Challenges (2)

- Cross-country differences in debt coverage raise uniformity of treatment concerns
- Lack of time-horizon differentiation of risk assessment complicates interpretation of risk ratings
 - High risk countries have different risk profiles (by risk type and time horizon)
- Effectiveness of realism tools in ensuring forecast accuracy could be strained as uncertainty around forecasts increases with a higher frequency & magnitude of shocks



Main Findings from Backward-looking Analysis (2)

- Comprehensive debt coverage remains key, but differences in coverage can affect quality of risk signals
- Judgment generally improves outcomes, but adds to false positives when used to capture long-term risks
- Coverage of climate risks and policies is evolving, but remains uneven in scope and depth
- Short- and medium-term forecasts appear overall fairly accurate, but analysis complicated by COVID-19
 - Some optimism bias in revenue and exports forecasts over longer horizons

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- ❑ Impact of Changing Debt Landscape on LIC-DSF Implementation
- ❑ Backward-Looking Analysis of Current LIC-DSF
- ❑ **Reform Proposals**
 - Overview
 - Mechanical risk signals
 - Auxiliary modules and other enhancements
 - DSA workflow
- ❑ Next Steps

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Key Reform Proposals

- More resilient predictive accuracy
 - Re-affirm setting of discount rate used in PV calculation
 - Re-estimation of External Debt Stress model with revised and updated data
 - Recalibration of predictive power of model
- Better reflecting country heterogeneity
 - Refined Composite DCC Indicator incl. new variables capturing LICs heterogeneity and exposure to global macrofinancial conditions
 - Recalibration of rules for grouping countries by DCC
- Elevating role of overall debt risk model
 - New Overall Debt Stress model with thresholds
 - New toolkit for analysis of domestic debt vulnerabilities
- Better informing sustainability assessment
 - Sharper delineation of risks of debt stress and unsustainability
 - New mechanical risk signal for debt unsustainability
- More structured coverage of long-term issues
 - New long-term module for modelling impact of development challenges and policies

Main Findings from Backward-looking Analysis (2)

- Comprehensive debt coverage remains key, but differences in coverage can affect quality of risk signals
- Judgment generally improves outcomes, but adds to false positives when used to capture long-term risks
- Short- and medium-term forecasts appear overall fairly accurate, but analysis complicated by COVID-19
 - Some optimism bias in revenue and exports forecasts over longer horizons
- Use of two frameworks (LIC-DSF and MAC-SRDSF), while justified by country specificities, could lead to discontinuity in risk assessments

