TECHNICAL ASSISTANCE REPORT

BANGLADESH

Ministry of Finance Macroeconomic Framework Technical Assistance: Scoping Mission Report

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Prepared By

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ACRONYMS AND ABBREVIATIONS

ACW	Administrative and Coordination Wing
BB	Bangladesh Bank
BBS	Bangladesh Bureau of Statistics
BoP	Balance of Payment
BW	Budget Wing
CAEM	Comprehensive Adaptive Expectations Model
CC	Coordination Council
CD	Capacity Development
DDT	Debt Dynamics Tool
EAW	Economic Advisor Wing
ECF	Extended Credit Facility
EFF	Extended Fund Facility
FAD	Fiscal Affairs Department of IMF
FD	Finance Divsion
FPP	Financial Programming and Policies
ICD	Institute for Capacity Development of IMF
ICDMF	General Macro and Fiscal Division of ICD
IMF	International Monetary Fund
IPF	Institute of Public Finance
IRD	Internal Resources Division
MEW	Macroeconomic Wing
MFMod	World Bank Macro-Fiscal Model
MFT	Macroframework Foundations Tool
MOF	Ministry of Finance
MOPA	Ministry of Public Administration
MTBF	Medium-term Budget Framework
MTDMS	Medium-Term Debt Management Strategy
MTMF	Medium-term Macroeconomic Framework
MTMPS	Medium-Term Macroeconomic Policy Statement
NBR	National Board of Revenue
PEFA	Public Expenditure and Financial Accountability
PMBM	Public Money and Budget Management
RSF	Resilience and Sustainability Facility
SARTTAC	South Asia Regional Training and Technical Assistance Center
STX	Short-term consultant
TA	Technical Assistance
TDMW	Treasury and Debt Management Wing
WB	World Bank

PREFACE

A Technical Assistance (TA) scoping mission visited Dhaka, Bangladesh from January 22 to February 1, 2023, to diagnose the current macroeconomic forecasting and policy analysis systems at the Finance Division of the Ministry of Finance (MOF) and deliver a shortened Financial Programming and Policies (FPP) course. The findings from the scoping mission and assessment informed an action plan for the TA project. The mission team consisted of Christian Johnson (Mission Chief, SARTTAC), Werner Schule (STX), and Barrett Owen (ICDMF). Bhaswar Mukhopadhyay (Deputy Director, SARTTAC) joined the mission team during the final two days for the closing of the FPP course and scoping mission.

The mission held introductory meetings with the Additional Secretary Rehana Perven, Wing Chief of the Macroeconomic Wing (MEW), and Additional Secretary Dr. Mohammad Altaf Alam, Wing Chief of the Treasury and Debt Management Wing (TDMW), to discuss the purpose and objectives of the scoping mission and wider project. Working sessions were held every day with staff from the MEW, TDMW, Budget Wing (BW), and Economic Advisor Wing (EAW), to conduct the diagnostics, deliver the FPP course, and to develop an action plan for the broader project. Mr. Tawhid Ilahi (Deputy Secretary, MEW), led in coordinating the team from the MOF's side.

The diagnosis is based on the information available at the time of the visit in January 2023. The findings and recommendations in the report represent the views and advice of the IMF mission team and do not necessarily reflect those of the authorities. The mission presented its assessment to the MEW Wing Chief Rehana Perven, Joint Secretary Dr. Ziaul Abedin, Joint Secretary Dr. Shaikh Moniruzzaman, and the Monitoring Cell Wing Chief Shirajun Noor Chowdhury at the concluding meeting and this report has been shared with the authorities for their input and comments.

The mission team would like to express its sincere appreciation to the MOF staff for their warm welcome and the engaging and constructive discussions, as well as for the excellent organization and logistical support throughout the mission. The team would also like to thank the Institute of Public Finance (IPF) for providing a venue for the training sessions and catering services. The mission received excellent administrative support from Irela Dinora Aleman Casco (ICDMF) and Claudia Salgado (ICDMF), Mudit Mittal (SARTTAC), and Gloria Halder (IMF Resident Representative Office in Bangladesh).

EXECUTIVE SUMMARY

The purpose of this technical assistance project initiated by this scoping mission is to help build macroeconomic framework capacity at the Macroeconomic Wing (MEW) and the wider Finance Division (FD) of the Ministry of Finance (MOF) of Bangladesh. The project is specifically aimed at enhancing the Medium-term Macroeconomic Framework (MTMF) of the authorities and will be centered around the development of a tool based on the principles of Financial Programming and Policies (FPP). Section I of this report provides a background and context for the project.

The scoping mission held between January 22 to February 1, 2023, was split across two components: a scoping component and an FPP training component. The scoping component diagnosed the current macroeconomic forecasting and policy analysis systems at the FD and developed an action plan for the wider project with the authorities. The training component provided a shortened FPP training course, focusing on the essentials of financial programming, to build a knowledge foundation and further momentum for the project.

The turnover within the MEW and the FD is a substantial challenge. Despite this and the heavy work remit of a relatively small staff cohort, the staff are highly motivated and relied upon by the front-office, and they deliver consistently with quality outputs. Nevertheless, they are constrained by their current tools used to develop the MTMF. These tools are either overly complex given the turnover challenges or do not have the necessary structure and linkages to develop baseline forecasts with a satisfactory economic narrative and scenarios to assess policy options and risks. The mission team's assessment was that a tool that can be sustained independently and used meaningful by the Finance Division must be accessible to a wider group of staff to mitigate turnover risks and enable more effective dialogue with policymakers and the wider MTMF working group. This must also be supplemented with user guides and associated material to facilitate the integration of new future members of the MEW. The full findings from the scoping mission are detailed in Section II of this report and the Needs Assessment in subsection G summarizes the key findings.

In consultation with the authorities, the mission prepared an action plan for implementing the CD project and agreed on this "**ad referendum**" with the authorities. The project has 10 missions planned across four overarching phases, with a hybrid model of in-person and virtual mission deliveries. These missions will span over approximately 2-3 years from January 2023 to July 2025. The counterparts agreed with the mission team to proceed with the Macroframework Foundations Tool (MFT). An initial core team of 17 staff will be led by Joint Secretary Dr. Ziaul Abedin and coordinated by Deputy Secretary Tawhid Ilahi of the MEW to customize and adapt the MFT to their needs, with ICD assistance. The composition of the core team may vary depending on the institutional needs of the FD.

In the current phase of the project (January to June 2023), the mission team will introduce the core team to the generic MFT, and the core team will populate it with local data (see Annex A.). Following this, the core team will begin customizing the MFT to the Bangladesh economy (July to December 2023). In the third phase, the MFT will be expanded to further meet the needs of the core team and they will begin using it to develop scenarios for their MTMF projections (January to August 2024). The priority of the final phase (September 2024 to July 2025) is to suitably institutionalize the tool, including the utilization of the MFT by the core team to improve their policy advice and analytical content and the finalization of a user manual and associated material to ensure the sustainability of the capacity development. The full action plan is detailed in Section III of this report.

SECTION I. BACKGROUND: GENESIS OF THE CD PROJECT

A. THE MACROECONOMIC CONTEXT OF BANGLADESH

1.   Bangladesh has experienced impressive economic growth over the last decades and has made substantial progress on achieving social development objectives. The authorities have an ambitious goal to continue this progress and reach upper-middle income status by 2031. To achieve this, they have a plan of structural reforms across sectors, including improvements in tax mobilization, addressing gaps in social and development spending, diversifying exports, and enhancing the investment environment and financial sector. Climate risks are particularly acute for Bangladesh and building resilience to future shocks is a priority for the authorities. Although the country is expected to graduate from the UN's Least Developed Countries (LDC) list by 2026, this is expected to create challenges around a loss of preferential trade agreements and access to concessional financing.

2.   The economy is currently facing Balance of Payment (BoP) pressures due to multiple external shocks. The economy was initially rebounding from the Covid-19 Pandemic. However, the recovery in exports stagnated amid tight external demand, while nominal imports increased substantially due to global supply disruptions and rising commodity prices. There has been a resulting sharp drawdown in foreign reserves and a depreciation of the Taka. These external pressures are constraining fiscal conditions and domestic activity and limiting the ability of the authorities to absorb any potential further shocks. Without additional support, external pressures are expected to continue amidst global uncertainties.

3.   The authorities are committed to addressing long-standing structural issues, despite the immediate challenges, and have sought external support. The authorities have sought external assistance to mitigate the macroeconomic stability pressures and support their reform agenda. This includes a recently approved program with the IMF under the Extended Credit Facility (ECF), Extended Fund Facility (EFF), and the Resilience and Sustainability Facility (RSF). The program, which was approved by the IMF Executive Board on January 30, will span over 42-months and totals $4.7 billion across the three facilities. The program is targeted at supporting the authorities in achieving reforms in key areas, protecting macroeconomic stability, and building resilience to climate shocks.

B. THE TA REQUEST OF THE AUTHORITIES

4.   SARTTAC and ICD supported the MOF with a predecessor macroeconomic framework TA project between 2019 and 2020. The Finance Division of the Ministry of Finance (MOF) has shown strong demand for, and has made consistent use of, SARTTAC and IMF capacity development (CD) opportunities since the inauguration of SARTTAC in 2017. They have expressed particularly strong demand for training for their officials in Financial Programming and Policies (FPP), which SARTTAC and ICD had previously provided on several occasions using a training template with the authorities' data. The core medium-term macroeconomic framework (MTMF) tool used by the authorities for the budget process is based on the principals of FPP, which contributed to the strong demand for CD in this area. The previous TA project was aimed at supporting the MOF in modernizing their MTMF tool, moving from primarily an accounting framework to incorporating key behavioral equations.

5.   The project faced challenges due principally to the Covid-19 pandemic and the corresponding virtual setting and resource constraints of the MOF staff in the emergency setting. The project began with a successful combined scoping and FPP training refresher in late-2019. In late-2020, the mission team worked virtually over three months with a small core team of staff from the Macroeconomic Wing (MEW) and Budget Wing (BW) of the Finance Division. The mission left with the authorities an updated version of the MTMF, akin in the level of complexity to the Comprehensive Adaptive Expectations Model (CAEM). The authorities were unable to meet in 2021 due to staff resource constraints, particularly during the budget process, and subsequent planned engagements stalled.

6.   The authorities requested and agreed on a re-scoping and FPP training refresher mission during January 22nd--February 1st, 2023. SARTTAC and ICD re-engaged the authorities in bilateral meetings on several occasions in 2022. The MOF expressed demand for a re-engagement on a TA project to enhance their MTMF tool and for an FPP training refresher for their staff. They highlighted that they have experienced heavy turnover since the last 2020 mission. Most of the members of the previous core team have since left their positions and few of the remaining staff have worked with the updated MTMF tool. The IMF team and the authorities agreed on a 9-day mission at the end of January, with a scoping component and a FPP training refresher component.

C. INTEGRATION WITH SURVEILLANCE AND PROGRAM PRIORITIES

7.   Improved macroeconomic framework tools and associated capacity aligns with the priorities of both the program and the authorities. This program and other support that the authorities are receiving place a heavy emphasis on the enhancement of capacity across reform areas. This includes improvements to the MTMF and its ability to assess shocks, including those emanating from climate risks. An improved MTMF tool and associated capacity can strengthen the ability of the authorities to assess the appropriate combination and time-path of policies, risks posed to the macroeconomy, and progress on achieving reform targets. The dialogue and discussion on macroeconomic policies can be further facilitated with an accessible macroeconomic framework and associated capacity. ICD and SARTTAC will consult regularly with the IMF country team throughout the project and will seek feedback at each stage to ensure that the project aligns with program priorities.

SECTION II. SCOPING MISSION FINDINGS AND ASSESSMENT

A. INTRODUCTION

8.   The design of the project and action plan have been informed by findings from the scoping mission (Annex D). The scoping mission concluded on February 1st, 2023. The information collected from the questionnaire and subsequent discussions and feedback with the authorities have informed the design of the draft action plan. The draft action plan was also informed by the corresponding FPP training session held over 5 days during the scoping mission with members of the potential core team. Moreover, information from the previous 2019 and 2020 project briefing papers and back-to-office reports was utilized and changes since then were verified during the scoping. This section summarizes the key findings from the coordinated scoping missions and these other supplementary inputs.

9.   The scoping mission assessment focused on the planned key counterparts in the MOF Finance Division for this TA project. The key counterparts are the Macroeconomic Wing (MEW), the Budget Wings (BW), the Treasury and Debt Management Wing (TDMW), and the Economic Advisor Wing (EAW). The involvement and engagement with several other wings and agencies will be important for the success of the project, particularly to institutionalize the MFT. The assessment and resulting action plan take into consideration these other wings and agencies and their interactions with the key counterparts.

