

**EXECUTIVE
BOARD
MEETING**

SM/21/195
Correction 1

December 10, 2021

To: Members of the Executive Board

From: The Secretary

Subject: **Interim Review of the Adequacy of the Fund's Precautionary Balances**

Board Action: The attached corrections to SM/21/195 (11/12/21) have been provided by the staff:

Factual Errors Not Affecting the Presentation of Staff's Analysis or Views

Pages 41 and 42

Questions: Mr. Unteroberdoerster, FIN (ext. 35448)
Ms. Zoli, FIN (ext. 37116)

Annex II. Demand for New Programs

This annex explains the methodology used in the 2020 review to estimate the potential demand for new Fund credit under various scenarios and updates the analysis with the October 2021 WEO data. The updated analysis shows that under the baseline global outlook, new programs would add around SDR 76 billion to credit outstanding at its peak to the projected stock of credit outstanding from existing arrangements. As a result, precautionary balances could surpass the current indicative target in FY 2024, and could reach nearly SDR 36 billion over the medium term, higher than the assessment at the last review.

1. The analysis uses a panel logit regression to identify countries that are likely to tap IMF resources under the General Resources Account (GRA).¹ Drawing from the literature, the model relates the probability of entering a new Fund arrangement to global and country-specific determinants. The sample covers 96 advanced, emerging and frontier market economies over the period 1992–2019, and 104 GRA arrangements. Estimated results suggest that the probability of a country requesting Fund support increases with higher external financing needs, higher financial market volatility, tighter global financial conditions, and lower GDP growth, among other factors (Table 1). A threshold for the probability of entering a program is then determined by minimizing the weighted average of missed new programs (Type I error) and false alarms (Type II error) for the in-sample forecasts. Under the assumption of equal weights for Type I and Type II errors (i.e., a 1:1 ratio), the threshold is found at **4.13.9** percent.² Using this threshold, the model correctly identifies 88 percent of new programs over the period 1992–2019.

2. Estimated results are then used to predict the probability of sample countries entering an IMF program in FY 2022 and FY 2023. The analysis uses the October 2021 WEO baseline data for each sample country for the next two years, and the 2021 year-to-date average VIX level of 19.8 to reflect the global economic outlook and financial market conditions. A country is assumed to enter into a new IMF program if its predicted probability exceeds the **4.13.9** percent threshold in a given year. Under this approach, 47 countries are predicted to enter a new Fund-supported program, of which 28 are assumed to come forward in FY 2022–23, based on staff analysis.³

¹ Based on an update of the Outlook-for-Potential-Programs (OPP) exercise used for the 2020 precautionary balance review (SM/20/159).

² Type I error represents the ratio of actual new programs that the model failed to predict to total new program observations, while Type II error refers to the ratio of predicted programs that did not occur to total non-program observations. Higher thresholds of **14.314.4** and 16.4 percent are identified when Type I and Type II errors are minimized in the ratios of 2:1 and 3:1, respectively, as such an approach penalizes false alarms more and flags fewer countries requesting Fund's program.

³ Staff assessed members' probability to request Fund financial support, taking into account whether potential borrowers had already active precautionary and non-precautionary arrangements with the Fund, whether they had access to markets or other financing sources (e.g., through regional facilities), and whether they were eligible to obtain Fund credit under current policies.

3. The potential call on Fund resources would be high consistent with the severe economic fallout from the COVID-19 Pandemic. Access is calculated using the average size of Fund programs (excluding precautionary arrangements as they are not part of the forward-looking credit measure for the indicative target range) in the past decade of about 5 percent of GDP, and in each identified case adjusting for outstanding Fund credit, projected disbursements and repurchases consistent with applicable exceptional access limits. On this basis, aggregate new demand for IMF financing under 28 arrangements could reach about SDR 148 billion over FY 2022–23. This compares with a projection of 29 new arrangements totaling SDR 138 billion over FY 2021–22 at the previous review.

4. Under this WEO model-based scenario, the outstanding stock of Fund credit is projected to increase over the stock resulting from existing arrangements by about SDR 7276 billion at the peak in FY 2026. A combination of 11 Stand-By Arrangements (SBAs), 16 arrangements under the Extended Fund Facilities (EFFs), and a Precautionary Liquidity Line (PLL) is assumed, with even phasing over three years for SBAs and four years for EFF arrangement. The average outstanding stock of Fund credit is projected to rise from about SDR 86.7 billion in FY 2021 to a peak of SDR 166.7 billion in FY 2026 (Figure 1), including existing arrangements and prospective arrangements under this baseline scenario. This compares with a peak of SDR 90.7 billion if only existing arrangements are taken into account.

5. As a result of projected new arrangements, precautionary balance would surpass the indicative target by FY 2024, and reach nearly SDR 36 billion over the medium term. This is higher than projections based only on existing arrangements, where precautionary balances would not reach the indicative target over the medium term.

6. Additional demand for Fund resources over this baseline could materialize in a more adverse scenario, illustrative of a resurging pandemic.⁴ Given concerns that the emergence of new more aggressive COVID19 variants and uneven vaccine rollout could derail the global recovery, staff considered, as in the previous review, an adverse scenario where the projected growth for 2021–22 for a country is assumed to fall by ½ standard deviation of its historical values relative to the October 2021 WEO baseline. The growth shock is combined with a high financial market shock (VIX level of 40). In addition, it is assumed that (i) average access per arrangement is significantly higher than under the baseline, about 7 percent of GDP (excluding precautionary arrangements) and that (ii) all current FCL/PLL arrangements are drawn. As a result, the outstanding stock of Fund credit is projected to increase by about SDR 121.5 billion above the peak under the WEO model-based scenario. The impact on Fund credit could thus be illustrative of a resurging pandemic. In this scenario, precautionary balances would increase to SDR 48 billion over the medium term.

⁴ Additional demand could also materialize if a faster-than-anticipated monetary normalization in advanced economies leads to a sudden tightening of global financial conditions.