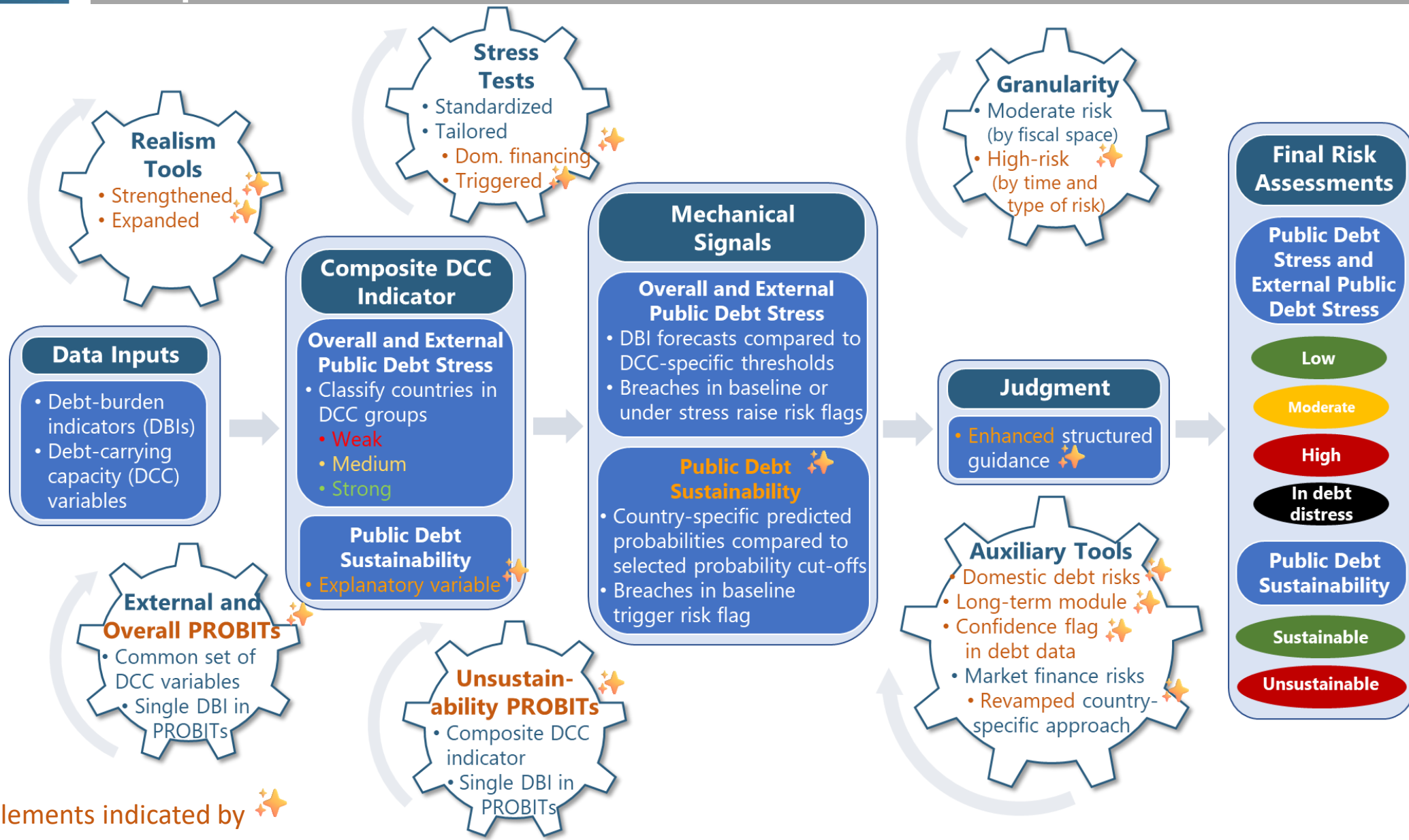


Further Enhancements

- Encourage debt data comprehensiveness, quality, and transparency
 - New debt data confidence flag encouraging broader debt coverage and transparency
 - Adjustments to baseline debt-burden indicators to address data gaps
 - Planned enhanced guidance on debt perimeter in new Guidance Note
- Other enhancements
 - Add granularity of High-risk rating by time and type of risk
 - Strengthened and enhanced realism tools and recalibrated stress tests
 - New LIC-DSF better aligned with MAC-SRDSF

Reforms Overview

Proposed New Features Enhance Core Structure to Improve and Future-Proof the LIC-DSF



Note: New elements indicated by ✨

Key Features of Existing Framework will be Retained, with Enhancements to Address Gaps

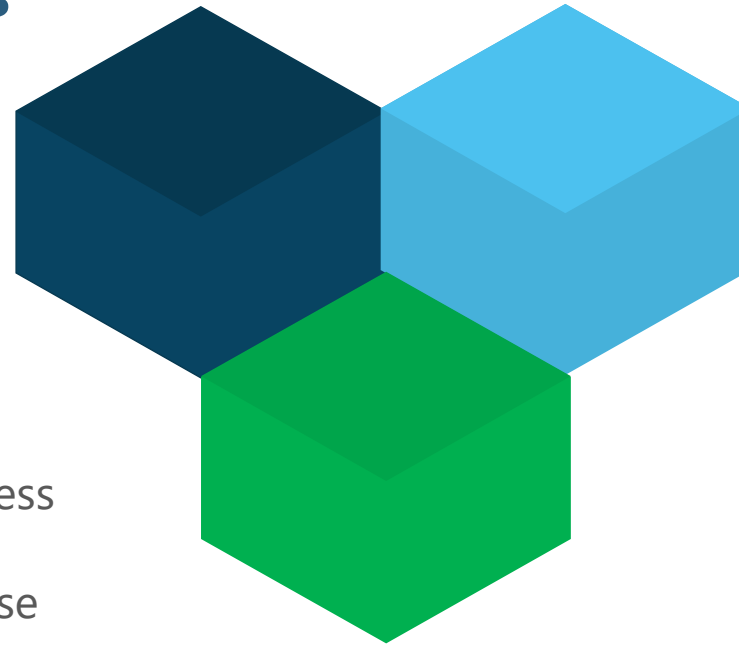
Macro and Debt Forecasts

Key Elements

- External and Overall Debt Burden Indicators (DBIs) in baseline and stress scenarios
- DCC determined by baseline macroeconomic assumptions