B. INSTITUTIONAL SETUP OF THE TA BENEFICIARY DEPARTMENTS

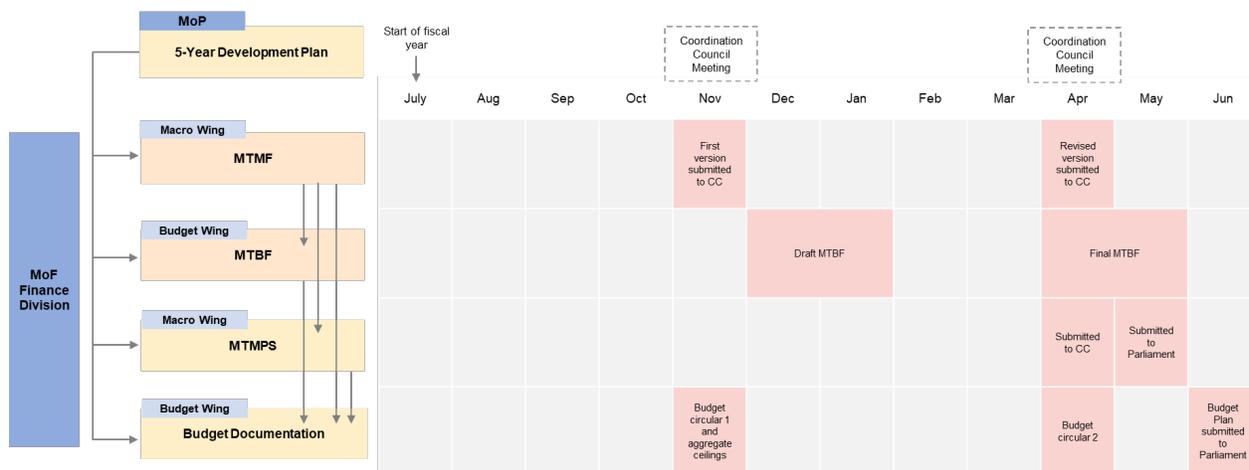### The Macroeconomic Wing (MEW) of the MOF Finance Division Overview

10.   The MEW is the primary Government entity responsible for macroeconomic and fiscal policy analysis and forecasting, as well as budget monitoring. The MEW Wing Chief reports directly to the Senior Secretary of the Finance Division in the organizational hierarchy. The Wing is composed of three Offices, each headed by an Additional-Secretary or Joint-Secretary, split by overarching responsibilities: (1) the Macroeconomic Policy Analysis & Forecasting Office leads in the development of the Government's Medium-Term Macroeconomic Framework (MTMF), (2) the Fiscal Policy Office focuses on fiscal forecasts and fiscal policy analysis, with a focus on revenues, and (3) the Budget Monitoring, Evaluation, and Reporting Office is primarily responsible for monitoring budget execution and developing related reports. In practice, the staff of the three offices collaborate across these workstreams. Moreover, the MEW is regularly tasked on an ad-hoc basis by the offices of the Finance Minister and Secretary with assisting other Wings across the Finance Division.

The Medium-Term Macroeconomic Framework (MTMF)

11.   There is a well-established institutional structure to produce an MTMF to guide budget planning and economic policy. The Public Money and Budget Management Act of 2009 (PMBM Act 2009) stipulates that a policy statement must be submitted to Parliament along with the annual budget and any budget revisions. This policy statement must detail the MTMF underlying the budget forecasts, the strategic priorities and fiscal policies of the Government, and an evaluation of borrowing policies. The MTMF must be approved by a Coordination Council (CC) twice a year, in November and April. The CC was established to enhance the coordination of fiscal, monetary and exchange rate policies. Key decision makers and senior officials from across the relevant institutions are represented on the CC, including the Ministry of Finance that chairs the CC, the Governor of the Bangladesh Bank (BB), the Minister of Planning,

the Chairman of the National Board of Revenue (NBR), and the Director General of the Bangladesh Bureau of Statistics (BBS). The CC structure and process has a long history, dating even back to the establishment of the BB and Bangladesh Bank Order of 1972.

*Figure 1. Key Macroeconomic and Fiscal Reports and Reporting Dates*

					Coordination Council Meeting				Coordination Council Meeting		
	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Macro Wing MTMF					First version submitted to CC					Revised version submitted to CC		
Budget Wing MTBF						Draft MTBF				Final MTBF		
Macro Wing MTMPS										Submitted to CC	Submitted to Parliament	
Budget Wing Budget Documentation					Budget circular 1 and aggregate ceilings					Budget circular 2		Budget Plan submitted to Parliament

(Start of fiscal year: July)

MoF Finance Division — MoP: 5-Year Development Plan

Note: Authors' understanding of current process

12. The primary responsibility for coordinating the technical work in preparing the MTMF sits with the MEW. The core work of the Macroeconomic Policy Analysis & Forecasting Office in the MEW is to produce the MTMF. Inputs and data for this are primarily sourced from the BB, the Bureau of Statistics, other Wings of the MOF, and other external sources. The MEW produces their own forecasts of key aggregates across the Macro sectors, although Monetary aggregates are supplied by the BB. A cross-agency MTMF Working Group exists to discuss and coordinate the MTMF at the technical staff level before the MTMF is presented at the CC meetings. This working group includes representative from the BB, the BBS, the NBR, the Ministry of Planning, and the MOF. Forecast differences are discussed and a consensus is reached, with corresponding adjustments to the MTMF. Nevertheless, the MEW ultimately has the final say over the figures incorporated in the MEW.

13. There is substantial room to strengthen the MTMF forecasts and to develop alternative scenarios. The MTMF is produced early in the budget process to inform expenditure ceilings, ahead of the Budget Call Circular 1 in November, and revised in April before the budget is finalized[1]. Key aggregates in the MTMF are included across the four macroeconomic sectors with a three-year horizon (current fiscal year t+2). In practice, aggregates such as Real GDP and inflation are often set to correspond with targets in the Five-Year Plan, and the remaining forecasted on a purely judgmental basis that corresponds with the Real GDP and inflation figures. For example, the revenue variables are generally forecasted on a very aggregated level as a constant ratio with nominal GDP, with some ad-hoc adjustments where policy changes are expected to have an impact. Moreover, there is an informal fiscal rule that the budget deficit should not exceed approximately 5 percent of GDP, and if forecasts exceed this the figures are subsequently adjusted to fall within the rule. Resulting differences between budget forecasts and actuals are substantial in most fiscal years. Currently, only one MTMF scenario is produced, and no risk scenarios or alternative policy scenarios are published.

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[1] The fiscal year in Bangladesh is from July to June. The budget is submitted to parliament in the beginning of June and approved by June-end.

Figure 2. The Current Roles of the MTMF Working Group Members

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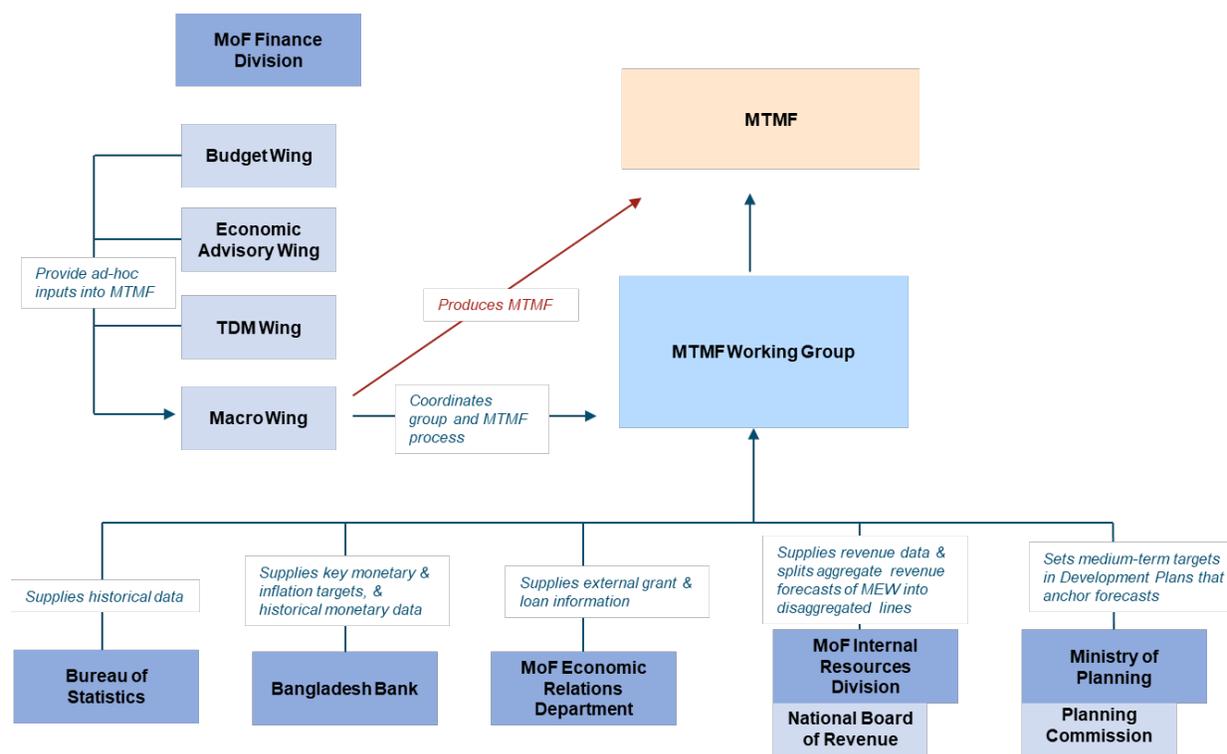
Note: Authors' understanding of current process

14.   The MEW produces a Medium-Term Macroeconomic Policy Statement (MTMPS) report to accompany the published budget and detail the MTMF. The MTMPS is the policy statement document submitted before Parliament, in accordance with the PMBM Act 2009. The document provides a review of macroeconomic performance, presents and explains the MTMF figures, and outlines the major issues facing the economy and the Government's medium-term and long-term fiscal policies and strategy. These are aligned with the MoP's national development plans, and the document is generally shared for comment with the MTMF working group stakeholders. The final two chapters delve into more detail on Government expenditure plans, revenue mobilization, and debt strategy. There is room to improve on the MTMPS. The macroeconomic assumptions underlying the fiscal forecasts are broadly described, although there is scope to elaborate further on the detailed assumptions driving the macroeconomic forecasts and the interlinkages across variables. The document does not include an explanation of how the macroeconomic assumptions compare with alternative projections, or what uncertainties are involved. Also, fiscal risks are neither quantified nor discussed in the budget documents.

Figure 3. Current linkages between Development Plans, MTMF and MTBF
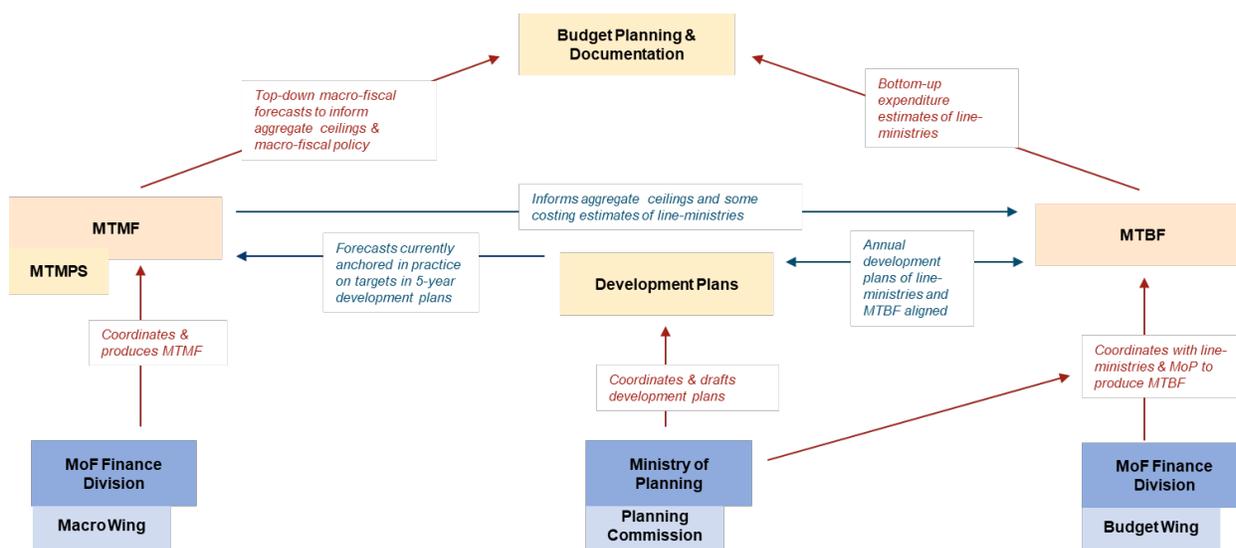
Note: *Authors' understanding of current process*

## The Other Remits and Outputs of the MEW

15.   The Fiscal Policy Office of the MEW focuses in on the fiscal sector of the MTMF, assesses proposed revenue policies, and monitors implementation of resource mobilization measures. The Fiscal Policy Office coordinates closely with the National Revenue Board (NBR) and the wider Internal Resources Division (IRD) of the MOF that the NBR resides within. The Fiscal Policy Office oversees several working groups with the IRD and NBR to assess revenue policy and compliance enhancement options and to monitor progress with the implementation of agreed revenue mobilization measures. The Office conducts the revenue forecasts that feed the MTMF. These revenue forecasts are done at an aggregate level, linked directly as a ratio with nominal GDP forecasts, and subsequently disaggregated by the IRD into economic categories that set the collection targets for the NBR. The Macro Wing and Fiscal Policy Office conduct ad-hoc work on expenditure policies, at the request of the Minister and Secretary offices. However, this is not part of their ongoing workstreams and the responsibility for this lies primarily with other Wings in the MOF.

