Background Note

This guidance note is part of a toolkit on “Issuance Plan for Government Securities” that also comprises an Excel-based analytical tool with a user guide. It complements a series of background notes produced under the World Bank Group Government Bond Market Advisory Services Program to support the development of liquid local currency bond markets. Indhu Raghavan and Anderson Caputo Silva, both of the Finance & Market Global Practice, are the primary authors.

This note has benefited immensely from feedback provided by Thordur Jonasson (IMF Monetary and Capital Markets), Samuel Munzele Maimbo (World Bank Finance & Markets Global Practice), Antonio Velandia-Rubiano (World Bank Treasury Financial Advisory and Banking), and Mike J. Williams (International Consultant). It also draws on the collective wisdom of many practitioners and advisers that have worked with us on this topic; any errors remain the authors’ own.

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Abbreviations and Acronyms

ABP  Annual borrowing plan
ATM  Average time to maturity
ATR  Average time to refixing
BO   Back-office
BN   Billion
DMU  Debt management unit
DMS  Debt management strategy
DX   Domestic currency
EME  Emerging market economy
GS   Government security
FO   Front-office
FX   Foreign currency
LMO  Liability management operation
MN   Million
MO   Middle-office
MoF  Ministry of Finance
1. The issuance plan sets out the government’s intentions for the issuance of its debt securities in the domestic capital markets. It includes the bonds and bills to be issued and the timing of issuance, and may include general information on other operations that the government intends to undertake with its debt securities, such as buybacks and exchanges. The issuance plan is part of the government’s annual borrowing plan, which presents information on the government’s total financing strategy, including in the domestic capital markets but also borrowing from commercial banks, multilateral development banks, and the external capital markets.

2. Designing and implementing an issuance plan for government securities (GS) is an ongoing activity for the government debt manager. A well-designed issuance plan takes account of the government’s objectives for financing, managing risk, and developing the domestic market. It considers investor preferences and the macroeconomic environment, and is implemented in close coordination with monetary policy. The issuer benefits from potential cost-savings and enhanced potential for secondary market liquidity in its instruments. Investors benefit from the greater transparency and predictability that the issuance plan provides as they are better able to plan their investment in GS.

3. This guidance note describes the key considerations for the debt manager and the steps involved in developing and implementing the issuance plan. It is structured as follows: Section 2 provides the context; Section 3 outlines the scope; Section 4 discusses the main steps in developing and implementing the issuance plan; Section 5 describes key linkages between the issuance plan and other relevant activities; and Section 6 concludes. The Annex provides an illustration of the steps discussed in Section 4.

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2 Strong macroeconomic fundamentals, including sound fiscal and monetary policies and foreign exchange regimes, provide the issuer greater degrees of freedom in choosing instruments and tenors, and supporting regularity and predictability in implementing the issuance plan. However, debt managers need to make tactical decisions on financing under myriad macro and market conditions. The optimal conditions are country-specific and the ultimate financing choices are based on the debt manager’s judgment and subject to the constraints faced.

3 The note generally attributes the debt management function to the Ministry of Finance (MoF), specifically the Debt Management Unit (DMU), and the monetary policy implementation function to the Central Bank. It is worth noting that the role of the Central Bank in debt management differs across countries; in some cases it houses the debt management function (e.g. Denmark, Sri Lanka) and in others it acts as the agent of the MoF for debt issuance (e.g. Turkey, Romania).
4. Domestic capital markets have become a major source of financing for EMEs where around 85 percent of government debt outstanding is in the domestic market. The domestic market offers greater flexibility in the amount and timing of government borrowing. As the borrowing is predominantly in the domestic currency (DX) it helps to reduce the currency mismatch between the governments' assets and liabilities.\(^4\)

5. Despite the impressive growth of domestic government debt markets in EMEs, most markets are plagued by illiquidity arising from a high degree of debt fragmentation\(^5\) and a narrow range of investors. The result is that EME governments (and ultimately tax payers) pay a premium to investors for the risk of their holding relatively illiquid securities. Moreover, lack of liquidity in the secondary market for GS inhibits the building of a reliable government yield curve that could provide a risk-free reference for other borrowers and financial products.