Enhancements

- **Strengthened** realism tools and stress tests for forecasts
- **Adjustment** to baseline DBIs to close gaps in SOE data



Mechanical Signal

Key Elements

- Thresholds for DBIs by Debt-Carrying Capacity (DCC)
- Breaches in baseline or stress scenarios trigger risk flags

Enhancements

- **Re-estimation** with revised and updated data
- **Updated** set of DCC variables to better capture heterogeneity
- **New** thresholds for Overall DBIs
- **New** domestic debt risk module

Final Assessment of Risk of Debt Stress

Key Elements

- Mechanical risk signals combined with structured use of judgment to arrive at final stress assessment
 - ▣ Separate risk ratings for Public and External public debt stress
 - ▣ Granularity of Moderate risk ratings

Enhancements

- **Long-term risk module** to assess LT challenges/policies
 - ▣ Modelling of climate risks and development policies
- **Refined** country-specific approach to derive stress signal
- **Confidence flag on debt data** to coverage and transparency
- **Enhanced** guidance for application of judgment in GN
- **Granularity of High-Risk rating** by time and type of risk

Composite Indicator of Debt-Carrying Capacity

Institutional quality

- WB Country Policy and Institutional Assessment (CPIA) Index

Economic Fundamentals

- Real GDP growth
- **Output volatility**

External Buffers

- Reserve Coverage (**log**)
- Remittances-to-GDP

Exposure to Global Macro-Financial Conditions

- **Interest Rate on New External Loans interacted with Share of External in Overall Public Debt**

Notes: World growth is no longer included, reflecting its loss of statistical significance in regression analysis. Squared term of reserve coverage replaced by entering the variable in logs.

□ New DCC variables

- **Output volatility**
 - Better differentiates countries with more diversified economies (e.g., many Frontier LICs) from Fragile and Conflict-Affected States that are more exposed to shocks
- **Exposure to global macro-financial conditions**
 - Reflects trade-off faced by countries tapping non-concessional external financing

Re-Estimated Thresholds for External DBIs and New Ones for Overall DBIs

- ❑ Thresholds for external debt burden indicators
 - Framework simplified to 3 debt burden indicators
 - 1 Solvency – PV of External Public Debt-to-GDP
 - 2 Liquidity
 - External Public Debt Service as Ratio to Revenue (excl. Grants) and Exports
 - Predictive power comparable to 2017 Review
- ❑ Thresholds for overall debt burden indicators
 - 3 debt burden indicators
 - 1 Solvency – FV of Overall Public Debt-to-GDP
 - 2 Liquidity
 - Gross Financing Needs-to-GDP
 - Interest Payments on Overall Public Debt-to-Revenues (excl. Grants)
 - Similar predictive power to external model

Macro and Debt Forecasts

Key Elements

- Overall and External Debt Burden Indicators (DBIs) under baseline
- DCC based on baseline macroeconomic assumptions
- Realism tools for forecasts



Mechanical Signal

Key Elements

- Country-specific predicted probability (at end of medium term)
- Probability cut-offs target lower FPR than in stress models
- Breaches of probability cut-offs in baseline trigger risk flags

