Perspective from **Franklin Templeton Fixed Income**

Debt sustainability in emerging markets

November 2023

Introduction

Global financial markets have been subjected to multiple shocks over the past three years: the COVID pandemic; the end of quantitative easing, with the subsequent tightening of liquidity; the Russia-Ukraine war; and more recently, the unrest in the Middle East. For emerging markets, these developments have had implications for sovereign balance sheets, as well as fiscal policy, and, in many cases, have raised external vulnerabilities.

In this paper, we analyze the International Monetary Fund's Debt Sustainability Framework, in terms of its inputs, outputs and shortcomings. We identify where the Framework can be valuable to bond investors and how they are constrained by it. Finally, we look at ways to deal with these constraints.

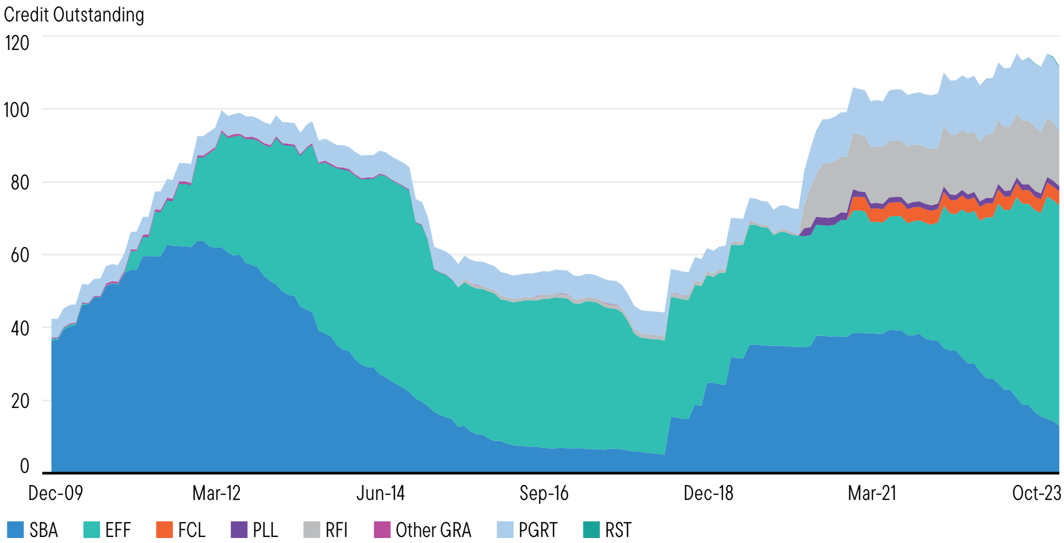
After decades of abundant issuance, for many emerging market countries, capital markets have remained shut over the past three-plus years, leading many sovereigns to turn to the International Monetary Fund (IMF) for funding support (see Exhibit 1 on the next page). The IMF's Debt Sustainability Framework (DSF) plays a crucial role in its decision-making process on whether to lend to a country. The key output of the DSF: the IMF's Debt Sustainability Analysis (DSA) is a risk assessment for individual countries and feeds into the World Bank's non-concessional lending policy and the grant/loan funding mix of International Development Association support. Many multilateral development banks (including the African Development Bank and the Inter-American Development Bank) link their lending policy to the IMF's assessment. For investors, the DSA is a valuable source of information, and understanding it provides insight into the probability of official sector funding being unlocked for a country.

The DSA helps determine if sovereign stress can be resolved through a combination of IMF financing and economic reforms, or if measures such as debt restructuring are needed to deliver medium-term debt sustainability. If the latter is the case, the DSA plays a critical role in determining how severe a restructuring should be. More recently, options embedded in bonds that are linked to DSA outcomes have further strengthened investors' need to understand the technicalities of the DSF.

FRANKLIN TEMPLETON

Exhibit 1: IMF Credit Outstanding by Facility (Special Drawing Rights [SDRs])

December 2009–October 31, 2023



Source: IMF. SBA=Stand-By Arrangement, EFF=Extended Fund Facility, FCL=Flexible Credit Line, PLL=Precautionary and Liquidity Line, RFI=Rapid Financing Instrument, GRA=General Resources Account, PRGT=Poverty Reduction and Growth Trust, RST=Resilience and Sustainability Trust.