6. GS liquidity\(^6\) is dependent on many factors such as the structure and characteristics of the investor base and their incentives to trade, the efficiency of the trading and settlement infrastructure, and the quality of the outstanding debt portfolio. For example, a market dominated by one or two large investors, or one where most investors share the same risk preference and investment horizon, may not see much secondary market activity. There may also be barriers to trading, such as a high cost of financing trading portfolios, transaction taxes, etc.

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\(^4\) As EME domestic government debt has become an investable asset class for global investors, EME governments are more exposed to global changes and may face volatility in government financing as a result. However, a discussion on how to monitor exposure to non-resident investors and manage associated risks is beyond the scope of this note.

\(^5\) In a fragmented market there are a large number of debt securities of small amounts outstanding and different characteristics that make it difficult to actively trade those securities.

\(^6\) This note distinguishes between liquidity in the market for GS (‘GS liquidity’), which refers to the ability to trade GS with immediacy and without significantly moving the market, and liquidity in the financial system (‘systemic liquidity’), which refers to the volume of cash and cash-like instruments available in the financial system.
7. While many of these factors may not be under the direct purview of the government debt manager, s/he can influence the characteristics of the outstanding debt portfolio through the design of the issuance plan, in particular, by issuing benchmark securities. Benchmark securities are large7 and relatively liquid lines8 of GS at key tenors. The large size improves the potential for wider distribution of the security among different types of investors with different incentives to trade, thereby increasing trading opportunities and reducing the liquidity premium demanded by the market. With this objective, developed markets and several EME government issuers have adopted a benchmark issuance policy9 to build sufficiently large lines of GS as a necessary first step to foster secondary market activity.

8. With a benchmark issuance policy, the issuer needs to manage the refinancing risk arising from the bullet maturity10 of the benchmark security and issuers choose from a range of strategies to do this. They may build cash buffers, being mindful of the cost of carry on the cash balance; borrow short-term (or invest short-term) using cash management tools that help to smooth temporary shortfalls (or surpluses); or use liability management operations (LMOs) such as buybacks and exchanges, where a portion of the maturing benchmark is redeemed for cash or exchanged for other securities in advance of its maturity, helping to spread out its refinancing.

9. The legal, regulatory, and accounting framework governing debt issuance and redemption, and the operational infrastructure, should allow the debt manager to design an issuance plan that enables both the financing of the budget and risk management. For example, buying back outstanding debt or building a cash buffer may increase gross borrowing for (portions of) a given budget cycle, even as it reduces the refinancing risk associated with a large redemption. If the legal, regulatory, and accounting framework do not offer the flexibility to do so, it would greatly constrain the debt manager’s ability to build benchmarks and manage risk. Similarly, the operational infrastructure should be able to handle a range of transactions such as issuance, reopening, buybacks, and exchanges.

10. The structure of the investor base and role of market intermediaries also influence the instruments, size, and timing of GS issuance. Certain investor segments may experience seasonal fluctuations in their liquidity profile (e.g. pressures on bank liquidity or outflows from the pension system) affecting systemic liquidity and demand for GS. These choices may evolve with structural changes (e.g. entry of foreign investors). Therefore, the debt manager should undertake a broad analysis of the factors affecting demand for GS and complement it with periodic market consultation to support tactical decision-making in the implementation of the issuance plan.

11. It is ideal that a debt management strategy (DMS) guides the government’s ABP in terms of the choices in financing, and the associated cost-risk tradeoff.11 In such cases where a DMS has been developed, the strategy targets for key portfolio risk indicators are an important guide to developing the issuance plan. Conversely, the design12 of the issuance plan informs the periodic review and update of the DMS. However, with or without a formal DMS, and in stable or less than ideal market conditions, the debt manager needs to make tactical choices regarding the instruments, size and timing of GS issuance. The major activities of the debt manager from designing a DMS to developing and implementing an issuance plan are illustrated in Figure 1.