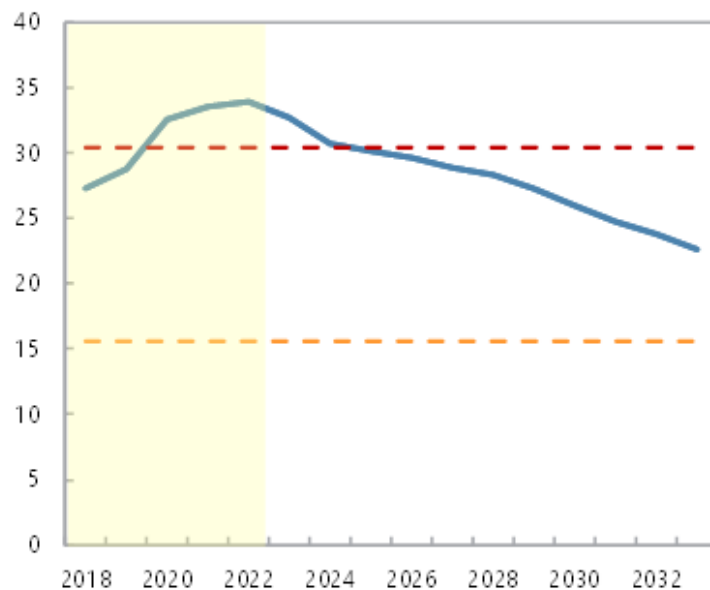
Final Sustainability Assessment

Key Elements

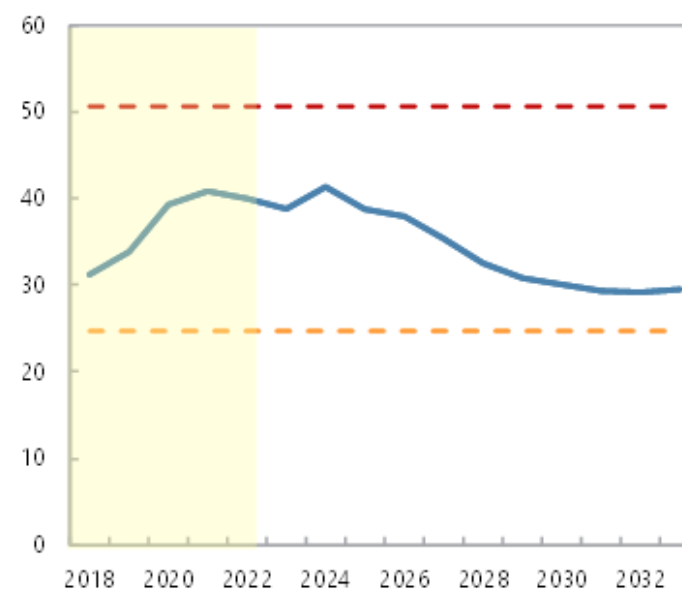
- Mechanical signal combined with structured use of judgment to arrive at final sustainability assessment
- Structured guidance for application of judgment *inter alia* informed by:
 - ❑ Measure of fiscal effort required to stabilize overall public debt dynamics
 - ❑ Severity and timing of projected threshold breaches in debt stress models

New Risk Module to Strengthen Analysis of Domestic Debt Vulnerabilities

Domestic Public Debt-to-GDP ratio
(Percent)



Domestic Public Debt Service-to-Revenue ratio (excl. Grants)
(Percent)

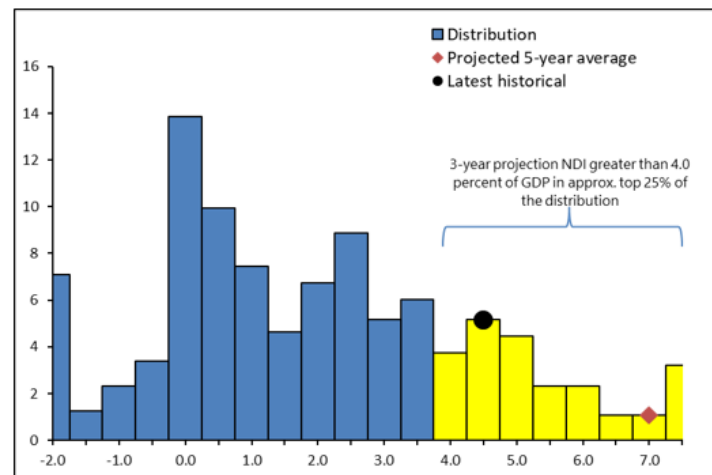


- Historical realizations
- Median of average near- to medium-term projections across LIC-DSF users with non-zero domestic debt, based on latest LIC-DSAs as of December 2025
- Median pre-stress historical pattern for 2015–24

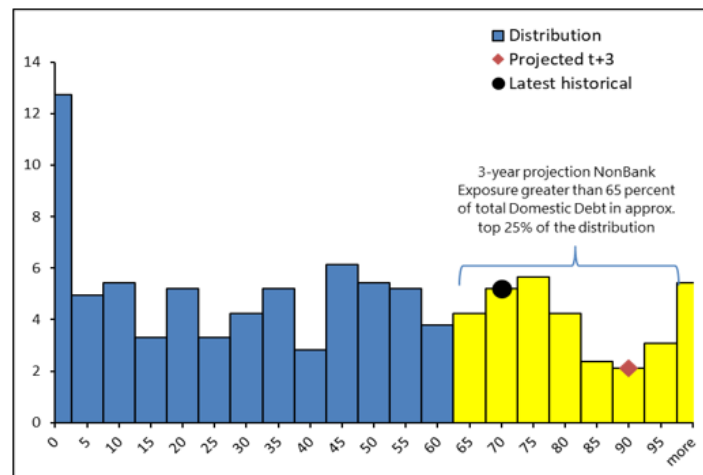
- ☐ New module includes
 - Reference values for solvency and liquidity debt-burden indicators calibrated on past episodes of domestic debt stress
- ☐ Depth of analysis reflects severity of risks
 - Informed by benchmarking of forecasts of solvency and liquidity indicators to
 - Medians across all LICs
 - Medians in run-up to past stress events