While most investors would agree that providing struggling countries with a policy framework and economic targets is valuable, the DSF has many limitations. The two predominant shortcomings are the rigid nature of the IMF assumptions underpinning the DSA and the application of judgment by the IMF. In many cases, these shortcomings have led to protracted restructuring talks between private creditors and sovereigns. We therefore take a closer look at the DSF, how it's used, its limitations and workarounds to these constraints.

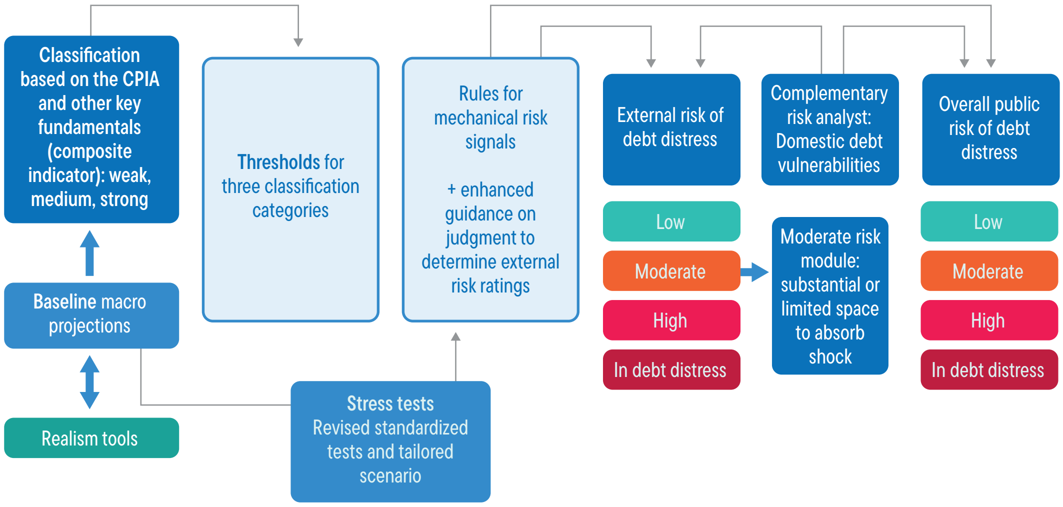
What does "debt sustainability" mean?

Debt sustainability refers to a situation where a country can fulfil all its present and future payment commitments without resorting to extraordinary financial aid or falling into default. The IMF often regards debt as sustainable if a country is able to achieve a primary balance[1] that stabilizes debt under both a baseline and realistic shock scenarios such that the level of debt is consistent with an acceptably low rollover risk and with preserving potential growth at a satisfactory level.[2]

The IMF uses DSFs when examining a country's public debt, and they form part of its regular Article IV country updates. **The purpose is to assess the risks of debt distress and to guide sound borrowing and policy decisions.** These frameworks also serve as an early warning system for potential debt issues and set parameters for debt restructuring when required. Ultimately the IMF uses this analysis to determine the viability of lending to specific countries.

The IMF has two frameworks to conduct DSAs. For middle- and high-income nations that have consistent access to capital markets, the IMF uses the updated Sovereign Risk and Debt Sustainability Framework for Market Access Countries (MAC-SRDSF).[3] Conversely, the Low-Income Countries Debt Sustainability Framework (LIC-DSF) is applied to nations with constrained access to capital markets.[4] These countries typically rely on concessional financing, grants, and foreign aid, and they are vulnerable to external shocks, including commodity price variations, natural disasters, and dependency on a limited export base. **For the purpose of this paper, we will focus on the LIC framework.**

Exhibit 2: The Low-Income Country Debt Sustainability Framework (LIC-DSF)[4]



Source: IMF, FT Fixed Income Research.

The IMF introduced its DSF in 2002, with the LIC-DSF established three years later and last updated in 2017. The LIC-DSF follows a systematic process to assess debt sustainability (see Exhibit 2). The first step is to classify a country based on its estimated ability to incur financial debt by looking at the strength of its institutions and economic fundamentals, which is called its debt-carrying capacity (DCC). To do this, the IMF calculates a classification indicator (CI) based on the average of the past five years and five years of future projections of various parameters, including the World Bank's Country Policy and Institutional Assessment (CPIA) index scores, real GDP (gross domestic product) growth, remittances, international reserves, and global growth. **With this CI score, countries are categorized into one of three debt-carrying capacities—weak, medium or strong—in relation to sample data from 2005–2014 and the upper and lower quartiles from it**. A country's DCC would be assessed as weak if its CI value was below the 25th percentile of the sample, medium if it was between the 26th and 75th percentile, and strong if it was above the 75th percentile.