12. Developing and implementing an issuance plan is a dynamic exercise that is dependent on periodic new information regarding market conditions and the policy environment. Global investors are beginning

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7 There is a strong correlation between the size/volume outstanding of individual GS and related liquidity, however, the question of what size is sufficiently large to foster secondary market activity is market-specific and discussed further in Section IV B.
8 A line refers to a single GS with a unique identification (ISIN or country code), coupon rate, and maturity date.
9 Developing benchmark issues and a government debt issuance strategy are discussed in Chapter 4 and Chapter 3, respectively, of "Developing Government Bond Markets: A Handbook" as key components of developing efficient government bond markets.
10 When the principal payment comes due at a single point in time.
11 The World Bank and International Monetary Fund implement a program in EMEs to develop a medium-term debt management strategy for a rolling 3-5 year period. The DMS is reviewed and updated annually.
12 Simulations of different issuance plans using Microsoft Excel or other appropriate software help to ensure that the chosen issuance plan is coherent with the ABP and advances the governments’ considerations for development of the domestic GS market.
to differentiate between individual EMEs, and the integration of the global financial system has made it easier for EME domestic capital to be invested abroad. Therefore, it is important for EME policymakers to focus on improving the microstructure of domestic capital markets in order to attract and retain domestic and foreign investor participation in their respective markets. Developing an efficient issuance program for GS is one of the tools available to them to achieve this goal.

Figure 1: Government Debt Management – From Design to Implementation

<table>
<thead>
<tr>
<th>Key output</th>
<th>Document: Debt Management Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps in developing a Debt Management Strategy</td>
<td>1. Identify objectives for public debt management and scope of the debt management strategy</td>
</tr>
<tr>
<td></td>
<td>2. Identify the current debt management strategy, and cost and risk of the current portfolio</td>
</tr>
<tr>
<td></td>
<td>• Debt servicing cost (interest/debt outstanding, interest/GDP, interest/revenues)</td>
</tr>
<tr>
<td></td>
<td>• Refinancing risk (average time to maturity (ATM), percentage of debt maturing in one year)</td>
</tr>
<tr>
<td></td>
<td>• Interest rate risk (average time to refixing (ATR), percentage of debt refixing in one year)</td>
</tr>
<tr>
<td></td>
<td>• Foreign exchange risk (ratio of DX vs. FX debt, composition of FX liabilities to FX reserves)</td>
</tr>
<tr>
<td></td>
<td>3. Identify and analyze potential funding sources based on relative cost-risk and qualitative factors</td>
</tr>
<tr>
<td></td>
<td>• Multilateral loans, commercial loans, domestic bonds, Eurobonds</td>
</tr>
<tr>
<td></td>
<td>4. Identify baseline projections and risk in fiscal, monetary, and market indicators</td>
</tr>
<tr>
<td></td>
<td>• Projections of exchange rate, capital account, international reserves</td>
</tr>
<tr>
<td></td>
<td>• Expectations of domestic and global liquidity conditions, market rates, and likely pricing of non-market instruments</td>
</tr>
<tr>
<td></td>
<td>5. Review longer-term structural factors</td>
</tr>
<tr>
<td></td>
<td>• Commodity price vulnerability, access to concessional financing, trends in real effective exchange rate and inflation</td>
</tr>
<tr>
<td></td>
<td>6. Assess and rank alternative debt management strategies based on cost-risk tradeoff</td>
</tr>
<tr>
<td></td>
<td>• Change in cost and risk indicators, feasibility of the strategy, and success of the strategy in meeting the public debt management objectives</td>
</tr>
<tr>
<td></td>
<td>7. Review implications of candidate strategies with fiscal and monetary policy, and financial market development</td>
</tr>
<tr>
<td></td>
<td>• Interactions with fiscal and monetary indicators, debt sustainability indicators, and the debt market</td>
</tr>
<tr>
<td></td>
<td>8. Propose a preferred DMS, secure approval for and publish DMS</td>
</tr>
</tbody>
</table>

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13 The ‘Developing a Medium-Term Debt Management Strategy – Guidance Note for Country Authorities’ published by the World Bank and International Monetary Fund discusses in detail the steps in developing a debt management strategy. Implementation and follow up to developing a debt strategy are briefly discussed in Section IV: Implementation and Follow-up, Appendix IV: Potential Sources of Financing, and Appendix VIII: Developing a Short-term Borrowing Plan – An Example.
## Implementation Phase

<table>
<thead>
<tr>
<th>Key output</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Document:</strong> Annual Borrowing Plan (for total financing)</td>
<td></td>
</tr>
<tr>
<td><strong>Document:</strong> Issuance Plan (for marketable debt financing) including, auction calendar and supplemental information on other GS related operations (e.g. buybacks, exchanges)</td>
<td></td>
</tr>
</tbody>
</table>