New Risk Module to Strengthen Analysis of Domestic Debt Vulnerabilities (2)

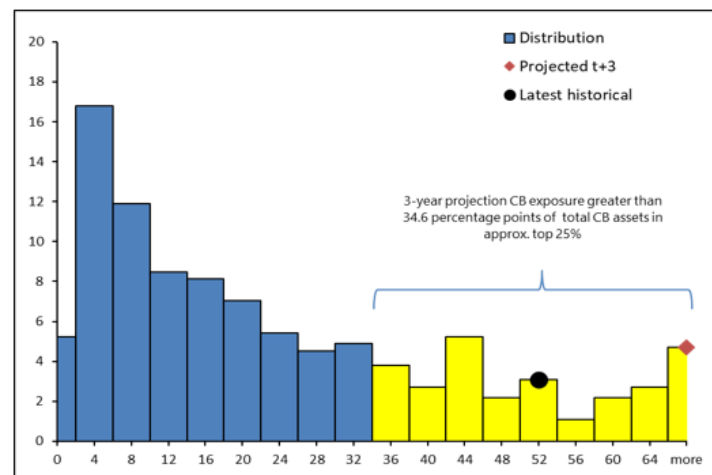
Net Domestic Public Debt Issuance^{1/}
(Percent of GDP)



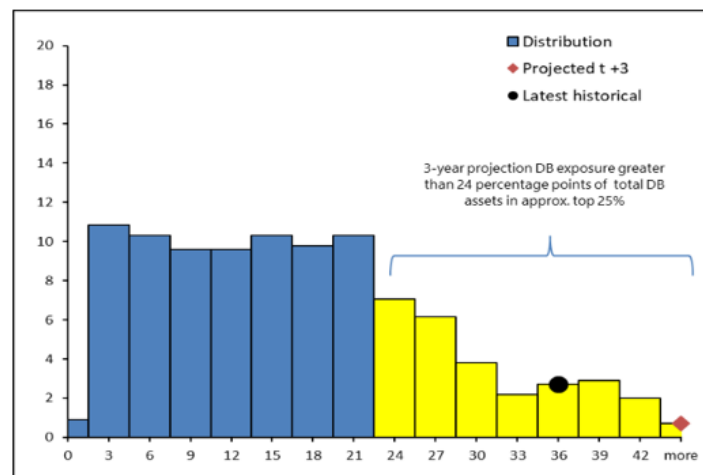
Non-Bank Exposure^{2/}
(Percent of Total Domestic Debt)



Central Bank Exposure^{2/}
(Percent of Total Central Bank Assets)



Domestic Bank Exposure^{2/}
(Percent of Total Domestic Bank Assets)