The next step involves using a country's DCC to analyze the risk of sovereign debt distress. Based on whether a country is categorized as having a weak, medium or strong DCC, the IMF's DSF dictates the level of various macroeconomic variables (see Table 1) that are deemed acceptable for that given country. These thresholds focus heavily on external debt metrics, given that sovereign debt crises typically originate from weaknesses in external accounts.

By using a series of standard and customized macroeconomic stress tests to forecast how a country's key debt stock and debt service metrics will develop under baseline and stress scenarios, the IMF will then determine the level of external debt distress and overall debt distress a country has with reference to the corresponding thresholds based on its DCC classification. Countries where none of the factors, under the baseline and stress tests, cross the applicable thresholds (see Table 1) are considered to have a low risk of debt distress. If one factor crosses the threshold in the stressed scenario, the country is considered to have a moderate risk of debt distress. Finally, if a factor breaches the threshold in the baseline scenario, this country is considered to have a high risk of debt distress.

For those countries either already in an IMF funded program or seeking one, the DSA is then used as a cornerstone for policies and economic targets. Those sovereigns that are at high risk of debt distress, or in debt distress, will need to assess if a debt restructuring is required. If this is the case, their aim would be to improve the country's metrics to the equivalent of a moderate level of debt distress over a certain timeframe, which can differ by country, depending on IMF judgment.

Table 1: Public Debt Benchmarks and PPG External Debt Thresholds (LIC-DSF)

As of October 31, 2023

Debt Burden Thresholds and Benchmarks under DSF

DCC	Present value of external debt in % of		External debt service in % of		Present value of total public debt in % of GDP
	GDP	Exports	Exports	Revenue	
Weak	30	140	10	14	35
Medium	40	180	15	18	55
Strong	55	240	21	23	70

Source: IMF, FT Fixed Income Research. PPG=Public and Publicly Guaranteed.

The IMF's assessment of the DCC of LICs has worsened post-pandemic, and many countries have also seen a deterioration in their risk of debt distress[5] (see Exhibits 3 and 4). The deterioration in the risk of debt distress points to an increased need for investors to understand the DSA, as it is likely to continue to play a more dominant role in lending to various countries.

Exhibit 3: The Debt-Carrying Capacity of LICs Has Weakened

As of October 31, 2023

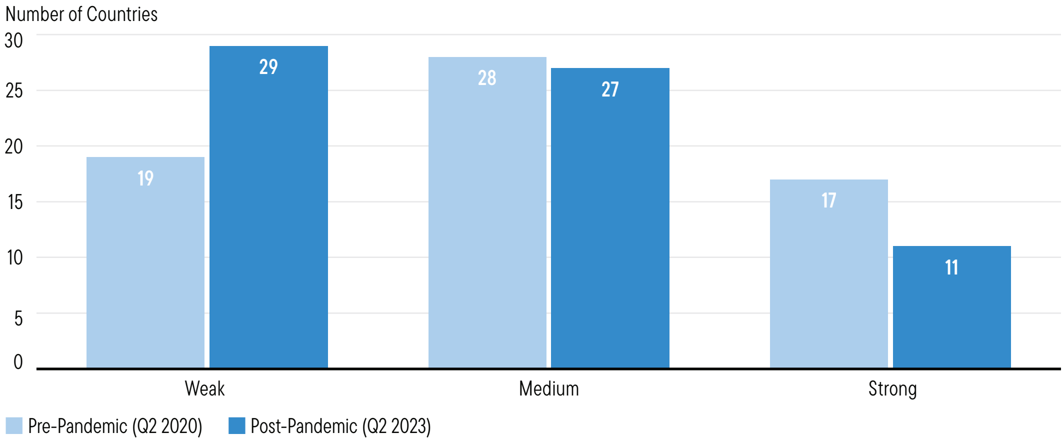
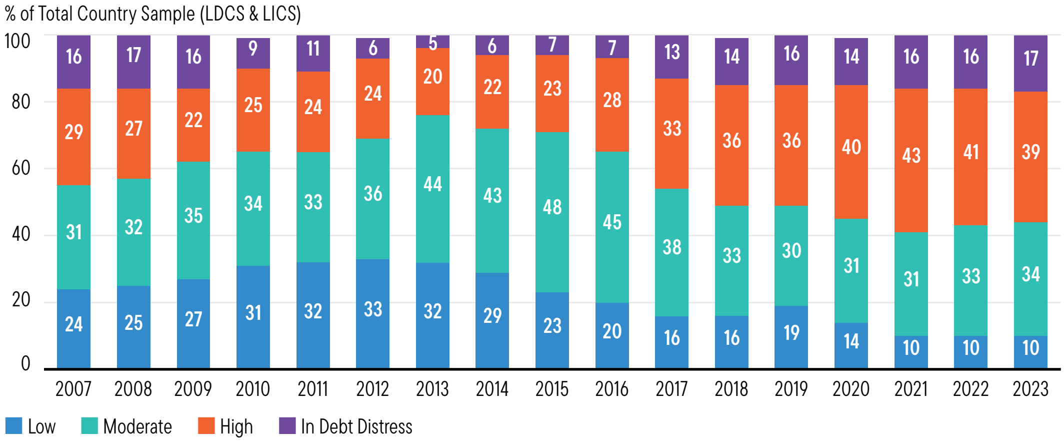