16.   The Budget Monitoring, Evaluation, and Reporting Office of the MEW monitors and reports on the execution of the budget. The Office tracks revenue outruns against the targets on a monthly basis and coordinates closely with the IRD and NBR to investigate revenue shortfalls. The Office monitors budget expenditure execution by both economic and administrative categories and reviews the implementation of major projects and programs. This information is compiled in quarterly and semi-annual budget execution reports, and in more frequent memos presented internally to the Finance Secretary. The quarterly information is used on an ad-hoc basis to inform in-year fiscal projections by the Macroeconomic Policy Analysis & Forecasting Office. They collaborate closely on all these tasks with the BW, the Planning Commission, and the Office of the Comptroller General of Accounts. Finally, the Office assists on the drafting of related budget documentation, leads in the development of the Budget Speech, and produces related working paper reports at the request of the CC.

17.   The Wing has a coordinating role within the MOF and often supports the work of other Wings on an ad-hoc basis. The MEW staff often reports directly to the Offices of the Finance Minister and the Secretary and frequently receives ad-hoc work requests, either to support other Wings in their work or on a separate analytical piece. Given their frequent interactions with the other Wings in both their ongoing and

ad-hoc workstreams, the MEW has developed a coordinating role within the Ministry. Further, the staff are generally heavily involved in interactions with international partners when it relates to fiscal issues, including during IMF and World Bank (WB) missions. The MEW also leads on several inter-agency working groups, including the MTMF working group.

Figure 4. Current Organizational Structure of Ministry of Finance
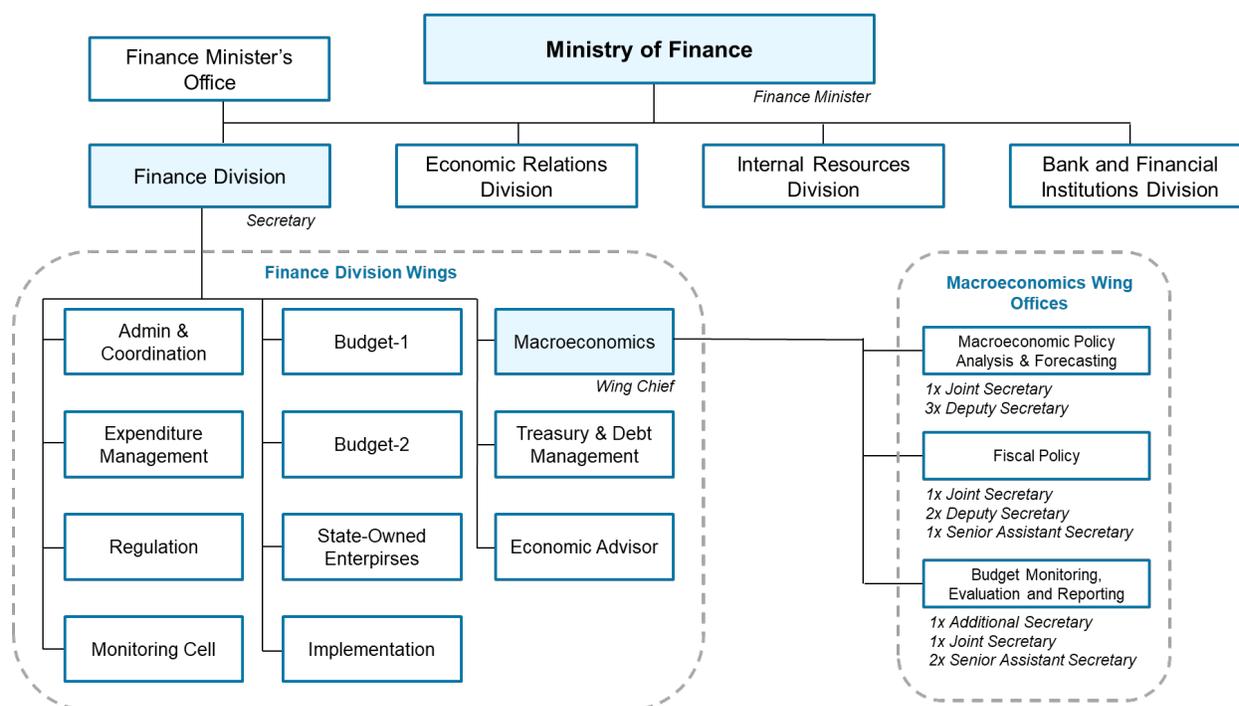
Note: Authors' understanding of current organizational structure based on MoF website

Other Related Wings of the MOF Finance Division

18.   Staff from several of the other Wings within the MOF will be involved in the TA project. The core team for the project will incorporate staff from several of the other related Wings. The MEW also works closely with these Wings in their ongoing work, including in the production of the MTMF, and engagement with these Wings will be important for the success of the project:

▪ ***Treasury and Debt Management Wing (TDMW) –*** The TDMW is responsible for: (i) managing the domestic and foreign debt portfolio of the Government, (ii) liquidity and cash management and forecasting, and (iii) overseeing the non-tax revenue sources of the Government, including those generated through financial assets. They work closely with the MEW in informing the debt and non-tax revenue figures in the MTMF. Moreover, they periodically assess fiscal sustainability and produce a Medium-Term Debt Management Strategy (MTDMS). Debt associated risks, cash liquidity, and equity management have become a larger focus of the Bangladesh Government given the recent macroeconomic context. As a result, the Wing is aiming to enhance their outputs across their workstreams. This includes developing the MTDMS into an annual document, with WB and IMF assistance on incorporating inputs from a LIC DSF.

▪ ***Budget Wings (BW)*** – The BW is primarily responsible for the preparation of the Medium-term Budget Framework (MTBF) and the annual budget, in collaboration with the line ministries, and for managing and monitoring the execution of the budget. This incorporates both the non-development

budget and the development / capital expenditure budget. For the development budget, the MOF works closely with the Planning Commission within the Ministry of Planning and the Economic Relations Division of the MOF, who play a key role in the overall management of external aid including loans and grants. The BW is split into two separate Wings, Budget-1 and Budget-2, with one Wing focused on the non-development budget and the overall consolidation of the budget and the other focused on the development budget. BW of the MOF previously coordinated the MTMF ahead of the creation of the MEW and they continue to work closely with the MEW across workstreams.

- *Economic Advisor Wing (EAW)* – The EAW workstreams closely relate to those of the MEW, although the EAW is primarily responsible for taking a longer-term perspective in their analysis. They also generally focus in on more specific analytical topics, particularly as they relate to the real sector. The major output of the EAW is an Annual Economic Review that covers all main sectors of the economy. Further, they are tasked with providing economic updates on request to key stakeholders, including relevant Ministries, the Prime Minister's office, and the President's office. Finally, they are responsible for the monitoring the implementation progress of Annual Development Programme (ADP) projects under the implementation of the MOF Finance Division and all non-ADP project.

19.   Engagement with the Front Offices and Administrative and Coordination Wing (ACW) will also be important for project success. The Front Offices include the Offices of the Finance Minister and the Secretary. Along with the ACW, these staff coordinate the activities of the MOF and advise the senior officials of the MOF. As discussed above, the MEW and Front Office staff work closely together, and the MEW staff are often asked to assist on ad-hoc tasks. The ACW also acts as the Finance Divisions human resources and training department. It will be important to keep the Front Office staff and ACW updated on the project, to ensure continued senior official support and adequate staff resource commitment for the project.

C.   INTRA AND INTER-AGENCY COOPERATION

Intra-MOF Cooperation

20.   The Wings have strong working relationships and collaborate across projects, although without formalized arrangements or working groups. Partly due to the high turnover and movement across Wings, conflict across teams does not appear to be a large issue. The MEW in particular works across the Finance Division. Nevertheless, working group arrangements around the forecasting process are not formalized, and the roles and inputs of other Wings into the forecasts are limited. There is scope to enhance the collaboration in the forecasting process and involve other Wings to a larger extent, in terms of the inputs that the MEW feeds into the forecasts and the validation of forecast outputs. Moreover, the involvement of other Wings on a core team and formalization of their involvement in the forecasting process could further cement the existing collaboration. In terms of the other MOF divisions, the MEW works closely with the IRD and NBR on revenue analysis, although further collaboration with the Economic Relations Division would be useful for strengthening grant and external financing forecasts in the MTMF.

Inter-Agency Cooperation

21.   The institutional arrangements for inter-agency cooperation are strong, but the lack of adequate forecasting tools across agencies limits discussions and policy input. The established

MTMF working group arrangements ensure that relevant agencies regularly meet to discuss the MTMF, and the CC arrangements ensure that the work of technical teams on the MTMF is communicated to and discussed by policymakers. However, the agencies all lack a medium-term macroeconomic forecasting tool with sufficient structure and linkages to facilitate an effective dialogue over forecast differences and alternative scenarios. In practice, the current discussions are limited and each of the final MTMF variable forecasts are largely decided by the respective agency responsible for the corresponding sector. The ability of the teams to input into the CC discussions, and contribute to economic policy decisions as a result, is also limited by these challenges.

D. EXISTING HUMAN AND MATERIAL RESOURCES

Staff Sizes, Availability and Turnover

22.   The MEW has a limited number of staff, given their large work remit. The Wing is composed of 13 staff in total, including the Wing Chief, 3 Joint Secretaries heading each office, 6 Deputy Secretaries, and 3 Senior Assistant Secretaries[2]. All members are full Bangladesh Civil Servants at the MOF. Each Office within the MEW has 4 staff, although in practice the staff often work across workstreams. The staff have a heavy work remit and limited staff numbers compared to similar peer units in other countries. Moreover, the MEW is often tasked with additional ad-hoc projects, further constraining staff resources.

23.   The staff and Wing Chief emphasized their motivation and commitment to allocate time resources to the project, despite the constraints. They highlighted that they have most availability outside of the budget preparation process and from the months of July to January. During virtual engagements, their office hours are from 9am to 4pm each day. However, the staff have a strong preference for in-person missions and for conducting the missions off-site from the MOF. They are frequently called into other meetings or to assist on other work while they are in the office. They also expressed a preference to conduct the missions at the SARTTAC Centre in India, which would further mitigate the risk of being called away during mission engagements. Nevertheless, there are risks to utilizing this modality, as it would bring the core group out of their institutional setting. This may hamper the project's ability to build sustainable capacity and embed the tool developed into their processes. Finally, it has been difficult to work effectively with the staff in a virtual setting during previous engagements, while in-person missions have generally been successful.

24.   Turnover risks will be the largest challenge for the success of the project. Heavy turnover is a systemic challenge across the Bangladesh Civil Service, with frequent staff movements across and within Ministries and positions. Nevertheless, the Finance Division of the MOF has an informal agreement with the Ministry of Public Administration (MOPA) to contain some of the turnover to within the Division, given the need for greater financial specialization capacity. The staff are still frequently moved across Wings and the average tenure of the MEW is reportedly around 1 year and a half to 2 years. Turnover was the largest challenge faced in the previous 2020 MTMF project that ICD and SARTTAC undertook with the MEW and BW. Only one of the members that participated on the core team during that time was still part of the MEW at the time of this report, and none of the others had any exposure or knowledge of the updated tool developed in 2020.

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[2] The seniority of posts in the MOF and Bangladesh Central Administration is: (1) Senior Secretary, (2) Secretary, (3) Additional Secretary, (4) Joint Secretary, (5) Deputy Secretary, (6) Senior Assistant Secretary, and (7) Assistant Secretary.

25. **The involvement of staff from the other Wings on the core team will be important, to mitigate turnover challenges and staff resource constraints.** Large turnover of the current MEW staff can be expected through the project timeframe. It will be important to develop a larger reserve pool, including staff from related Wings. The Wings mentioned above already work closely together and staff movements are frequent between them, given the informal agreement that the MOF has with the MOPA. Although these other Wings also face some resource constraints, only a few members from each will be required on the core team. The Wing Chiefs and staff were enthusiastic about including further members from the other Wings, and the participants for the FPP training refresher during the scoping mission were chosen accordingly. The action plan will also need to be carefully designed with further turnover risk mitigation measures, which are discussed in Section III.

Skills Capacity of Staff

26. **The staff of the Wings are self-reported generalists or "jack-of-all-trades", given the high turnover in Bangladesh Civil Service positions.** The MEW staff all have Masters or PhDs in Economics-related fields, providing them with a base of general theoretical economics knowledge and analytical skills. The staff from other Wings have diverse educational backgrounds and do not all have an economics background, with some coming from an accounting background. Nevertheless, all staff are moved frequently, resulting in the staff all developing strong generalist experience and exposure across the Finance Division and Government. Staff are rarely in the MEW long enough to develop deep forecasting and policy analysis expertise.

27. **The staff all have some background in FPP and other ICD courses.** All staff have taken a relevant ICD course at some point, including the Fiscal Policy Analysis, FPP, and Macroeconomic Diagnostics courses. This was either through SARTTAC, the Singapore Regional Training Institute, or using online edX courses. Moreover, the MEW staff have some base knowledge in working with a simple accounting framework FPP tool during their current forecasting exercises. Nevertheless, the mission team identified gaps during the FPP training refresher, particularly in the areas of sectoral accounts and linkages, macroeconomic forecasting and some aspects of fiscal and monetary policy, The staff also expressed demand for further training in these areas. Finally, despite the condensed 5-day course, staff exhibited significant learning gains of 11%[3].