### Steps in developing an Issuance Plan

1. Determine financing need to be met by GS issuance in the domestic market (refer Sections IV.A. and VII.A.)
   - Proportion and weekly breakdown of gross borrowing requirement to be financed with domestic marketable debt

2. Select instruments (refer Sections IV.B. and VII.B.)
   - Instrument types and tenors (e.g. 6-month treasury bill, 12-month treasury bill, 3-year bond, 5-year bond)
   - Number and size of lines (e.g. 2 new lines of 3-year bonds every year with target size of DX 10 billion each)

3. Organize auctions (refer Sections IV.C. and VII.C.)
   - Auction size (e.g. DX 800 – 1,000 million offered at each auction of the 3-year bond)
   - Frequency and sequencing (e.g. bills auctioned every week, 10-year bond auctioned every quarter)

4. Organize maturities (refer Sections IV.D. and VII.D.)
   - Standard maturity months (e.g. 2 lines of 3-year bonds maturing in March and September every year)
   - Specific maturity dates (e.g. 3-year bond maturing March 5, 2017)

5. Determine liability management operations (refer Sections IV.E. and VII.E.)
   - Securities and timing of buybacks and exchanges, if any (e.g. 5-year bond maturing October 2014 to be bought back starting April 2014 for up to a maximum amount of DX 5 billion)

6. Develop auction schedule (refer Sections IV.F. and VII.F.)
   - Timing of each auction, and the instrument and amount to be issued at that auction (e.g. Week of Jan 1, 2014 – offer DX 800 – 1,000 million of 3-year bond maturing on March 5, 2017)

7. Determine frequency, format, and detail of market communication (refer Sections IV.G. and VII.G.)
   - Announcements: indicative annual auction calendar (e.g. global issuance volume, general plans for LMOs), more detailed quarterly calendar (e.g. specific instruments and indicative volume for the period), more details/adjustments on a monthly/weekly basis (e.g. indicative auction volume for each instrument, instrument for buyback)
   - Reporting: auction results, monthly and annual reports on issuance plan implementation
   - Consultation: quarterly or monthly meeting with primary dealers and/or other investors, ad hoc consultation before auctions and on special operations (e.g. LMOs)

8. Review and adjustments (refer Sections IV.H. and VII.H.)
   - Periodic (e.g. quarterly, monthly/weekly) review of the issuance plan based on market consultation and updates to the gross borrowing requirement and cash flow forecasting
3. Scope

13. The issuance plan covers marketable debt instruments of the central government issued in the domestic capital markets\(^{14}\) (refer Figure 2). Marketable debt in the external capital markets tends to be issued on a more opportunistic basis making it difficult to be incorporated in a pre-announced issuance plan. However, the ABP may indicate the government’s intention, if any, to raise finance in the external capital markets at a time that it deems appropriate.

14. The issuance plan is typically developed for at least a one-year period, with necessary periodic adjustments (e.g. quarterly, monthly or weekly). While the design of an issuance plan may begin with the budget cycle it will need to be updated on a rolling basis in order to ensure continuity in its implementation. Ideally, the debt manager would consider a medium-term planning horizon in line with the DMS and benchmark building strategy. In particular, the gross borrowing requirement over the medium-term may determine the number of benchmarks that can be issued and rolled over, and the structure and expected growth of the investor base may impact the tenors that can be consistently offered. However, the feasibility of a medium-term planning horizon depends on the availability of reliable forecasts and the stability of fiscal and macroeconomic policy. Therefore, it is necessary to keep this process dynamic.

15. Within the debt management unit (DMU), the front office (FO),\(^{15}\) as the market-facing entity, is best suited to take the lead on developing and implementing the issuance plan, although it will necessarily work closely with other entities (refer Figure 3). The FO interacts with the market to gather information on investor preferences and market liquidity, and perspective on the scope for benchmark building, targeting new investor segments, etc. It is then responsible for periodically updating this information and making necessary adjustments to the issuance plan, in coordination with the MO.