Exhibit 4: External Debt Distress Ratings for LICs

As of October 31, 2023



Sources: IMF, UN, FTI Fixed Income Research.

The limitations of the DSA

Despite the highly informative nature of the DSA, there are many limitations to the framework. Firstly, the DSA hinges on economic forecasts that span an extended period, namely 10 years. Making such projections with a high degree of accuracy is challenging, especially in emerging markets, where the pace of change is much higher than in developed markets. Small errors can compound quickly over such a long time horizon and can lead to significant miscalculations in the assessment of a country's debt trajectory. In the 2017 review of the LIC-DSF, the IMF estimated that even with the improvements that were adopted to the framework it would fail to predict nearly 20% of instances of debt distress while at the same time incorrectly signaling false alarms around 40% of the time.[6] **The DSA's accuracy is also contingent on the quality of input data.** Inaccurate or incomplete data sets can significantly distort the DSA's outcomes.

Furthermore, while the baseline macroeconomic projections are the starting point of the DSA, **IMF staff can, in certain situations, alter or modify the projections, thereby introducing a level of subjectivity to the output. In the same vein, the IMF also allows itself to apply judgment to the thresholds.** There can be instances in which staff believe that thresholds should be more stringent for a particular country, and they can then impose an arbitrary cushion to the threshold, as happened in the case of Chad's DSA in 2021. The IMF lowered the country's target external debt-to-revenue ratio from 18% to 12.3%, so, while Chad remained within the maximum 18% debt service-to-revenue threshold over the projected 10-year time horizon of 2020–2030 (with a minor 18.2% breach in 2021), the IMF still deemed its debt as unsustainable, with a high risk of debt distress, as it didn't meet the adjusted 12.3% threshold. Similarly, in Zambia's case (2023), due to a concurrent exercise to rebase the country's GDP statistics, the decision was taken to eliminate the thresholds in the DSF that are based on GDP.

One of the most contentious factors in the LIC-DSF—and indeed its MAC counterpart—is the discount rate that is used in the calculations of present value. When the LIC-DSF was introduced in 2005, the decision was taken to use the prevailing level of the US Treasury rate plus a 100 basis-point spread, which was around 5%, as the discount rate. This level has remained despite both significant deviation in US Treasury rates since then and objections from private creditors about the appropriateness of applying what is generally accepted as a "risk-free" interest rate to low-income countries, which tend to have much higher borrowing costs. Private sector interest rates are significantly higher, reflecting the credit-risk premium required to lend to the relevant countries. By using the 5% interest rate, the present value of debt stocks is therefore overstated to most private sector practitioners.

Finally, the IMF has a policy of not incorporating certain widely anticipated projects in its projections on a technicality. For example, oil and gas projects will not feature in a DSA until the Final Investment Decision (FID).[7] For some countries, these projects can have a transformational effect, including on the country's growth and fiscal and monetary stances. Nonetheless, the IMF will not take these projects into account when assessing debt sustainability.