28. **The Wings lack formal resources to train new staff on financial programming and forecasting.** Staff generally learn informally on-the-job or rely on external courses. The Wings expressed a desire to develop internal training material to more effectively integrate new staff and to reduce the risk of turnover. The MEW staff expressed that a TA project would need to have a heavy focus on assisting in the development of related training materials to be successful in sustaining the capacity developed. The TDMW highlighted large gaps in their current skills capacity and knowledge resources and a desire to build these up with some initial assistance, including in the areas of debt sustainability analysis, liquidity and cash management and forecasting, and debt and asset management.

Material Resources and Software

29. **The material resources and software of the MOF is adequate for the project and virtual engagements.** All staff have access to reliable laptops and internet, as well as meeting rooms and workstations. Nevertheless, as mentioned above, they emphasized a desire to work off-site to avoid being

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[3] 10 staff from MEW, BW, TDMW and EAW participated in the 5-day FPP training course. These were all potential members of the proposed core team.

called away during missions. There are some other venues they can use, including the Institute of Public Finance (IPF) venue which was used during the FPP training refresher. However, the internet and other material resources is not as reliable as at the MOF. As a result, they may require assistance with venues during virtual and in-person missions. All the MOF staff have access to Excel, while just the MEW staff have EViews licenses.

E. TOOLS AND MACROECONOMIC FRAMEWORKS

Existing Tools and Macroeconomic Frameworks

30.   There are currently two extant MTMF tools held by the MEW:

- ▪ *Accounting FPP framework* - The primary version in use is essentially an accounting framework, incorporating key accounting linkages. It is used to incorporate sector forecast inputs and check for consistency in data and forecasts across sectors. Full inter-sectoral linkages are limited in the tool, with checks just on several key aggregates, and no behavioral relationships are integrated into the tool. It initially developed with IMF assistance in 2006 and has largely kept the same structure since.

- ▪ *Updated MTMF Tool developed in 2020 -* An updated MTMF tool was developed with SARTTAC and ICD support in the previous 2020 TA project. It is akin to ICD's Comprehensive Adaptive Expectations Model (CAEM) in terms of its approach and level of complexity, including (i) key behavioral equations with adaptive expectations, (ii) the endogenization of all core variables to create a general equilibrium-like framework, (iii) a trend and gap approach and error correction model specifications, and (iv) the options to efficiently switch between model-based and judgement-based approaches for each equation, while maintaining the model approach for scenarios

31.   The accounting FPP framework is the only tool used in practice, and only one member of the MEW had knowledge about the updated MTMF Tool developed in 2020. As a result of the high turnover, only one remaining member had any exposure to the updated MTMF Tool. It has not been used since its development and none of the new staff have worked with it. In practice, the MEW continues to use the accounting FPP framework to produce the MTMF. However, the authorities emphasized that this tool is currently not meeting their needs. The current accounting framework MTMF tool is lacking a necessary structure and linkages to develop scenarios and even a baseline forecast with a sufficient economic narrative.

32.   The sector-specific forecasts of key variables are all done on a purely judgment-basis and fed into the MTMF tool. The MEW starts with a forecast of overall Real GDP growth, aligning it to the 5-year plan growth targets, and then conduct sector-by-sector value added forecasts that correspond with overall Real GDP. Inflation forecasts are conducted in a similar manner, aligned to 5-year plan growth targets. The remaining key variables across sectors are forecasted with long-term averages and adjusted to correspond with the Real GDP and inflation projections. Some monetary and balance of payments aggregates are received from the BB, during MTMF working group sessions. Where there are differences in forecasts of the same variable across agencies, the agencies decide on a consensus forecast during the MTMF working group and CC discussions. Nevertheless, the MEW and the MOF have the most say in the final overall aggregates incorporated, except for the monetary sector.

33.   The World Bank (WB) is currently providing training to the MEW on the WB Macro-Fiscal Model (MFMod)[4]. The MOF has recently agreed with donors to improve their current MTMF, particularly to incorporate the assessment of climate shocks. This is reflected in the recent ECF-EFF-RSF program agreement with the IMF, with a target date to have this by end-June 2024. Moreover, the recent Public Expenditure and Financial Accountability (PEFA) review of Bangladesh reportedly includes this, and a specific reference to the use of the MFMod, in its recommendations. This project is part of the World Bank's Strengthening Public Financial Management Program to Improve Service Delivery (SPFMS) with the Finance Division. The MEW has received one training session on this so far, and a follow-up training session is planned with the WB in the coming months.

34.   The senior officials and the staff of the Wings plan to adopt the MFMod but recognize that it might be a "black-box" tool for the foreseeable future. This is the fourth attempt in the last decade by the WB to develop a structural econometric model with the MEW. Current staff skills capacity and expertise in macroeconomic forecasting is not yet sufficient to independently manage a tool like the MFMod. Moreover, the turnover risks are heightened as the complexity of the tool increases. The senior officials and the staff are motivated to implement the MFMod and to develop an enhanced FPP tool. They aim to develop multiple scenarios in future MTMF forecasting rounds and expect that the MFMod will be particularly useful to assess the macroeconomic impact of climate shocks.

35.   The IMF is engaging the authorities on two complementary TA projects, both of which are also in early stages. ICDMM is assisting the BB on a Macroeconomic Framework TA project in the context of Macroeconomic Frameworks TA project on modernizing the monetary policy formulation framework. A scoping mission was concluded for this project in August and the next mission is planned for 2023Q1. In the other project, SARTTAC and FAD are considering a project to assist the MEW, IRD and BW in enhancing their approach to fiscal forecasting specifically. The three projects should be closely coordinated, including in the context of the MTMF working group and CC in the case of the BB project. In terms of the fiscal forecasting project, this project is in pre-scoping stages and has not been confirmed.

36.   The TDMW currently lack tools to assist them in their ongoing work. However, the TDMW managers and staff emphasized that they currently lack tools they can directly use to assist them across their workstreams, including debt-sustainability analysis, non-tax revenue forecasting, and cash liquidity forecasting. The TDMW expressed demand for TA and training across these workstreams, including more general training in cash, asset, and equity management. However, they plan to develop resources so that they can sustainably maintain the capacity built independently.

37.   The TDMW and MEW are interested in embedding a simple tool to analyze debt dynamics within their macroeconomic framework tool. The IMF and WB will support the TDMW in utilizing a LIC DSF tool every year to inform an annual publication of the MTDMS. Eventually, the TDMW aims to independently operate a LIC DSF tool. In the meantime, the TDMW and MEW are interested in incorporating a Debt-Dynamics Tool (DDT)[5] within a macroeconomic framework tool. They expect that this

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[4] The MFMod is a structural econometric model with an error correction methodology that is used for forecasting and simulation. The MFMod has an excel-based interface but the underlying model is currently run off EViews or alternative statistical packages. It is the main tool used by WB economists for the twice annual Macro Poverty Outlook forecast exercise and is used for country forecast work. There are over 181 individual country models within the MFMod framework, each with some variation depending on data availability and economic specialization. For further details, see: https://documents1.worldbank.org/curated/en/294311565103938951/pdf/The-World-Bank-Macro-Fiscal-Model-Technical-Description.pdf

[5] The DDT produces public debt projections identical to those in the IMF / World Bank debt sustainability frameworks for low-income countries (LIC DSF) and market-access countries (MAC DSA), but it is much simpler and limited in scope (e.g. the DDT does not

will assist them in better understanding the debt-path aspects of the LIC DSF, while also allowing them to assess the implications of shock scenarios from the macroeconomic framework on the debt-path in a manner that captures further feed-back loops.

F. DATA, DATA MANAGEMENT AND OTHER INPUTS

Data and Input Quality

38.   **The quality of the data is largely adequate across sectors, although there are some limitations, and the core team should prepare for upcoming data revisions:**

Sector Statistics	Data availability and limitations
Real Sector	Annual national accounts statistics is available on both the production side and expenditure side, stretching back to 1980. Final GDP estimates are released on a timely basis, 4 months after the reference period. A rebasing exercise to the new 2015/16 benchmark was completed in 2020, which addressed several outstanding issues. IMF and SARTTAC TA is supporting the BBS in developing a quarterly GDP series, which is expected to be released by the end of 2023.
Prices	There are some current limitations in pricing statistics, including some concerns about the reliability of the consumer price index (CPI) series and a lack of a comprehensive producer price index. Nevertheless, the authorities are working on several improvements to the PPI and CPI series, including using the updated index weights, incorporating Household Income and Expenditure (HIES) survey and VAT data, and using the Classification of Individual Consumption According to Purpose (COICOP).
Fiscal Sector	IMF and SARTTAC TA is supporting the MOF in developing government finance statistics on a quarterly basis and assisting them in moving more closely to a GFSM 2014 framework. Currently, consolidated central government flow data is largely available on an annual basis, although the teams also have access to budget execution data on a monthly basis. Published stock data and data on extrabudgetary and local government units are limited. The MEW has further direct access to internal fiscal data sources at a more granular level.
External Sector	Comprehensive Balance of Payments (BoP) and International Investment Position (IIP) statistics are readily available on a quarterly basis, in line with the BPM6 framework. No substantial quality issues were noted, outside of some minor discrepancies across the BoP, IIP and external debt statistics and between BoP and national accounts trade statistics. The BB is currently improving their compilation and reporting of gross international reserves, with a target to release these by mid-2023.
Monetary Sector	BB compiles monetary data using the standardized report forms framework and a consistent time series is available from December 2001. Data on non-bank financial institutions is more limited but is currently being further developed. In terms of interest rates, the policy rate (repo rate) has largely been flat. It is currently not useful for analysis and likely not of significant relevance for the economy. There are interest rates on the short end of the yield curve, such as the 91-day Treasury Bill rate, that might be more useful, but this data is not easily accessible. As the BB moves towards flexible inflation targeting, interest rates are likely to become more relevant.
Other data and inputs	The MEW are currently not making significant use of other data sources to inform their forecasts. Nevertheless, high-frequency data exists to draw on in the future, including trade data, remittances information, financial indicators, production indicators, and the Quantum Index of Industrial Production. Labor force and wage statistics are on the other hand limited, with the last labor force survey conducted in 2016/17.

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present other indicators related to solvency and the debt portfolio). Only 10 macrofiscal variables, which are often publicly available, are needed to perform a rich analysis of public debt dynamics, making the DDT accessible and easy to integrate into a wider rmacroeconomic framework. The DDT is often used to both complement the LIC DSF and as a stepping-stone for the authorities.

Data Management

39.   The MEW maintains an excel database of macroeconomic data, within their current MTMF tool. The MEW receives timely data from each of their statistical providers and maintains this data within their excel file. Through the MTMF working group arrangements, the MEW can follow-up on and request missing data. Nevertheless, the MEW highlighted a lack of access to more granular data across sectors, which limits the level of detail of their database and corresponding analysis. TDMW are currently developing more comprehensive databases on the debt portfolio and capturing more information on state-owned enterprises that generate dividends for Central Government.

40.   There is no systematic process in place for conducting consistency checks and ensuring the quality of the data. Although the current MTMF tool conducts some simple accounting checks, these are not comprehensive and are not systematically used to verify data quality. There is scope to improve data management processes of the MEW that ultimately feed into their forecasts. A more comprehensive tool that incorporates further consistency checks would make the process more efficient. The issues that these checks highlight can also place the team in a better position to challenge data providers where they have data concerns.

G. NEEDS ASSESSMENT: SUMMARY

41.   The findings in the previous section highlight several key needs of the MEW and the MOF that, if addressed in the project, could greatly assist them in more effectively achieving their objectives:

- ▪ *The MEW lacks an MTMF tool with the necessary structure and linkages to develop baseline forecasts with satisfactory economic narratives.* The current accounting framework that the MEW is using to produce MTMF forecasts, and the corresponding judgement-based forecasts are not meeting the needs of the team. The resulting MTMF is largely aligned to targets and cannot adequately be used to assess the current macroeconomic baseline path. Moreover, there is room to improve the accounting linkages and consistency checks and processes on historical data, to improve the database management and data quality checks of the team.

- ▪ *The MEW requires a tool that can allow them to assess a variety of policy and risk scenarios, including those related to climate and the debt-path.* Given the large reform agenda of the Government and the growing domestic risks and global uncertainty, the FD has demand for a tool that can assist in producing multiple alternative MTMF scenarios. External partner recommendations and program targets incorporate elements of this, particularly as they relate to climate risks. Moreover, assessing the likely debt-path and impact of shocks has recently become a more immediate priority for the FD.

- ▪ *A tool that can be sustained independently and used meaningfully by the FD, amid high turnover, must be accessible to a wider group of staff.* Many relatively complex tools and models have been built with the MEW over the last decade, but use of these tools was limited in practice. The single largest underlying reason for this was the high turnover in the Wings of the FD. Staff generally do not have the tenure to build up necessary forecasting and policy analysis capacity and mentor new members as they join. A more accessible tool will address the current skills capacity of the MEW, allow for the participation of larger pool of staff from other Wings, facilitate the integration

of new future members of the MEW, and enable more effective dialogue with policymakers and the wider MTMF working group.

- *__The FD wishes to address skills capacity gaps in a sustainable way that can mitigate turnover risks.__* The staff emphasized a need to develop training material and user guides, and to develop a tool to be as user-friendly as possible. This will be important to further mitigate turnover risks and facilitate the training and integration of future new members of the team, as well as provide reference material for the current members to refer to as they proceed on rounds of forecasting. The staff also identified training needs in the areas of sectoral accounts, macroeconomic forecasting, and fiscal policy.