\(^{14}\) While the guidance note discusses DX instruments issued in the domestic market, the steps outlined in Section IV can be extended to FX instruments issued in the domestic market. FX instruments add the element of FX risk management to both debt and cash management operations, and have different implications for domestic financial market development.

\(^{15}\) The terms front office (FO), middle office (MO), and back office (BO) refer to the individual(s) or teams responsible for carrying out the respective functions.
16. The MO typically leads the development of the DMS and the compilation of financing and cash flow projections, which are inputs for the issuance plan. The FO in turn can provide input to the development and review of the DMS particularly on the feasibility of attaining portfolio targets based on its view of market conditions and issuance plan simulations. The BO ensures that the internal processes and accounting arrangements for issuance, re-opening, buyback and exchange of GS are in place. Other relevant entities for coordination include public sector agencies involved in forecasting fiscal and macroeconomic indicators, in approving the budget and ABP, and the central bank whose policies and operations affect systemic liquidity and the demand for GS.

**Figure 2: Instruments Covered by the Issuance Plan**
Figure 3: Institutional Arrangement for the Issuance Plan

1. Financing need
2. DMS targets
3. Cash position and profile

MIDDLE OFFICE
- Develop and Monitor the DMS
- Oversee Cash Balance and Forecasting

FRONT OFFICE
- Develop and Implement the Issuance Plan

MARKET

ISSUANCE PLAN
- 4. Benchmark securities, tenors
- 5. Treasury bills, tenors
- 6. Auction schedule

BACK OFFICE
- Oversee Processes and Accounting Arrangements
4. Steps in Developing and Implementing the Issuance Plan

A. Financing Need

17. **Objective:** To determine the proportion of the government’s gross borrowing requirement that needs to be financed through GS issuance in the domestic market, as well as the timing of the financing need.

18. **Information required:**

18.1. Gross borrowing requirement and DMS targets (if any) for domestic market financing

18.2. Projections of cash flow, ideally (at least) monthly for the next 12 months, and weekly for the next three months

19. **Analysis:** The government’s projected budget and debt servicing needs, and debt management objectives (e.g. to increase the proportion of DX borrowing, to increase portfolio ATM, etc.) help to determine the desired amount of GS to be issued in the domestic market during a particular period. However, the actual volume of GS that can be issued may be limited by demand side considerations (e.g. the domestic market’s absorption capacity, seasonal liquidity factors, etc.) Therefore, historical analysis of market demand and liquidity trends, and forward-looking market consultation and coordination with the central bank, are necessary to ensure the feasibility of the domestic market financing strategy. A high-level demand side analysis is conducted during the development of the DMS. However, this needs to be fine-tuned during the development of the issuance plan to determine the amount to be offered at each auction/placement of GS.

20. Credible projections of cash flow, i.e. revenue and expenditure, at least on a weekly basis in the short term and monthly for the budget cycle, are necessary to determine the timing of the financing need, which impacts the timing and pace of GS issuance. In the absence of such projections, the debt manager may begin with historical trends in revenue and expenditure flows, complemented by available forward-looking information (e.g. anticipated tax and privatization receipts, inflow from other sources of financing, etc.) Further, the government’s ability to borrow short-term to manage
a temporary cash shortfall and/or invest temporary surplus cash will help smooth fluctuations in financing operations and manage unanticipated financing needs. Cash flow forecasting and management are typically beyond the direct responsibilities of the debt manager, but the debt management and cash management functions need to share updated information on cash flow projections and planned issuance (refer Section V.A.)

B. Instrument Selection

21. **Objective:** To determine the instrument types, tenors, the target size (or volume outstanding) of each line, and the number of lines of each tenor to be issued.

22. **Information required:**
   - 22.1. Government’s cost-risk preference; DMS portfolio targets (if any); desired benchmarks
   - 22.2. Investor preferences for instruments, tenors, and volume outstanding
   - 22.3. Long-term view on structural changes such as investor preferences and fiscal trends; evolution of the capital market that may alter desired price references/benchmark securities

23. **Analysis:** Figure 4 outlines selected instrument types and the tradeoffs they present for issuers and investors. The types and mix of instruments chosen by the debt manager reflect the government’s preferred cost-risk tradeoff and investors’ preferences for coupon types and currency. The debt manager would need to manage competing objectives, to diversify the GS portfolio at an acceptable cost, using different instrument types to attract different investors, and at the same time to reduce fragmentation and promote secondary market activity in GS. Many of these tradeoffs would have been analyzed if the government had developed a DMS, but the debt manager should consider them even in the absence of a DMS exercise.