The above examples highlight that while DSFs are valuable tools, they are not flawless and have many shortcomings.

The role of the DSA in restructuring negotiations

Since the creation of international capital mobility, the IMF has served as the international lender of last resort (LOLR) for countries facing an external financing crisis. By lending to members from resources available to it, or even creating new reserves (such as the post-pandemic SDR issuance), the IMF has helped countries with urgent or potential balance of payment needs and brought economic conditions back on track. As the LOLR, and because it is seen as a credible independent party, its influence can extend into private sector lending.

As such, **the LIC DSA plays a crucial role in debt restructurings.** Most commonly, restructurings emerge out of an IMF assessment in which debt is deemed "unsustainable," and it is rare to see a sovereign restructuring without IMF involvement. Once a country has approached the IMF for a funded program, the IMF will produce a DSA, assess its DCC and subsequently determine the level of debt distress. **If a country considered at a high risk of debt distress is not able to fulfill all its present and future payment commitments, efforts will be needed to rein in its debt levels and bring the country's level of debt distress back to moderate.** While fiscal efforts can go a long way, in some cases a debt restructuring is needed. The country will be able to reach an agreement with the IMF on a funded program prior to a restructuring; however, subsequent reviews and IMF disbursements will be contingent on financing assurances from official creditors and "good faith negotiations" with private creditors. This ensures that ultimately, the sovereign will, within the framework at least, move to a sustainable debt profile.

In the process of these good faith negotiations, discussions between the sovereign issuer and private creditors will need to incorporate the constraints of the DSA. Ultimately, the new debt terms will need to fit the IMF's definition of a sustainable debt profile with a moderate risk of debt distress. This can often delay a resolution, especially when there are differences in opinions over the underlying DSA projections, its thresholds or the time horizons applied. As the IMF has proven unwilling to engage with private creditors on its underlying assumptions, investors have found ways to work around the DSA constraints. These include contingent instruments (warrants) or optionality in bonds.

Where such contingent instruments are not triggered in its baseline scenario, the IMF does not consider them as part of a sovereign's debt stock. Similar to the warrants that formed part of the Brady bond restructurings and offered improved recovery terms if economic performance exceeded expectations, instruments such as Ukraine's GDP warrants in 2015 and, more recently, Suriname's oil linked Value Recovery Instrument (VRI) have been used as a way of reaching agreement between official and private sector stakeholders in sovereign debt restructurings. The fact that these instruments are not incorporated in debt projections under the baseline means they do not impact the DSA thresholds. In theory then, a sovereign can issue unlimited warrants without impacting its DSA-forecasted debt-to-GDP ratio, present value of external debt as a % of GDP and as a % of exports, or debt service as a % of revenue and a % of exports as long as payments are not triggered under the baseline scenario.

In Suriname's case, the IMF's DSA did not incorporate the developments in the offshore oil and gas sector because the FID has not been reached. Total Energy, Suriname's main offshore developer, expects the FID by the end of 2024 and is committed to a US$9 billion drilling project in this US$3 billion economy. Oil reserves are estimated at 124 million barrels, and production is expected to be 200,000 barrels per day compared to the county's current production of 17,000 barrels per day. Such a mammoth project will have a significant impact on Suriname's growth, currency rate, taxes, oil and gas fiscal revenues, and many more factors, all which would support a lower level of debt distress, yet the IMF does not incorporate it in its numbers. Not wanting to accept the severe haircuts required for Suriname's debt to become sustainable under the unrealistic DSA projections, the creditor committee structured a contingent instrument that would not impact the DSA. The VRI payments are triggered by oil production from Suriname's offshore oil fields, which is production that doesn't exist in the IMF's baseline scenario. The agreement, which was closed in early November, brought bondholders an estimated net present value recovery of close to 85%, of which 25% comes through the VRI.

Zambia is another example where bondholders sought to enhance their recovery beyond what the DSA would allow in terms of a regular hair-cutting of debt. The agreement in principle, which was reached in October, envisions an embedded option in the bonds that could see an accelerated repayment and coupon rate step-up. This time, however, components of the DSF themselves will be the trigger for this acceleration of repayment when Zambia's DCC improves from weak to medium. The advent of the G20's Common Framework, which uses the IMF's DSF as its main analytical framework and which requires comparability of treatment for all classes of creditor, is another reason why these contingent instruments are likely to grow in precedence as a way of providing future value to creditors that is not counted as a sovereign liability at the time of a restructuring.