SECTION III. PROPOSED ACTION PLAN

A. INTRODUCTION

42.   The mission reached an agreement "ad referendum" on February 1, 2023, on a draft action plan to develop, operate and institutionalize a macroeconomic framework tool. The core team of the Finance Division (FD) within the Ministry of Finance (MOF) will develop a macroeconomic projections tool based on a customized and expanded version of the Macroframework Foundations Tool (MFT), to strengthen institutional capacity on macroeconomic analysis and forecasting at the MOF. The main counterpart for this project is the Macroeconomic Wing (MEW). The MEW will lead and coordinate the project from the MOF's end, with involvement of staff from the Budget Wing (BW), Treasury and Debt Management Wing (TDMW) and Economic Advisory Wing (EAW) acting as a reserve pool. This action plan was informed by the scoping mission findings and needs assessment. The current section details the objectives of the plan and the intended steps, timeframes, and modalities to achieve the objectives. The proposed tool and customization required is discussed and the core team responsible for the project engagement is stated. Risks to the project are highlighted and proposed mitigation measures are proposed.

B. PRINCIPAL OBJECTIVES, AXES AND DELIVERY SCHEDULE OF THE ACTION PLAN

43.   Three principal objectives for the project were set: (1) improve the depth, structure and consistency of baseline MTMF projections, as well as the MTMF applicability to the evolving Bangladesh context, **(2)** Expand the use of the tool to assess the effects of policy measures and account for various macroeconomic risks, including the effect of shocks on the debt path and the effects of climate change, and **(3)** Enhance the analytical contribution of the MEW and the core team to technical and policy discussions held at the MTMF Working Team and the Coordination Council that feed into policy decision-making at the higher level.

44.   To accomplish these objectives, the TA will be defined around the following axes:

a. Improving the macroeconomic database and inputs that feed into the MTMF, including building on the systematic consistency checks incorporated.

b. Customizing the MFT to Bangladesh specific requirements, data, and other inputs, with a view to replace the MTMF as soon as technically and institutionally possible.

c. Identifying the main policy options and macroeconomic risks faced by the Bangladesh economy, incorporating them in the selected tool and drawing policy implications. Incorporation of assessment of compliance with informal fiscal rules into tool.

d. Expanding the MFT to further meet the needs of the core team, including disaggregation of key variables and interfacing of the tool with the Debt Dynamic Tool.

e. Incorporating a simple framework and sheet to assist the core team in considering how climate shocks, climate effects and climate policies might impact the macroeconomic framework, to inform judgements / add-factors.

f. Elaboration of user guide and associated material developed for the MFT to guarantee its institutionalization and facilitate maintenance despite staff rotation.

g. Using the macroeconomic forecasts from the MFT to improve the policy advice and the analytical content of the core team in their reporting outputs and contribution to policy discussions.

45.   **The Action Plan Delivery Schedule (Annex 1) has been designed with 10 missions across 2-3 years.** A continued engagement for about 2-3 years will be necessary to achieve the objectives of the TA project. At this time, 10 missions have been agreed, including 1 buffer mission and this scoping mission. The tentative schedule runs from January 2023 to July 2025. The delivery schedule, which will be regularly reviewed and updated, sets out the expected key deliverables at each stage of the project, including in-between mission work. The logical framework (Logframe - Annex B) provides a clear roadmap for monitoring the progress in delivering this CD. It assesses various outcomes critical for developing and effectively using a macroeconomic forecasting and analysis tool by the core team. It also identifies critical milestones with targeted dates to assess progress.

46.   **The project has been split into 4 overall phases based on the accomplishment of major milestones.** The first phase, which runs over the first half of 2023, focuses on scoping and an introduction to the MFT. In the second phase and second half of 2023, the core team will develop an initial version of the MFT customized to Bangladesh. By the end of the phase, the core team will begin using and practicing with the tool to run shadow baseline and scenario forecasts. The MFT will be further expanded and customized to meet the needs of core team in the first half of 2024. Conditional on the confidence the core team has developed with the new tool by the end of the second phase, the team will replace their previous MTMF tool with the MFT for their forecasting process. Finally, the core team will take steps to fully institutionalize the tool through the remaining project timespan, including fully replacing the current MTMF tool with the customized MFT to produce the MTMF.

C. CORE TEAM AND TECHNICAL ASSISTANCE MODALITIES

47.   **A core team of the authorities will lead in the development of the tool, with ICD and SARTTAC technical assistance across the phases and axes.** To ensure effective transfer of capacity, the core team of the authorities will lead on the development of the tool, with ICD and SARTTAC supporting throughout in the form of technical assistance and complementary training where required. The core team will be responsible for developing the tool during missions with ICD and SARTTAC guidance. The authorities have committed staff resources to the missions, and they have agreed on the need to devote time, effort, and commitment to working on the MFT in between missions, including periodical remote check-ups by the mission team. Work and training between missions will be critical to ensure timely delivery of the technical assistance objectives that were jointly agreed on during the scoping mission.

48.   **The authorities have nominated a core team of 17 staff (Annex C).** The composition will include 10 staff from MEW, 3 from TDMW, 3 from BW, and 1 from EAW[6]. The team will be led by Dr. Ziaul Abedin (Joint Secretary, MEW) and coordinated by Mr. Tawhid Ilahi (Deputy Secretary, MEW). The project will be overseen by the Wing Chiefs and Joint Secretaries of the respective departments, with the Additional Secretary Rehana Perven, MEW Wing Chief, acting as the primary supervisor. These supervisors will be updated regularly on progress and invited to key meetings. The core team will engage with wider stakeholders at key stages in the tool development, including technical counterparts from the agencies that make up the MTMF working group.

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[6] See C "Existing Human and Material Resources" in Section II of this report for details on the staff sizes and skills capacity assessment of the Wings.

49.   An emphasis has been placed in the design of the project and set up of the core team in developing a reserve pool to mitigate high turnover risks. The size of the core team will be supplemented with members from the other Wings that are already involved in the MTMF forecasting process. TDMW works with MEW on developing financing assumptions, BW inputs on expenditure forecasts, and EAW assists across the framework. The MEW staff within the core team will lead the development of the tool in-between missions, while the staff from the other Wings will directly participate during missions. To ensure sustainability of the tool and capacity development, the core team will also work on developing a tool user manual and associated material. As turnover occurs and new members join the MEW, the core team will be replenished, and the ICD and SARTTAC team will support the existing staff in training new staff.

50.   The core team has already put in place planned methods for regular communication and sharing of information. This includes the use of a WhatsApp group, a mailing list, and online platforms including Zoom and Microsoft Teams. Scheduled meetings will be planned and coordinated to ensure progress during in-between mission work. Online data sharing platforms are being explored by the team to facilitate the sharing of the tool, a database and other relevant information. Finally, responsibilities and tasks for each of the members will be discussed, assigned, and revisited throughout the project to ensure engagement and ownership, while considering each Wing's expertise.

51.   ICD and SARTTAC will utilize a hybrid model of in-person and virtual missions throughout the project. Currently, about half of the 10 missions are planned to take place in-person -- health-considerations, safety, and other factors permitting. The in-person missions will be used to engage on more intensive work tasks, while virtual missions will be used to maintain momentum and for follow-up work. ICD and SARTTAC will provide clear guidance for tasks to complete in-between missions and will be available to provide further virtual support. Virtual follow-ups by the mission team will be planned. Timing has been allocated in the delivery schedule for complementary training to be provided where individual gaps are identified, as well as refresher courses to initiate upcoming phases. Training will be particularly important in the areas of sectoral accounts, macroeconomic forecasting, and fiscal policy. The mission team will either provide this training in the form of highly summarized training on specific topics within ICD courses, or they will refer individual core team members to relevant IMF online courses and reference material.

D. PROPOSED MACROECONOMIC FRAMEWORK TOOL

52.   The mission team discussed with the MOF four options for a proposed tool development during the scoping mission. The four options were: (i) build on the existing accounting framework being used currently by the MEW to produce the MTMF by developing its intersectoral linkages and adding basic behavioral equations[7], (ii) replace the existing framework with the tool developed in the previous project in 2020 and finalize its development[8], (iii) replace the existing framework with the MFT template (see Box 1 for a brief description of the MFT), tailored to the country's circumstances and expanded as required, and (iv) replace the existing framework with the Comprehensive Adaptive Expectations Model (CAEM) template (see Annex 4 for an overview of the CAEM), tailored to the country's circumstances and expanded as required.

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[7] This tool was built with IMF assistance many years ago and is an accounting framework without behavioral relationships.
[8] This tool is akin to the CAEM in terms of its approach and level of complexity, including (i) key behavioral equations with adaptive expectations, (ii) the endogenization of all core variables to create a general equilibrium-like framework, (iii) a trend and gap approach and error correction model specifications, and (iv) the options to efficiently switch between model-based and judgement-based approaches for each equation, while maintaining the model approach for scenarios.

53.   The authorities stressed that their current option (i) MTMF tool in use is not meeting their needs. The current accounting framework MTMF tool is lacking a necessary structure and linkages to develop scenarios and even a baseline forecast with a sufficient economic narrative. Further, despite allowing for some level of accounting consistency across sectors, the tool could use substantial cleaning and extensions in these aspects as well. It was agreed that the best approach is to develop a new tool to replace the current tool, pulling on some of the strengths of their current tool while customizing the new tool. As reflected in the delivery schedule, the core team aims to run both tools in parallel in the initial phases before the current tool is ultimately replaced.

54.   The proposed tool agreed on is the Macroframework Foundations Tool (MFT) option (iii) above. There were several related reasons that option (iii) was chosen over option (ii), the tool developed in the previous project in 2020, and option (iv), the CAEM. Principally, turnover in the MOF is a substantial and systemic challenge, and staff in the MEW rarely have the tenure to develop strong forecasting expertise. A tool that can be sustained by the staff independently must be accessible to a wider range of staff. This will allow new staff to more quickly understand and work with the tool and for a reserve pool across other Wings to understand how the tool operates. Further reasons for the choice included:

- *Current macro-forecasting capacity* - The current staff have limited exposure to macro forecasting and econometrics, and their current forecasting methods are entirely judgment-based. Aspects of the other options, such as the error correction model specifications, will be a barrier to initial utilization of the tool.

- *Previous project challenges* - The experience from the previous 2020 project further highlights the risks of implementing a more complex tool in an environment with high turnover. The current staff were largely unaware of the tool's existence.

- *Senior official requests* - The MEW currently has requests from their senior officials to develop a tool quickly to produce scenarios. The accessibility of the MFT allows for earlier outputs that can be used by the team and can be further customized and enhanced throughout the project.

- *Corresponding WB TA project* – There are further synergies between a more accessible tool, like the MFT, with the MFMod tool that the WB is training the MEW on[9].

- *FPP training course experience[10]* - Members of the core team worked with the barebones version of the MFT used for training during the FPP training segment of the scoping mission. By the end of the 5 days, they were relatively comfortable working with the tool and each of the breakout groups were able to use the tool to develop and explain their own scenarios.

55.   The CAEM option (iv) and tool developed in the previous project in 2020 option (ii) are relatively more complex and less accessible than the MFT in several key respects. For instance, they are less streamlined than the MFT, with many more additional sheets for users to understand, and with greater disaggregation of sectors. Along with this, data and input requirements are heavier for these tools. The other two tools also aim for more "general-equilibrium" like approaches, with greater endogeneity of several key variables (e.g. exchange rates), along with a greater focus on trends and gaps and error correction model specifications. Overall, these two tools are relatively less accessible when compared to the MFT and the MFT arguably lends itself better to customizing the tool from the ground-up.

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[9] The section below "Coordination with Other TA Projects" discusses this in more detail.
[10] There were 10 participants that attended the shortened 5-day FPP training course, all of whom will be members of the core team. These participants were from the MEW, BW, EAW and TDMW. Despite the highly condensed course, the members had significant learning gains of 11% and showed a broad understanding of the barebones MFT training tool used for the workshops.

Box 1. Overview of the Macroframework Foundations Tool (MFT)

The Macroeconomic Framework Foundations Tool (MFT) is a tractable, integrated model of the economy that can be used for forecasting and policy simulation analysis. It is built on the foundations of Financial Programming framework (FPP). It retains the original four-sector structure common in FPP but is streamlined in terms of size. The Tool can be easily tailored to country-specific Technical Assistance needs, and adapted to their capacity constraints, including institutional, staffing, and/or statistical limitations. The MFT's key features are a function of its simplicity, flexibility, consistency, and minimum data and modest calibration requirements to operate. The tool incorporates essential links and consistency checks, accounts for financing sources, and can adapt to multiple objectives, yet allows the user to focus on the most important issues.

The MFT employs an easy-to-use dashboard and macros to create policy scenarios, a key deliverable under TA projects. Once a forecast for a baseline scenario is complete, the Tool can be used to conduct simulations of changes in (i) underlying forecast assumptions; (ii) introduction of specific shocks to the forecast; (iii) and /or other policy measure refinements or changes, to assess the impact of these on the macroeconomy and on the projections. As such, the MFT allows users to build different forecast scenarios under various assumptions, thereby contributing to richer policy analysis.