24. The tenors of benchmark bonds are again influenced by debt management objectives to increase portfolio ATM, and by cost considerations. Investor preference for short-, medium-, or long-term securities, and tenors that are strategic (e.g. the 10-year benchmark GS allows comparison of long-term borrowing costs across countries) are also important. A stylized benchmark building strategy could include GS at 1-, 3-, 5-, and 10-year tenors although many EMEs would find it difficult to issue the full range at the

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**Figure 4: Selected Instrument Types and Tradeoffs**

<table>
<thead>
<tr>
<th>Instrument type</th>
<th>Some advantages</th>
<th>Some disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury bill</td>
<td>• regular issuance to anchor the short end of the yield curve</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• flexible instrument for liquidity and cash management - needs to be rolled over more frequently</td>
<td>• needs to be rolled over more frequently</td>
</tr>
<tr>
<td>Fixed-rate bond</td>
<td>• reduce interest rate risk for issuer</td>
<td>• typically more expensive than floating-rate bond at longer tenors</td>
</tr>
<tr>
<td></td>
<td>• plain vanilla instrument that is easy to value and trade</td>
<td></td>
</tr>
<tr>
<td>Floating-rate bond</td>
<td>• can help lengthen portfolio ATM</td>
<td>• increase interest rate risk for issuer</td>
</tr>
<tr>
<td></td>
<td>• can help diversify investor base</td>
<td></td>
</tr>
<tr>
<td>FX-bond</td>
<td>• can help diversify investor base</td>
<td>• increase currency risk for issuer</td>
</tr>
<tr>
<td>Bullet maturity bond</td>
<td>• plain vanilla instrument that is easy to value and trade</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• refinancing risk over short period</td>
</tr>
<tr>
<td>Amortizing bond</td>
<td>• principal can be repaid over a longer period</td>
<td>• more difficult to value and trade</td>
</tr>
</tbody>
</table>
25. The target size of each line depends on an assessment of the minimum size necessary to foster secondary market trading in that line, the security’s tenor or remaining time to maturity, and the debt manager’s refinancing ability. The minimum size necessary to foster liquidity in a particular GS is market-specific and depends on the portion of the outstanding volume likely to be held in trading portfolios versus held-to-maturity portfolios, and the status of the GS as an on-the-run benchmark. Sometimes, the minimum size may be independent of the overall size of the market (e.g. the Eurozone, where instrument size and liquidity began to converge while individual market sizes differed).

26. The debt manager may also consider externally generated limits when determining the target size. Institutional investors may have internal limits on the proportion of outstanding volume of a single GS that they can hold in their portfolio, in which case a small overall size of the GS may be unattractive for the investor. Certain electronic trading systems (e.g. Euro MTS) have minimum size requirements for the securities that can be traded on that system. Some debt managers aim to have their GS included in benchmark fixed income indices that typically have minimum size and/or liquidity requirements for inclusion. While a large size has several benefits, the debt manager’s ability to build that size depends on the security’s tenor or remaining time to maturity, and the amount that can be issued at each auction. The longer a security’s remaining time to maturity, the more opportunity the debt manager has to build its size through issuance/reopening.

27. The target size should also be determined in the context of the debt manager’s ability to manage refinancing risk. Improvements to debt management capacity over time, including the ability to undertake buybacks and exchanges, build cash balances in anticipation of a large refinancing, and better manage temporary cash surplus and shortfalls, will allow the debt manager to progressively finance larger benchmarks (making allowance for periods of market stress). With expected growth in real gross domestic product and inflation, government revenues can be expected to increase while the real value of benchmark bonds, typically fixed-rate instruments, decreases. Therefore, the relevant consideration for the target size is the debt manager’s refinancing ability at the time of maturity (not issuance) of benchmark securities, particularly those of longer tenors.