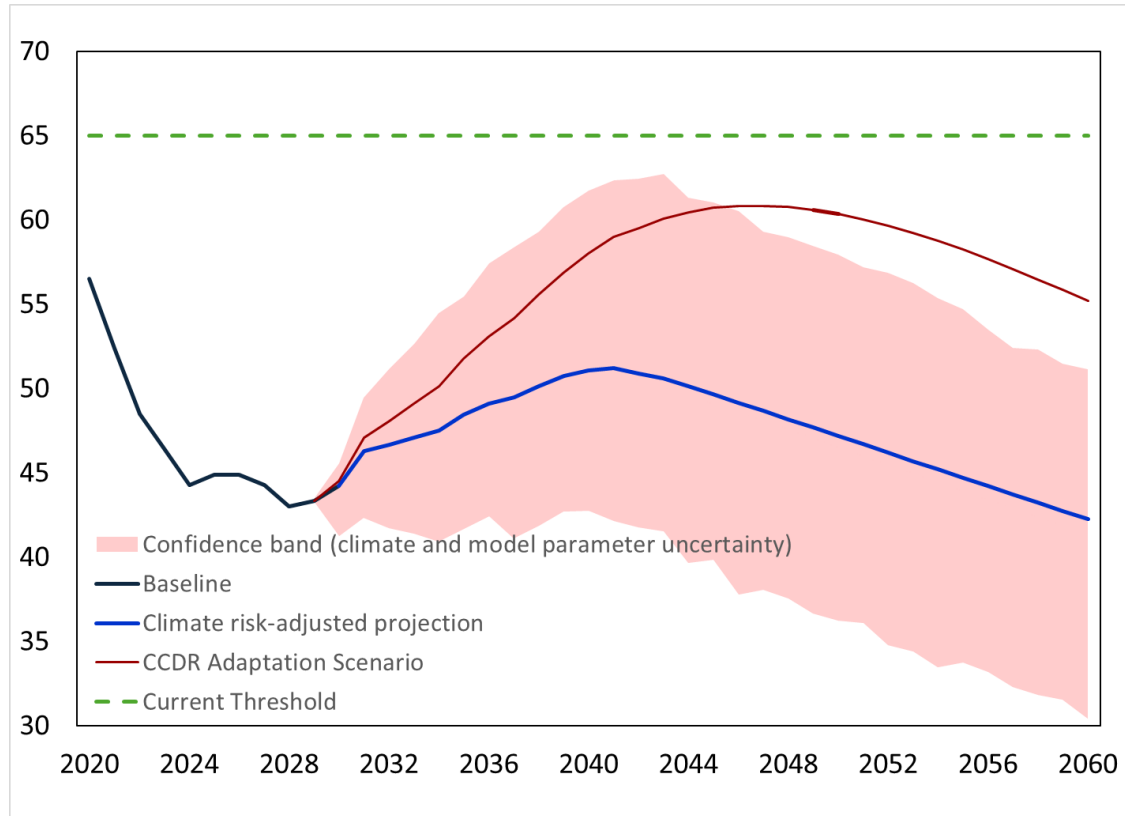
Realism tools for domestic financing assumptions

- Identify pressures stemming from domestic borrowing plan
- Consistency of projected take-up of new domestic government debt with macroeconomic stability and absorptive capacity of financial system
- Build-up of risks from Sovereign-Bank nexus and potential for crowding out of private sector
- Analysis would also consider risk signals from primary/secondary markets

- ❑ Complementary tool, applied where relevant, for assessing public debt stress and sustainability implications of policies and investments to address development and other long-term challenges, including those stemming from climate adaptation
- ❑ Resulting insights would not generate any mechanical signals and would serve to inform policy choices.
 - They could also be incorporated in final risk and sustainability assessments, where relevant, through application of judgment

Tool for Assessing Impact on Debt of Climate-Related Risks and Adaptation Policies

Impact of Climate Change Risks and Policies on Overall Public Debt-to-GDP Ratio (Percent)