The key behavioral expenditure and inflation equations in the MFT underpin the Model's projections, along with standard macro-economic identities. The expenditure equations have a simple structure, but a rich set of inter-linkages across key variables. The model incorporates a simultaneous system so that the interlinkages are solved in an internally consistent manner. E.g. private consumption depends on disposable income and real interest rates. But these independents contain feedback from the main simultaneous variables in the model (GDP, inflation) as well as policy variables (taxes, interest rates, exchange rates) and exogenous variables (primary and secondary income in the BOP). Additional variables can be easily incorporated to allow for additional risk and policy scenarios.

Examples of key behavioral equations in MFT:
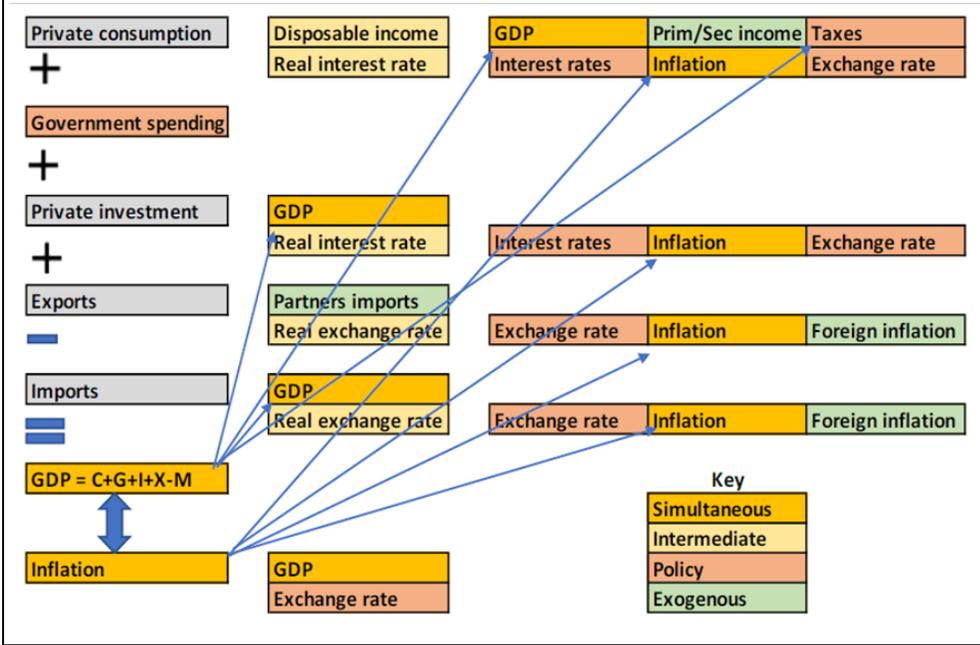
56.   The MFT will require customization to fit the Bangladesh context and the needs of the core team. The tool will be customized over the course of the project, including in the following ways: (i) input sheets will be adjusted to better incorporate the local Bangladesh data and conduct comprehensive consistency checks, (ii) an input sheet module will be incorporated to estimate potential output and other relevant trend variables, (iii) the behavioral equations and parameters and methods for forecasting particular variables will be tailored to the Bangladesh context, (iv) the fiscal and external sectors variables will be disaggregated and adjusted to fit the needs of the core team, (v) the Debt Dynamics Tool will be integrated to allow an assessment of shocks on the debt-path and deepen their understanding of aspects of the LIC DSF, (vi) the possibility of incorporating a climate dimension will be investigated, given the priority this has in the recent IMF ECF-EFF-RSF program, and (vii) elements may be pulled from the CAEM, including the method to forecast exchange rates, given the planned transition in Bangladesh to an inflation targeting regime.

E.   COORDINATION WITH OTHER TA PROJECTS

57.   The MOF has several other ongoing and possible TA Projects, and it will be important to ensure coordination between these. In particular, the Wings are engaged on MFMod training with the WB, a potential FAD and SARTTAC project to assist on fiscal forecasting, and a planned annual assistance on a LIC DSF analysis. Effective coordination will allow the Wings to build on synergies between the projects. Meanwhile, TA fatigue could become an issue if the projects are not timed taking this into consideration. Multiple projection tools could create confusion in the forecasting process if the work done using these tools is not well coordinated. The project action plan has taken this into consideration, particularly by timing the missions accordingly and considering options for building on planned work across the other projects. Moreover, the core team and mission team will coordinate with relevant stakeholders throughout the project.

58.   The MOF intends to utilize both the MFMod[11] and the MFT and it will therefore be important to coordinate the two tools given their similar purposes. The MFMod[12] tool has a higher level of complexity than previous tools that other TA projects attempted to build with the MOF, which were unsuccessful. The staff recognize that this may initially be a "black-box" for them, given current staff capacity. Moreover, turnover risks going forward will be acute. Nevertheless, a smaller sub-group of the core team may develop the capacity to utilize the MFMod to delve into more depth on the analysis of scenarios, particularly as they relate to climate shocks, and as a further check on the forecasts developed in the MFT. Aspects of the two tools should be coordinated, including ensuring similar external exogenous inputs and historical data, calibration of shared parameters across the two tools, examination of medium-term trends, and comparison and results and discussion on differences in the forecasting rounds.

59.   The fiscal forecasting project with FAD and SARTTAC is in pre-scoping phases, but the action plan prepares for the integration of this work. As part of the enhancement of the MFT tool, the core team will work on creating more granularity within the fiscal sector to correspond with the tool and methods built during the possible FAD and SARTTAC project. Similar members may participate across both teams, although the fiscal forecasting team is likely to incorporate more members from the BW and

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[11] For further details on the MFMod, see the technical description in the following link:
https://documents1.worldbank.org/curated/en/294311565103938951/pdf/The-World-Bank-Macro-Fiscal-Model-Technical-Description.pdf
[12] As discussed in Section II "Scoping Mission Findings and Assessment", the MOF has some external requirements to use the MFMod and produce climate scenarios for the MTMF.

the NBR. As seen in several other country cases, the two projects can have strong synergies, with the work done on the fiscal sector feeding directly into the wider framework, strengthening forecasts across sectors. Nevertheless, this work across two-projects could also create potential spill-over risks and delays. As part of the coordination, mitigating these challenges will be a priority.

60. **The incorporation of a DDT component within the MFT can complement the annual LIC DSF exercises.** The TDMW and the wider core team are enthusiastic about integrating the DDT into the MFT. This will allow the teams to better understand the debt-path dynamics within the more complex LIC DSF. Moreover, it will allow for the assessment of the implications of shock scenarios from the macroeconomic framework on the debt-path in a manner that captures further feed-back loops. Missions will not be held during the annual LIC DSF exercises, to ensure no overlap for members of TDMW on both teams.

61. **The authorities are aware of TA fatigue risks, and they have taken this into consideration when inputting on the tentative mission dates and core team composition.** They have selected the core teams strategically across the projects, as to not overburden individual members. Moreover, mission dates have so far been planned as to not have any close overlaps. In terms of the MFMod project, the MOF has had one training session late-last year, where a small core team had an in-person training in Washington, DC. One further training is planned around May, when a WB team will come in-person to Bangladesh over a few weeks. No further missions are currently planned, although the WB have highlighted that they are available for future training follow-ups. The bulk of the work on developing the initial customized MFT with the core team will take place in the second half of 2023, outside of the busier budget-process period of the staff.

F. RISKS AND MITIGATION

62. **This project is subject to several risks—but these can be mitigated:**

- *Heavy staff turnover [High Risk]* – The MEW has experienced heavy turnover in the past years, which was the largest challenge faced under the previous project. None of the core team that worked directly on the previous tool in 2020 are still in the wing. In general, staff in the Bangladesh civil service are moved frequently. *Mitigating factors: The choice of the tool was heavily influenced by the aim to mitigate this risk, as discussed earlier. This TA project will work with a larger core group that will be involved at various stages and replenished to create a continuous reserve pool. Meanwhile, a heavy focus has been placed in the design of the project on the development of a tool user manual, associated material, and training of new members of the wing by current members.*

- *Staff resource constraints [Moderate Risk]* – The MEW has a limited number of staff and a large remit. The core team will be particularly busy during MTMF forecasting rounds and in the lead up to the budget process. *Mitigating factors: The delivery schedule has been designed around the busy periods for staff. Further, tasks will be allocated during in-between mission periods, so staff are able to allocate their own time effectively. A hybrid modality will allow for further flexibility. This risk is further mitigated by the strong senior MOF management support for the project and their desire to strengthen capacity in the Wings. Senior management will be kept updated on progress and project resource needs throughout.*

- *TA fatigue and conflict with multiple projection tools [High Risk]* - The Wings are engaged on several other TA projects, including the MFMod development with the WB, a potential project to improve fiscal forecasting, and the planned annual LIC DSF work. The core team are confident to

proceed with all TA projects but, together with the risk mentioned above, may quickly become overburdened. Moreover, there is a risk that multiple un-coordinated projection tools could complicate the forecasting process, particularly where the tools may have similar intended purposes. *Mitigating factors: The TA projects must be closely coordinated, and the associated tools should be linked to some extent, either directly through interfaces or through steps in the forecasting process to ensure comparison and consistency to the extent possible of tool results. The tool chosen for this TA project is relatively more accessible than the tools being developed in the other TA projects while, at the same time, it can act as a stepping-stone or bridge to these other tools.*

- *Lack of engagement during hybrid deliveries [Moderate Risk]* **–** IMF teams have had difficulties in the past engaging with the MOF during hybrid deliveries, particularly during the Covid-19 pandemic. It has sometimes been difficult to gain commitment to virtual delivery dates and maintain engagement. *Mitigating factors: A hybrid modality will allow the mission team to engage the core group in-person throughout multiple missions each year. These in-person missions will be chosen strategically and front-loaded to develop necessary momentum and engagement for the project. Further, in-person missions will focus on accomplishing more intensive tasks, while virtual deliveries will follow-up on lighter tasks and maintain momentum. Other options of delivery will also be explored.*

- *Challenges in institutionalizing the tool [Low Risk]* **–** Similar TA projects are often successful in building an improved tool with a small core group, but face challenges when it comes to the institutionalization of the tool into wider policy processes. Moreover, current MTMF projections are largely based on targets set by policymakers, and conflicting projections from a new tool may be difficult to publish. *Mitigating factors: A process for developing and utilizing an MTMF is already in place, including functioning cross-agency working groups to discuss the MTMF at both the technical and policy decision-making levels. This project will help to enhance the process and strengthen the tool's usage, but it can effectively piggy-back on the developed processes already in place. The MEW has the mandate to coordinate improvements to the MTMF, and the wider working group will be involved at key milestones throughout the project. Further, the recent multi-year WB and IMF programs include targets that require strengthening of macroeconomic forecasting and the analysis of shocks. Finally, the relative accessibility of the MFT favors its institutionalization. This accessibility allows for a wider core team to engage directly with it, including new future members, and can more easily facilitate discussions with other technical teams and policymakers.*

- *Risks due to extreme weather and global economic shocks [Moderate Risk]* - Extreme weather such as cyclones and flooding, as well as other external shocks from financial markets and global demand, are serious risks in Bangladesh that are difficult to mitigate. Such shocks could disrupt not only economic activity but also the normal functioning of the authorities, like the experience during the COVID-19 pandemic. This could leave less space for implementing the project than envisaged now. *Mitigating factors: The TA delivery needs to remain flexible in terms of when to engage and reconsider the timing of missions if needed. To mitigate external shocks, economic imbalances need to be reduced, including with the help of improved macroeconomic and scenario analysis provided as part of the TA project. Holding in-person missions in the SARTTAC center may be an option if these risks prevent the mission team from attending in-person in Dhaka.*

ANNEX 3: DRAFT PROJECT DELIVERY SCHEDULE

Key Outputs	Expected Timing
Phase 1 – Scoping and introduction to the MFT	
Mission 1 - Scoping mission (in-person) * Assessment of current forecasting and policy analysis systems. * Agreement ad-referendum on project action plan, including core team and delivery schedule. * Refresher FPP Training. * Core team to practice with barebones MFT used for training during workshop sessions, developing rudimentary baseline and policy scenarios.	**January 2023**
In-between mission work: * FPPx1 online taken by core team depending on knowledge gaps identified. * Set-up online file-sharing systems and processes.	
Mission 2 (virtual): * Recap of FPP training course from previous mission and FPP process. * Practice on estimating potential output, using HP filter and growth accounting approaches. * Individual members of core team to practice using the MFT populated with WEO data, with generic equations and without any thorough customization. Workshops to re-create recent staff-report forecasts using MFT, by adjusting calibration of parameters and / or using add-factors. * Thorough discussion on ways in which tool will need to be customized to meet needs of core team, including level of disaggregation required. * Thorough discussion on roles and responsibilities of the core team members in the development of the tool and in the forecasting process.	**April 2023**
Phase 2 – Initial customization of MFT to Bangladesh	
In-between mission work: * Collection and compilation of local data for main accounts and other essential data, drawing on existing macroeconomic database, pulling on existing framework data. * Core team to continue taking FPPx1 depending on knowledge gaps identified.	
Mission 3 (in-person): * Compilation of macroeconomic database and customization of input sheets for tool, including data quality and consistency check tab. * Consistency checks and identification of data issues. Meetings with data providers. Plan developed on ad-hoc short-term solutions and more permanent long-term solutions to address data concerns. * Macro-forecasting overview training and individuals to practice forecasting exercises, including estimating / calibrating parameters with a focus on exports and imports.	**July 2023**
In-between mission work: * Sector focused parts of FPPx2 and/or sections of the MFAx online courses taken where gaps identified. * Further discussions on structure of sector output tables. * Outstanding data issues investigated. * Incorporation of macros to facilitate solving the framework	
Mission 4 (virtual): * Finalizing sector specific discussions and practice on forecasting methods and options for key real sector and external sector variables.	**September 2023**