Conclusion

As capital markets for low-income countries have remained shut, more and more sovereigns are turning to the IMF for financing support. The DSF plays a crucial role in unlocking financing from the IMF and other multilaterals and is therefore a critical source of information for investors. For countries displaying a high risk of debt distress, or those in debt distress, that need to restructure their debt, the DSA becomes a key constraint in negotiating restructuring terms. Shortcomings in the DSF include projection inaccuracies and the application of judgment, which has led investors to create ways around the DSA constraints. Consequently, we're seeing a new founding of contingent instruments coming out of debt restructurings. However, while these developments can be helpful in certain instances where there is reasonable potential for a vast improvement in the economic performance of the borrower country, private creditors should be wary of inadvertently subordinating their future economic recovery value for the sake of meeting the terms of a DSA.

Contributors

Nicholas Hardingham, CFA
Portfolio Manager

Franklin Templeton Fixed Income

Stephanie Ouwendijk, CFA
Portfolio Manager, Research Analyst

Franklin Templeton Fixed Income

Robert Nelson, CFA
Portfolio Manager, Research Analyst

Franklin Templeton Fixed Income

Joanna Woods, CFA
Portfolio Manager, Research Analyst

Franklin Templeton Fixed Income

Carlos Ortiz
Research Analyst

Franklin Templeton Fixed Income

Jamie Altmann
Research Analyst

Franklin Templeton Fixed Income

1. The primary balance is the difference between a government's revenue and its non-interest expenditure.
2. Source: IMF, 2013, Staff Guidance Note for Public Debt Sustainability Analysis in Market Access Countries.
3. Source: IMF, January 2021, Review of the Debt Sustainability Framework for Market Access Countries.
4. Source: IMF, February 2018, Guidance note on the bank-fund debt sustainability framework for low income countries.
5. Source: United Nations, Financing for Sustainable Development Report, February 2023.
6. Source: IMF, September 2017, Review of the debt sustainability framework in low-income countries: proposed reforms.
7. The FID is the point in an energy project in which the company or companies owning and/or operating the project approve—or sanction—the project's future development.

IMPORTANT LEGAL INFORMATION

This material is intended to be of general interest only and should not be construed as individual investment advice or a recommendation or solicitation to buy, sell or hold any security or to adopt any investment strategy. It does not constitute legal or tax advice. This material may not be reproduced, distributed or published without prior written permission from Franklin Templeton.

The views expressed are those of the investment manager and the comments, opinions and analyses are rendered as of the publication date and may change without notice. The underlying assumptions and these views are subject to change based on market and other conditions and may differ from other portfolio managers or of the firm as a whole. The information provided in this material is not intended as a complete analysis of every material fact regarding any country, region or market. There is no assurance that any prediction, projection or forecast on the economy, stock market, bond market or the economic trends of the markets will be realized. The value of investments and the income from them can go down as well as up and you may not get back the full amount that you invested. **Past performance is not necessarily indicative nor a guarantee of future performance.** All investments involve risks, including possible loss of principal.

Any research and analysis contained in this material has been procured by Franklin Templeton for its own purposes and may be acted upon in that connection and, as such, is provided to you incidentally. Data from third-party sources may have been used in the preparation of this material and Franklin Templeton ("FT") has not independently verified, validated or audited such data. Although information has been obtained from sources that Franklin Templeton believes to be reliable, no guarantee can be given as to its accuracy and such information may be incomplete or condensed and may be subject to change at any time without notice. The mention of any individual securities should neither constitute nor be construed as a recommendation to purchase, hold or sell any securities, and the information provided regarding such individual securities (if any) is not a sufficient basis upon which to make an investment decision. FT accepts no liability whatsoever for any loss arising from use of this information and reliance upon the comments, opinions and analyses in the material is at the sole discretion of the user.

Products, services and information may not be available in all jurisdictions and are offered outside the U.S. by other FT affiliates and/or their distributors as local laws and regulation permits. Please consult your own financial professional or Franklin Templeton institutional contact for further information on availability of products and services in your jurisdiction.