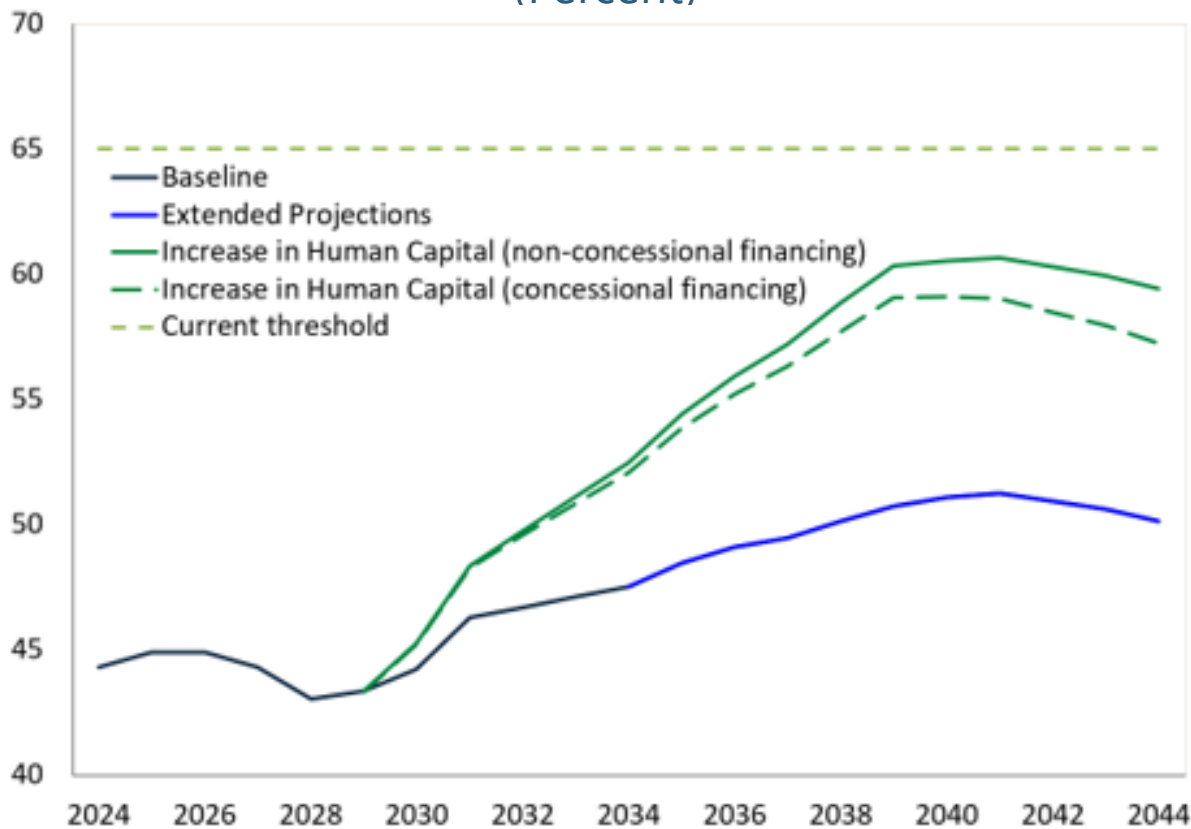


Note: The WB "Country Climate and Development Report (CCDR) adaptation" scenario assumes an average adaptation investment of 1% of GDP per year fully borne by the government.

- ❑ Assessment of impact on Overall Public Debt and GFN to GDP ratios
 - Climate risk adjusted projections
 - Confidence band
 - Policy scenarios
 - Financing mix and gov. share in spending consistent with unchanged risk outlook
- ❑ Plug & Play interface
 - Integration of climate modelling, including from WB (CCDR, MFMoD CC) and IMF (Q-CRAFT and DIGNAD)
- ❑ Tailored natural disasters stress test
 - Updated calibration

Impact of Development Policies on Overall Public Debt-to-GDP Ratio

(Percent)



- ❑ Benefit-cost of development policies
 - Public investments in human and physical capital, structural reforms, and sectoral interventions can boost growth
 - But, come at a cost that adds to debt
- ❑ Assessment of impact on Overall Public Debt and GFN to GDP ratios
 - Similar mechanics as climate module

Notes: The simulations are based on the IMF Sustainable Development Goals Financing Tool. The scenario assumes spending on human capital by 1% of GDP per year for ten years.

Granularity of “High-Risk” Ratings Captures Intensity, Persistence, and Types of Vulnerabilities

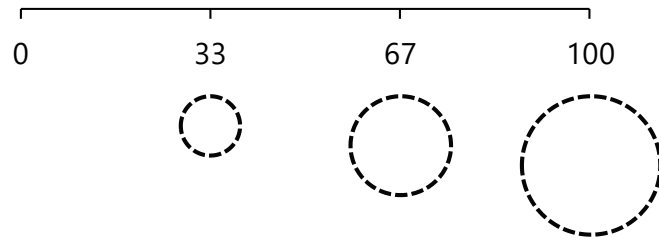
Proposed Granularity of “High Risk” Ratings

External Public Debt Stress Signal

	Near Term	Medium Term	Longer Term
Solvency			
Liquidity			

-  Above 75th percentile
-  Below 75th percentile and above median
-  Below median and above 25th percentile
-  Below 25th percentile

Share of maximum possible breaches (%)



Time horizons: Near term (1-2 years ahead), Medium term (3-to-5 years ahead), and longer term (6-to-10 years)

Overall Public Debt Stress Signal

	Near Term	Medium Term	Longer Term
Solvency			
Liquidity			

Heatmap

- Size of breaches (in percent of threshold) averaged by time horizon for each DBI
- Solvency and maximum across liquidity ones compared to interquartile range of breaches over 2007-25

Disk size

- Share of years with projected breaches by time horizon

Confidence Flag on Debt Data Aims to Incentivize Better Data Coverage, Transparency, and Reliability