* Develop and test behavioral equation and forecasting options, including estimation/calibration, for real and external sector equations and options for production side inputs.	
In-between mission work: * Begin work on forecasting approach for key variables in remaining sectors. * Continue sector-focused parts of FPPx2 and/or sections of the MFAx online courses.	
Mission 5 (in-person): * Begin development of a user-manual and associated material * Finalize customization of fiscal and monetary sectors. * Produce a full-scale baseline scenario. Analyze the basic properties displayed by the model and interpret the results and assess differences against current MTMF forecasts.	**January 2023**
Phase 3 – Expansion of the MFT to meet the needs of Core Team	
In-between mission work: * Continue development of the user manual and associated material. * Initial model properties testing for glitches, errors, etc. * Review discussion on level of disaggregation required for forecasting and analysis needs of core team. * Collect newly updated and revised data across sectors, following statistical improvements expected in 2023. * Discuss scenarios to test in upcoming mission, including policy and shock scenarios. * Define policy-neutral, scenario, baseline scenario, target scenario, policy scenarios and shock scenarios.	
Mission 6 (virtual): * Present tool development and baseline forecasts to wider stakeholders (within MOF and/or MTFM working group). * Begin expanding out and disaggregate the sectors in the MFT as required. Integrate linkages across sectors and develop additional relationships as needed. * Begin work on developing climate module. * Review data changes and incorporate updated accounts into tool where appropriate. * Comparison of key inputs, parameters, and outputs against MFMod and discussion on where coordination could be refined. * Produce and compare multiple scenarios, including risk and policy scenarios.	**February 2024**
In-between mission work: * Take DDTx course online. * Continue expanding out and disaggregating the sectors as required. * Use the tool to produce baseline and policy scenarios and potentially begin using these as official forecast results, replacing previous MTMF tool.	
Mission 7 (in-person): * Interfacing of DDT with tool. * Assessment of debt-path and impact of shocks. * Initial work on assessment of compliance with informal fiscal rules into tool. * Compare against most recent LIC DSF debt-path results. * Incorporate any additional satellite model developments into the tool as appropriate. * Continue discussion and work on a climate module.	**June 2024**
In-between mission work: * Continue model properties testing for glitches, errors, etc. * Cleaning of tool to incorporate all changes to-date. * Updating the user manual and associated material to incorporate work done to-date. * Training of new members on core team, by current core team members.	
Phase 4 – Tool institutionalization	
Mission 8 (in-person):	**September 2024**

* Re-run baseline. * Expand on policy and risk scenarios off new baseline. * Discuss improvement needs in reporting and working group processes. * Incorporate tool outputs into the reporting process, customizing output tables and graphs as needed. * Presentation to MTMF working group and wider stakeholders in MOF and incorporation of comments and feedback. * Review of forecasting calendar with MTMF working group and updated discussion on inputs into new tool and linkages with other tools, including satellite models and other agency forecasts. * Review of other inter-and-intra-institutional set-ups and arrangements affecting the update and functionality of the tool's implementation to date and its integration into the policy making process.	
In-between mission work: * Update of the user manual and associated material. * Training of new members on core team, by current core team members. * Formalize improvements to reporting and working group processes.	
Mission 9 (virtual): * Buffer mission in case further extensions or assistance is required by the core team.	**December 2024**
In-between mission work: * Further forecasting round completed using tool. * Finalize user manual and associated material.	
Mission 10: Concluding Mission (in-person): * Review recent forecasting round done by core team, presentation and reports produced. * Incorporation of possible additional customized elements and routines.	**July 2025**

Annex A: Resuls Framework

Objective:
Develop capacity in macroeconomic forecasting and policy analysis to support policy decision making and communications - GMA

Outcome:
Authorities have a baseline understanding of their existing macroeconomic forecasting, policy analysis and analytical capabilities and opportunities for improvement

Annual Assessment Rating:

Outcome Rating Date: 16/12/2022

Outcome Indicator	Baseline Value	Target Value	Current Assessment Value
Diagnostic or scoping have produced baseline and opportunities for improvement	No baseline	A project plan for developing capacity on macroeconomic forecasting and analysis	4

Milestone Name	Target Completion Date	Milestone Actual Completion Date	Milestone Rating
Aide Memoire detailing findings from scoping and mission	01/02/2023		4
Detailed Action plan has been agreed with the authorities	01/02/2023		4

Outcome:
Improved analytical skills, and better macroeconomic forecasting and policy analysis capacity

Annual Assessment Rating:

Outcome Rating Date: 16/12/2022

Outcome Indicator	Baseline Value	Target Value	Current Assessment Value
Relevant staff have successfully completed agreed training delivered via various modalities (online, classroom courses, workshops)	No baseline	80% of core team responsible for MPT successfully completed agreed training	1

Milestone Name	Target Completion Date	Milestone Actual Completion Date	Milestone Rating
A learning gain of at least 10 percent in the January 2023 shortened FPP course	01/31/2023		4

Core team responsible for MPT have successfully completed agreed training on sector accounts and interrelations	05/31/2023		1
Core team responsible for MPT to have successfully completed agreed training on fiscal policy analysis, FFPx2 and macro forecasting	01/31/2024		1
Core team responsible for MPT to have successfully completed agreed DDTx training	05/30/2024		1

Outcome Indicator	Baseline Value	Target Value	Current Assessment Value
Analytical framework centered around the MPT is used to produce medium-term forecasts, scenarios as well as risk and policy analysis	MPT is not operated by staff	MPT is completed by staff supported by TA, and staff demonstrates absorption of knowledge to forecast with the MPT, analyze its results and produce different scenarios	1
Relevant staff demonstrates the capability to independently operate the MPT and other auxiliary analytical models and tools	Core team have not demonstrated capability	Core team independently operate the MPT and demonstrated capability to the ICD team	1

Milestone Name	Target Completion Date	Milestone Actual Completion Date	Milestone Rating
Core team responsible for MPT successfully incorporate inputs for MPT and conduct consistency checks, identifying any issues	08/30/2023		1
Individuals within the core team responsible for MPT successfully demonstrate an ability to run baseline and scenarios using the generic MFT populated with local data	08/30/2023		1
Core team responsible for MPT successfully customize the current MFT template to the Bangladesh economy	12/30/2023		1
Core team responsible for MPT successfully enhance the MFT in aspects agreed on during the previous milestones, to further meet the needs of the core team	07/30/2024		1
Core team responsible for MPT demonstrate ability to conduct debt-path analysis and ability to test for different risk scenarios	07/30/2024		1

Outcome Indicator	Baseline Value	Target Value	Current Assessment Value
Roles and responsibilities identified/streamlined/clarified within the core forecasting team	Roles are not clarified and documented	Roles and responsibilities of core team responsible for MPT are clear and documented	1

Milestone Name	Target Completion Date	Milestone Actual Completion Date	Milestone Rating
Core team responsible for the MPT agreed on and defined roles and responsibilities	04/15/2023		1
One-year passed with core team and participation maintained or replaced with equivalent number of representatives	04/15/2024		1

Outcome:
Analytical models and forecasting tools are developed and operational

Annual Assessment Rating:

Outcome Rating Date: 16/12/2022

Outcome Indicator	Baseline Value	Target Value	Current Assessment Value
Macroeconomic Projection Tool (MPT) is developed in the form of an Excel-based macroeconomic framework for forecasting and policy analysis, respecting accounting relationships	No MPT developed or refined	MPT has been developed and customized to the Bangladesh economy	1

Milestone Name	Target Completion Date	Milestone Actual Completion Date	Milestone Rating
Core MPT team has fully customized the MPT for the Bangladesh economy	07/30/2024		1

Outcome Indicator	Baseline Value	Target Value	Current Assessment Value
A user manual on MPT and other auxiliary models and tools is prepared, and is readily available to all staff	No user manual exists	A user manual has been prepared and available	1

Milestone Name	Target Completion Date	Milestone Actual Completion Date	Milestone Rating
Initial draft of user manual is developed	12/31/2023		1
User manual finalized	6/30/2025		1

Outcome:

Decision-making process is well-structured, streamlined, and documented, and associated roles and responsibilities are well-defined.			
Annual Assessment Rating:			
Outcome Rating Date: 16/12/2022			
Outcome Indicator	**Baseline Value**	**Target Value**	**Current Assessment Value**
Projection Coordinator assumes official responsibility for coordinating and leading the forecasting activities	Limited clarity of coordination and split roles, responsibilities and outputs	Well defined and well institutionalized coordination between MPT team and wider MTMF working group	1
Milestone Name	**Target Completion Date**	**Milestone Actual Completion Date**	**Milestone Rating**
Agreement on roles, responsibilities, and outputs between the core MPT team members in relation to tool development and use	04/15/2023		1
Presentation and discussion of results from the customized MFT to the MTMF working group	03/31/2024		1
Final agreement on linkages across tools in use by the core team, and plan for their joint-institutionalization	09/30/2024		1
Agreement on input into reporting, interactions of tools across agencies, and presentation of results with MTMF working group	09/30/2024		1
Outcome: Transparency and policy credibility are improved through better external communication of the macroeconomic outlook and related forecasting scenarios and policy analysis			
Annual Assessment Rating:			
Outcome Rating Date: 16/12/2022			
Outcome Indicator	**Baseline Value**	**Target Value**	**Current Assessment Value**
Periodical analytical reports are published with pre-announced frequency	Reports exist but do not incorporate updated MPT-related outputs	Policy reports incorporate output from updated MPT work and outputs	1
Milestone Name	**Target Completion Date**	**Milestone Actual Completion Date**	**Milestone Rating**
Staff responsible for MTMPS is informed by MPT results	06/30/2025		1
Internal MOF memos informed by MPT results	06/30/2025		1

Annex B: Core Group and Supporting Professional Staff

Core Team		
Name	**Wing**	**Position**
Dr. Ziaul Abedin	Macroeconomic Wing	Joint Secretary and Chair of the Core Forecasting Group
Mr. Tawhid Ilahi	Macroeconomic Wing	Deputy Secretary and Coordinator of the Core Forecasting Group
Ms. Dilruba Shaheena	Macroeconomic Wing	Additional Secretary
Dr. Ahmed Ullah	SPFMS	Senior Consultant
Mr. Mohammad Jahirul Quayum	Macroeconomic Wing	Deputy Secretary
Dr. Md. Rashedur Rahman Sardar	Macroeconomic Wing	Deputy Secretary
Ms. Khandker Sadia Arafin	TDM	Deputy Secretary
Dr. Joynal Abdin	Macroeconomic Wing	Deputy Secretary
Ms. Masuda Begum	TDM	Deputy Secretary
Ms. Khaleda Nasrin	Budget-2	Deputy Secretary
Mr. Abdul Mannan	Macroeconomic Wing	Senior Assistant Secretary
Mr. Md. Rakibul Hasan	Macroeconomic Wing	Senior Assistant Secretary
Mr. Shahriar Jamil	Budget-1	Senior Assistant Secretary
Ms. Suhana Islam	Macroeconomic Wing	Senior Assistant Secretary
Mr. Faisal Zahur	Budget-2	Senior Assistant Secretary
Ms. Tasnova Rahman	Economic Advisor	Senior Assistant Secretary

Supervisory Team		
Name	**Wing**	**Position**
Rehana Perven	Macroeconomic	Wing Chief / Additional Secretary
Dr. Shaikh Moniruzzaman	Macroeconomic	Joint Secretary
Dr. Mohammad Altaf Alam	TDM	Wing Chief / Additional Secretary
Shirajun Noor Chowdhury	Budget	Wing Chief / Additional Secretary