Issued in the U.S. by Franklin Distributors, LLC, One Franklin Parkway, San Mateo, California 94403-1906, (800) DIAL BEN/342-5236, franklintempleton.com—Franklin Distributors, LLC, member FINRA/SIPC, is the principal distributor of Franklin Templeton U.S. registered products, which are not FDIC insured; may lose value; and are not bank guaranteed and are available only in jurisdictions where an offer or solicitation of such products is permitted under applicable laws and regulation.

Canada: Issued by Franklin Templeton Investments Corp., 200 King Street West, Suite 1500 Toronto, ON, M5H3T4, Fax: (416) 364-1163, (800) 387-0830, www.franklintempleton.ca.

Offshore Americas: In the U.S., this publication is made available only to financial intermediaries by Franklin Distributors, LLC, member FINRA/SIPC, 100 Fountain Parkway, St. Petersburg, Florida 33716. Tel: (800) 239-3894 (USA Toll-Free), (877) 389-0076 (Canada Toll-Free), and Fax: (727) 299-8736. Investments are not FDIC insured; may lose value; and are not bank guaranteed. Distribution outside the U.S. may be made by Franklin Templeton International Services, S.à r.l. (FTIS) or other sub-distributors, intermediaries, dealers or professional investors that have been engaged by FTIS to distribute shares of Franklin Templeton funds in certain jurisdictions. This is not an offer to sell or a solicitation of an offer to purchase securities in any jurisdiction where it would be illegal to do so.

Issued in Europe by: Franklin Templeton International Services S.à r.l.—Supervised by the *Commission de Surveillance du Secteur Financier*—8A, rue Albert Borschette, L-1246 Luxembourg. Tel: +352-46 66 67-1, Fax: +352-46 66 76. **Poland:** Issued by Templeton Asset Management (Poland) TFI S.A.; Rondo ONZ 1; 00-124 Warsaw. **South Africa:** Issued by Franklin Templeton Investments SA (PTY) Ltd, which is an authorized Financial Services Provider. Tel: +27 (21) 831 7400, Fax: +27 (21) 831 7422. **Switzerland:** Issued by Franklin Templeton Switzerland Ltd, Stockerstrasse 38, CH-8002 Zurich. **United Arab Emirates:** Issued by Franklin Templeton Investments (ME) Limited, authorized and regulated by the Dubai Financial Services Authority. **Dubai office:** Franklin Templeton, The Gate, East Wing, Level 2, Dubai International Financial Centre, P.O. Box 506613, Dubai, U.A.E. Tel: +9714-4284100, Fax: +9714-4284140. **UK:** Issued by Franklin Templeton Investment Management Limited (FTIML), registered office: Cannon Place, 78 Cannon Street, London EC4N 6HL. Tel: +44 (0)20 7073 8500. Authorized and regulated in the United Kingdom by the Financial Conduct Authority.

Australia: Issued by Franklin Templeton Australia Limited (ABN 76 004 835 849) (Australian Financial Services License Holder No. 240827), Level 47, 120 Collins Street, Melbourne, Victoria 3000. **Hong Kong:** Issued by Franklin Templeton Investments (Asia) Limited, 17/F, Chater House, 8 Connaught Road Central, Hong Kong. **Japan:** Issued by Franklin Templeton Japan Co., Ltd., Shin-Marunouchi Building, 1-5-1 Marunouchi Chiyoda-ku, Tokyo 100-6536, registered in Japan as a Financial Instruments Business Operator [Registered No. The Director of Kanto Local Finance Bureau (Financial Instruments Business Operator), No. 417]. **Korea:** Issued by Franklin Templeton Investment Advisors Korea Co., Ltd. 3rd fl., CCMM Building, 101 Yeouigongwon-ro, Yeongdeungpo-gu, Seoul Korea 07241. **Malaysia:** Issued by Franklin Templeton Asset Management (Malaysia) Sdn. Bhd. & Franklin Templeton GSC Asset Management Sdn. Bhd. This document has not been reviewed by Securities Commission Malaysia. **Singapore:** Issued by Templeton Asset Management Ltd. Registration No. (UEN) 199205211E, 7 Temasek Boulevard, #38-03 Suntec Tower One, 038987, Singapore.

Please visit www.franklinresources.com to be directed to your local Franklin Templeton website.

CFA® and Chartered Financial Analyst® are trademarks owned by CFA Institute.

FRANKLIN TEMPLETON

US_GTM_2162385_2062385
EMD_WP_1123