Proposed Confidence Flag on Debt Data

Debt data coverage	Debt data reliability	Debt data transparency
		

Legend:



Adequate



Near-adequate



Partial

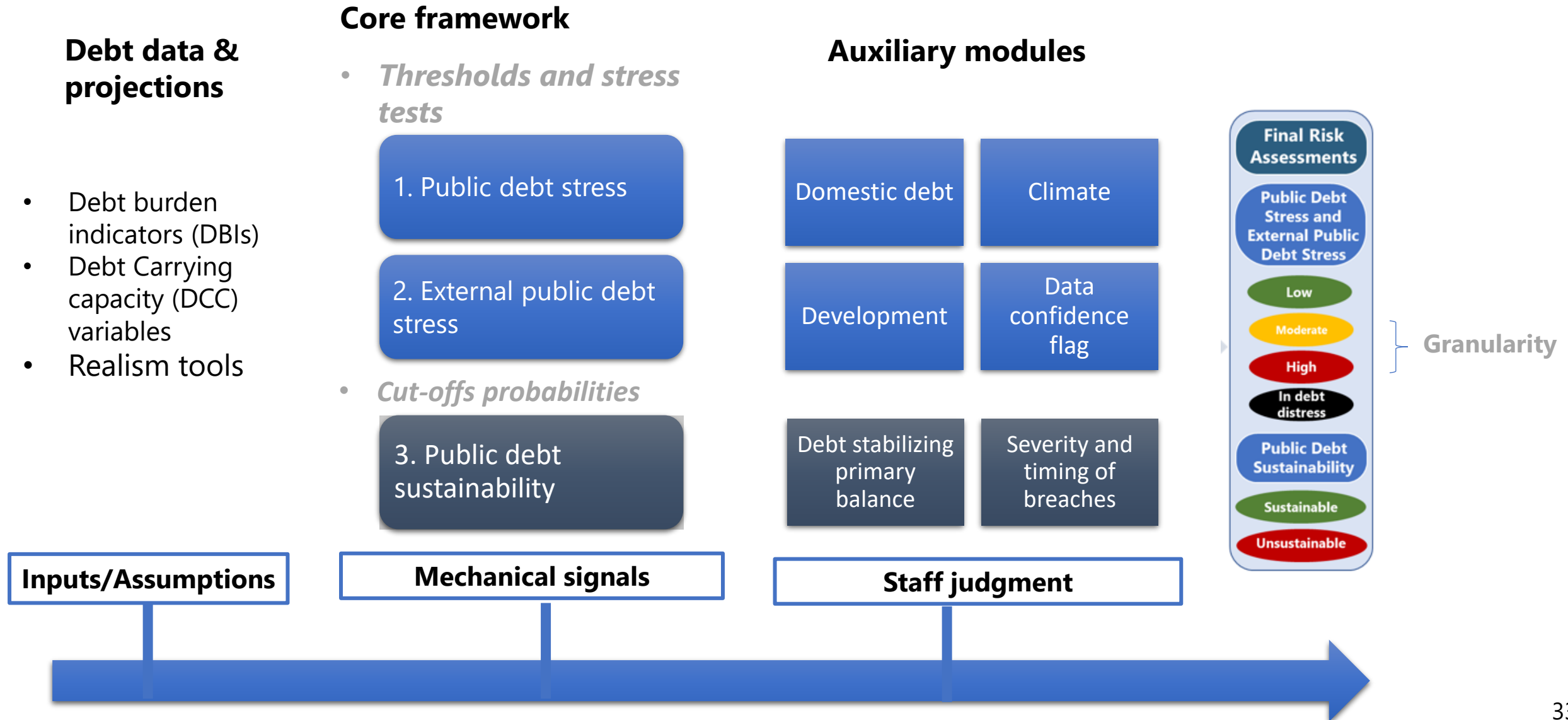


Inadequate

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)

□ Traffic light chart

- Comprehensiveness of DSA debt perimeter
- Composite signal of reliability
 - Revisions in historical data in DSAs
 - Discrepancies between debt data in DSAs and published in WB IDS database
- Relative standing in WB Debt Reporting Heatmap
 - Across nine indicators, incl. coverage, frequency, timeliness, and public availability of debt statistics and debt management documents



❑ Next steps

- Formal approval of new LIC-DSF expected in Autumn
- Rollout in 2027, following development of new Template, Guidance Note, and further outreach and training