Annex C: Scoping Mission Meeting Agenda

Agenda for Macroeconomic Framework TA Scoping and FPP Training Refresher Mission with the Bangladesh Ministry of Finance (MOF) *January 22nd to February 1st, 2023 (Dhaka, Bangladesh Time)*			
Meeting Time	**Theme**	**Attendees**	**Discussion or training topics**
Scoping Component of Mission (22nd to 24th January)			
Sunday, 22nd of January			
9:00 am to 10:00 am	**Courtesy meeting with Macro Wing Chief**	• Macro Wing Chief – Additional Secretary • Macro Wing staff	• Overview of mission tasks by mission team • Objectives of technical assistance in the area of macro-frameworks
10:00 am to 11:30 am	**Strategic considerations for mission and project**	• Macro Wing staff	• Interest in macroeconomic framework TA project • Current tools and forecasting process • Size, roles, and functions of wings • Staff capacity and turnover • Inputs into policy process • Challenges in achieving objectives and outputs • Current coordination and calendars within MOF and with other relevant agencies • Other ongoing TA or past TA projects, including 2020 IMF project • Agenda discussion for remaining week
11:30 am to 12:30 pm	**Courtesy meeting with Macro Wing Fiscal Policy Joint Secretary**	• Macro Wing Fiscal Policy Joint Secretary • Macro Wing staff	• Overview of mission tasks by mission team • Objectives of technical assistance in the area of macro-frameworks
Monday, 23rd of January			
11:00 am to 1:00 pm	**Meeting with Debt Wing staff and Debt Wing Chief**	• Debt Wing Chief • Debt Wing staff	• Overview of mission tasks by mission team • Objectives of technical assistance in the area of macro-frameworks • Current tools in use by debt-team • Interactions between debt tools and Macroframework tools • Involvement of Debt Wing staff on reserve pool of TA project team
Tuesday, 24th of January			
11:00 am to 1:00 pm	**Meeting on project design considerations with Macro Wing staff**	• Macro Wing staff	• Discussion on tool options • Discussion on core team for TA project • Discussion on phases, number of missions, TA modalities and outputs • Discussion on interaction with other ongoing projects
FPP Training Component of Mission (25th to 31st January)			
Wednesday, 25th of January			
9:00 am to 10:00 am	**Opening session**	• FPP Training Participants	• Introduction and overview of course • Registration • Course pre-test
Coffee Break			
10:30 am to 12:00 pm	**L1 - Financial Programming and Macroeconomic Stabilization**	• FPP Training Participants	• What is macroeconomic stabilization? • Economic imbalances and vulnerabilities • Brief overview of sustainability topics • Policies to achieve internal and external balances
Lunch			
1:00 pm to 2:30 pm	**L2 - Interrelations Among Macroeconomic Accounts**	• FPP Training Participants	• The system of macroeconomic accounts • Accounting relations among the accounts • Behavioral interrelations among the accounts
Coffee Break			

| Time	Session	Participants	Topics
3:00 pm to 4:00 pm	**W1 – Plenary Workshop Introduction: Barebones FPP**	• FPP Training Participants	• Introducing a simple FPP spreadsheet • Overview of FPP forecasting process • Illustrating interrelations • Using SEI worksheet to discuss imbalances in Bangladesh economy
Thursday, 26th of January			
9:00 am to 10:30 am	**L3 - Real Sector**	• FPP Training Participants	• GDP determined from production, expenditure and income • Current versus constant prices • Forecasting: GDP, prices and exchange rates
Coffee Break			
11:00 am to 12:30 pm	**L4 – External Sector**	• FPP Training Participants	• Conceptual framework of the balance of payments • Analyzing a country's external position • Savings and investment identity • Forecasting the balance of payments
Lunch			
1:30 pm to 4:00 pm	**W2 – Breakout Workshop Real Sector and BOP analysis and forecasting**	• FPP Training Participants	• Breakout workshop to develop and analyze baseline forecasts of real sector and BOP
Weekend			
Sunday, 29th of January			
9:00 am to 10:30 am	**L5 - Fiscal Sector**	• FPP Training Participants	• Fiscal accounts • Fiscal analysis • Forecasting the fiscal accounts
Coffee Break			
11:00 am to 12:30 pm	**L6 – Fiscal Policy**	• FPP Training Participants	• Fiscal policy: definition and objectives • Economic effects of fiscal policy • Impact of macroeconomic shocks on fiscal deficit • How to conduct fiscal policy
Lunch			
1:30 pm to 4:00 pm	**W3 – Breakout Workshop on analysis and forecasting of Fiscal Accounts**	• FPP Training Participants	• Breakout workshop to finalize W3 work and to develop and analyze baseline forecasts of fiscal sector
Monday, 30th of January			
9:00 am to 10:30 am	**L7 - Monetary Sector**	• FPP Training Participants	• Why analyze the monetary system? • Monetary accounts • Forecasting the monetary accounts
Coffee Break			
11:00 am to 12:30 pm	**L8 – Monetary Policy**	• FPP Training Participants	• Monetary policy objectives • The transmission mechanism of monetary policy • Monetary and exchange rate frameworks
Lunch			
1:30 pm to 4:00 pm	**W4 – Breakout Workshop on analysis and forecasting of Monetary aggregates and finalizing a baseline scenario**	• FPP Training Participants	• Breakout workshop to develop and analyze baseline forecasts of monetary aggregates and finalize and discuss a baseline scenario • FPP's Iterative Process: Putting the Pieces Together
Tuesday, 31st of January			
9:00 am to 10:30 am	**L9 - Introduction to Program Scenario**	• FPP Training Participants	• What is a policy scenario? • Program design – stabilization policies and structural reforms for growth and sustainability • Medium-term perspective
Coffee Break			
11:00 am to 12:00 pm	**W5 – Breakout Workshop on policy scenarios**	• FPP Training Participants	• Breakout workshop to work through policy scenario
Lunch			
1:00 pm to 2:30 pm	**W5 cont. – Plenary Workshop and**	• FPP Training Participants • Macro and Debt Wing Chiefs	• Plenary workshop for teams to present baseline and scenarios in spreadsheet and discuss

	presentations on policy scenario		
Coffee Break			
3:00 pm to 4:00 pm	**Course evaluation and closing session**	• FPP Training Participants	• Course evaluation and post-test • Closing session for FPP training

Mission Closing and Agreement on Action Plan (1st February)

Wednesday, 1st of February

9:30 am to 10:30 am	**TA scoping mission findings and action plan discussion**	• Macro Wing staff and staff part of core team or reserve pool from other Wings	• Summary of findings from scoping mission • Discussion and agreement "ad referendum" on proposed action plan, including proposed tool and core group • Next steps, including dates of next missions and tasks
10:30 am to 12:00 pm	**Debriefing with Macro and Debt Wing Chiefs**	• Macro Wing Chief • Macro Wing Fiscal Policy Joint Secretary • Debt Wing Chief • Macro Wing staff	• Key findings from the mission • Proposal(s) for next steps • Draft action plan; dates of the next mission and tasks • Authorities' commitments

Annex D: Overview of Comprehensive Adaptive Expectations Model

The Comprehensive Adaptive Expectations Model (CAEM) is an excel-based macroeconomic framework tool built by staff of the Institute for Capacity Development (ICD) and is being used in training and technical assistance projects. The CAEM augments the standard Excel-based FPP framework by adding a core macro model. The two main blocks of the new framework, as well as their components and linkages, are summarized in Figure 1.

Figure 1. Main Blocks of the FPP Pillar 1+ Framework
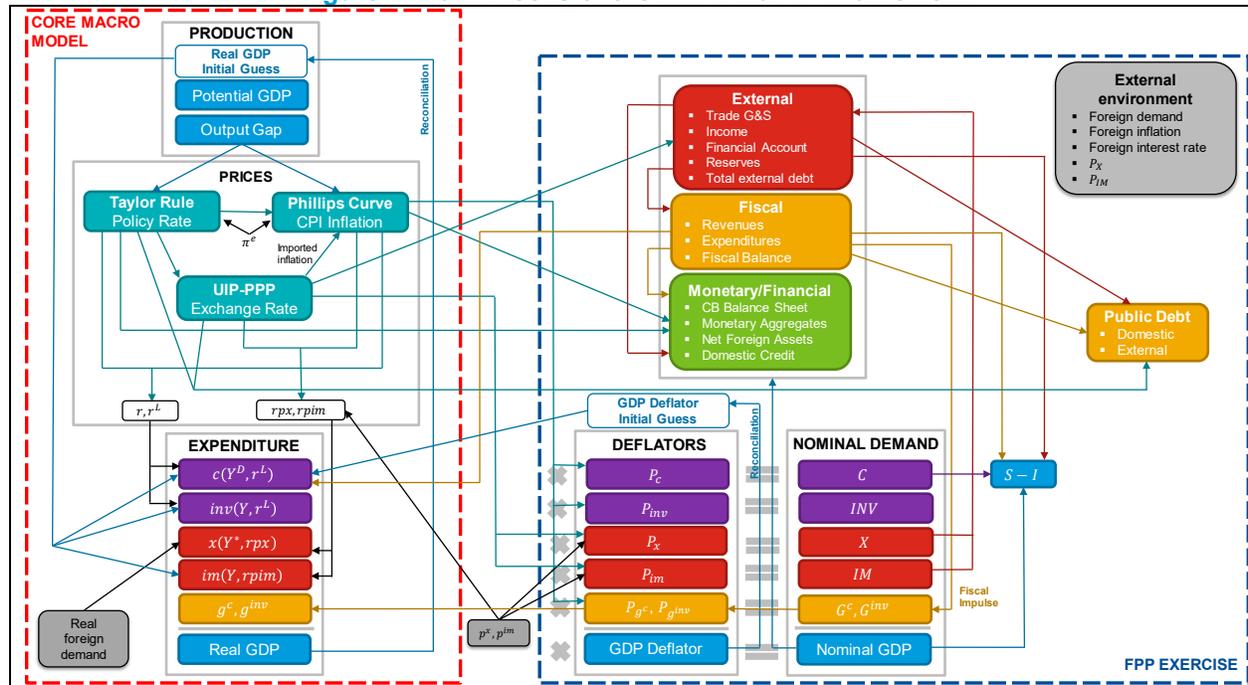
The model, contained in the 'red block' of Figure 2, comprises a set of equations that enrich the analysis of prices (including, inflation, policy rate, exchange rate) and of the real GDP expenditure components. It is a simple model, based on adaptive behavior, that accounts for both trends and gaps by means of an error-correction specification, in line with the one used in Pillar 2. The real GDP expenditure components are modeled with behavioral equations that capture key economic relationships. Regarding prices, the interest rate is governed by the Taylor rule, CPI inflation by the Phillips curve and the exchange rate by a combination of the Uncovered Interest Parity (UIP) and the Purchasing Power Parity (PPP) theories.

The template also features the standard components of an FPP framework, represented in the 'blue block' of Figure 2. This block includes: (i) a set of deflators that are combined with the real expenditure projections to produce nominal projections; and (ii) the external, fiscal, and financial/monetary sectors, with a higher degree of granularity. The various elements of the framework are connected, both within and across the two blocks, as shown by the arrows in Figure 2. In addition, all the linkages and accounting identities that are typically part of an FPP framework are included in the template.

The user needs to input historical data for all variables, as well as key assumptions that are used, together with the behavioral equations and the accounting identities, to produce projections under various scenarios. The template allows for a high degree of granularity, exploiting the relatively high degree of disaggregation available for many countries in the data.

The CAEM framework aims to strike balance between the simplicity of the framework for projections and realistic properties customized for each economy the model is applied to. The framework is flexible and allows users to impose their expert judgement in a consistent way, thus providing a common language to discuss economic issues and risk scenarios.

The key behavioral relationships, see the table below, reflect standard macroeconomic theory and guarantee with a well-defined balanced growth path and stable "great ratios" in the medium and long term. The baseline version of the framework assumes that expectations are adaptive or reflect the expected medium-term values of the variables (known inflation target, trend real appreciation of the exchange rate, and others). Equations are generally specified in error correction model (ECM) terms.

Variable	Behavioral relationship / methodology
Private consumption	$\Delta c_t = \beta_0^c + \beta_1^c \Delta c_{t-1} + \beta_2^c \Delta y_t^d - \beta_3^c \hat{r}_t^L - \lambda^c (c_{t-1} - \bar{y}_{t-1} - \gamma_0^c) + \varepsilon_t^c$
Private investment	$\Delta inv_t = \beta_0^{inv} + \beta_1^{inv} \Delta inv_{t-1} + \beta_2^{inv} \Delta y_t - \beta_3^{inv} \hat{r}_t^L$ $-\lambda^{inv}(inv_{t-1} - \bar{y}_{t-1} - \gamma_0^{inv}) + \varepsilon_t^{inv}$
Exports	$\Delta x_t = \beta_0^x + \beta_1^x \Delta x_{t-1} + \beta_2^x \Delta y_t^* + \beta_3^x \Delta rpx_t$ $-\lambda^x(x_{t-1} - \bar{y}_{t-1} - \gamma_1^x \overline{rpx}_{t-1} - \gamma_0^x) + \varepsilon_t^x$
Imports	$\Delta m_t = \beta_0^m + \beta_1^m \Delta m_{t-1} + \beta_2^m \Delta y_t - \beta_3^m \Delta rpim_t$ $-\lambda^m(m_{t-1} - \bar{y}_{t-1} - \gamma_1^m \overline{rpim}_{t-1} - \gamma_0^m) + \varepsilon_t^m$
Interest Rate Rule	$i_t = \rho i_{t-1} + (1 - \rho)[r_t^* + \pi_t^e + \alpha_1(\pi_t^e - \bar{\pi}) + \alpha_2 \hat{y}_t] + \varepsilon_t^i$
Expected inflation	$\pi_t^e = \omega \pi_{t-1} + (1 - \omega)\bar{\pi}$
Nominal exchange rate	$s_t = \underbrace{\phi(i_t^* + Prem - i_t)}_{deviations\ from\ UIP} + \underbrace{s_{t-1} + 2[\Delta \bar{z}_t + (\bar{\pi} - \bar{\pi}^*)]}_{\substack{s_{t+1}^e\ anchored\ by \\ long-run\ fundamentals}} + \varepsilon_t^s$
Money demand	$\Delta m_t^d = \alpha \pi_t - \alpha_i \Delta i_t^L + \alpha_y \Delta y_t + \varepsilon_t^m$
Consumer Inflation	$\pi_t = \theta_1 \pi_{t-1} + (1 - \theta_1 - \theta_2)\pi_t^e$ $+\theta_2[\pi_t^{*M} + \Delta s_t - \Delta \overline{rpim}_t] + \theta_3 \hat{y}_t + \varepsilon_t^\pi$
Potential output	Hodrick-Prescott filter or production function