28. The number of lines of each tenor is a factor of the target size for that line, the expected volume of financing from GS issuance in the domestic market during that period (and in the medium-term) and the time taken to reach the target size. The government’s gross borrowing requirement in the domestic market determines the number of benchmark lines that can be rolled over and maintained over the medium-term, unless the government adopts a policy to maintain a certain number of benchmarks for the purpose of market development even in an environment of low gross borrowing requirement or budget surplus (refer Box 4). If it takes a long time to build size (due to the size and frequency of individual auctions) there is a risk that the coupon of that benchmark security goes off market resulting in low demand for the instrument. The debt manager may then choose to stop offering that line even before its target size is reached in order to open a new line, which would become the on-the-run benchmark. It is important to note that many of these choices may evolve over time with structural changes that alter market liquidity and investor preferences, or lead to a sustained increase or decrease in the gross borrowing requirement.

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16 An on-the-run security is the most recently issued/reopened GS for a particular tenor and is typically the most actively traded GS for that tenor. This is because its coupon is likely to be close to the market rate for that tenor enabling market participants to trade close to par value, which they prefer, and a substantial portion of the security is likely to be held in trading portfolios as opposed to held-to-maturity portfolios. When this security is replaced by a new on-the-run security or as time passes, the old security is likely to see less and less activity in the secondary market.
Box 1: Treasury Bill Program

Systematic treasury bill issuance helps to anchor the short end of the yield curve by providing fresh price references for short tenors and supporting the development of the money market. It offers the debt manager cash management instruments at very short tenors (e.g. 3 months and shorter) and additional financing instruments at relatively longer tenors (e.g. 6 – 12 months) to support regularity and predictability in the bond issuance program. The central bank may also use the government’s treasury bills as liquidity management instruments in open market operations. In cases where the central bank issues its own bills for liquidity management, close coordination is necessary between the DMU and the central bank to ensure that both entities are not competing for market demand at the same tenors and during the same times.

Treasury bill issuance must complement and support the benchmark building program. Weekly or monthly issuance of treasury bills may be adjusted in order to support regularity in bond issuance, as the market might relatively more easily absorb fluctuations in the volumes of short-term instruments. Treasury bills may also be reopened for the same reason as for reopening bonds, i.e. to increase size and potential liquidity, and reduce fragmentation in the treasury bill market.

Treasury bill issuance must be coherent with the government’s other strategic objectives, such as to increase the ATM or the ATR. It is important to note that these are stock indicators that provide a snapshot of portfolio composition and risk at one point in time. They are impacted by the stock of treasury bills at the end of the period rather than gross issuance volume during the period. Similarly, a temporary increase in the treasury bill stock, say for the purpose of short-term cash management, during the period need not significantly impact these indicators at the end of the period. Therefore, it is possible for the debt manager to support an active treasury bill program to anchor the short-end of the yield curve and for cash management, while still ensuring that the objective to increase portfolio ATM is met. However, as the debt manager initiates an active treasury bill program or introduces new treasury bill tenors, an initial increase in the treasury bill stock is likely along with an increase in gross financing as the bills are rolled over intra-period. Therefore, the debt manager should clarify the objectives and expected impact of this program to investors and other stakeholders.

17 Countries have established different arrangements between the treasury and central bank in order to harmonize the issuance of debt securities by the government, clarify the different purposes of issuance, i.e. budget financing and monetary policy implementation, and share costs.
4. STEPS IN DEVELOPING AND IMPLEMENTING THE ISSUANCE PLAN

Box 2: Benchmark Building

The market ultimately determines which securities attain benchmark status, i.e. are actively traded and serve as market references, highlighting the importance of market consultation before designing a benchmark building strategy. A security is likely to become a market benchmark if:

• There is demand for that security
• The coupon is competitively set reflecting market rates
• The target size is reached quickly before the coupon goes off-market

To meet the above criteria the debt manager must time the launch and re-openings of a benchmark well,

• Aligning benchmark launch with the redemption of existing benchmarks offering investors an opportunity to reinvest redemption proceeds
• Ensuring that market demand for the benchmark is not cannibalized by other similar securities
• Sequencing the launch of benchmarks of different tenors – from shorter to longer – to support pricing of longer tenors
• Utilizing liability management and cash management tools to support regularity and pace of issuance/re-openings

There are at least two ways in which countries build benchmarks, with different advantages and disadvantages:

<table>
<thead>
<tr>
<th>Method</th>
<th>Advantages</th>
<th>Preconditions / Disadvantages</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue a new benchmark only at a long tenor</td>
<td>An efficient use of limited financing needs to build price references at different tenors</td>
<td>An active secondary market that facilitates price formation of outstanding instruments and offers investors access to/exit from bonds at different maturities. A mature market with the capacity to price a long tenor bond</td>
<td>Norway opens a new benchmark with 11 years to maturity every two years.</td>
</tr>
<tr>
<td>Issue new benchmarks at several key tenors</td>
<td>Offers primary market reference prices at key tenors</td>
<td>Sufficient financing need to support benchmarks at different tenors. Investor base with varying investment horizon</td>
<td>Singapore opens new benchmarks with original maturities of 2, 5, 10, 15, 20 and 30 years at different frequencies.</td>
</tr>
</tbody>
</table>
Norway opens a new benchmark line every two years with 11 years remaining till maturity. For example, NST471 maturing in 2015 was first launched in 2004 and reopened over the course of 2004-05. It then serves as a market reference for the period equivalent to its remaining time to maturity, i.e. in 2005 it is the 10-year benchmark, in 2006 the 9-year benchmark, in 2007 the 8 year benchmark and so on. A new benchmark with 11 years till maturity is launched in 2006 and reopened over the course of 2006-07. This strategy requires a mature market that is able to accurately price the 11-year bond and periodically offer fresh prices for the bonds outstanding.

|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
Singapore launches new benchmark lines at strategic tenors of 2, 5, 7, 10, 15, 20 and 30 years at different frequencies. It would be important to keep track of the benchmarks outstanding before launching new bonds. For example, in 2012 two new benchmarks of original maturity 2-year and 30-year were launched. However, the outstanding instruments provided references for 15, 10, 7 and 5 years as well. Similarly, a 5-year benchmark could be provided by launching a new instrument of original maturity 5-year, as was the case in 2008, 2009, and 2011, or based on the remaining maturity of outstanding instruments such as the 7-year benchmarks launched in 2008 (N708100S) and 2010 (N710100Z), which became 5-year references in 2010 and 2012. Interestingly, in 2011 Singapore announced that it would discontinue the issuance of 7-year benchmarks. The obvious challenge with this strategy is the accumulation of refinancing of several benchmarks. For example, in 2013 the debt manager would have to refinance two bonds, the first of original maturity 10-year (NX03100Z) and the second of original maturity 5-year (N508100V).
C. Organization of Auctions

29. **Objective:** To determine the auction size (amount offered at each auction), frequency, and sequencing of auctions of different instruments.

30. **Information required:**
   30.1. Market absorption capacity based on historical and forward-looking analysis of systemic liquidity and market demand.
   30.2. Availability of tools to manage refinancing risk, e.g., cash buffers, short-term borrowing, buybacks and exchanges, etc.
   30.3. Market development objectives such as building benchmarks, promoting better price formation at auctions, fostering secondary market activity, etc.

31. **Analysis:** There is a tradeoff between auction size and frequency. More frequent auctions imply a smaller auction size and vice versa. And the maximum auction size is limited by the market’s absorption capacity at a given auction. It is important to offer a sufficiently large amount at each auction in order to promote competitive price formation, particularly in an auction where the coupon is set. A small supply at each auction relative to demand could artificially inflate the price and depress the yield/coupon for a security if investors have limited alternative investment opportunities. While investors expect and manage interest rate risk, an artificially depressed yield/coupon could reduce the attractiveness of a security as investors prefer to transact close to par value in order to minimize portfolio revaluation and mark-to-market losses. On the other hand, excessive supply at an auction could give some market participants high bargaining power and increase the risk of auction failure. The appropriate auction size needs to be carefully calibrated by observing auction results for the degree of competition and potential for price distortion. If there is uncertainty in the overall size of the auction, investors are also likely to bid more cautiously (i.e., at lower prices) in future auctions.

32. Too frequent auctions could adversely impact secondary market development by providing a constant supply of GS in the primary market and obviating the need for market participants to seek the securities in the secondary market. It can also undermine the potential role of market-makers. At the same time, particularly in EMEs where secondary markets are underdeveloped, it may be important to provide a certain regular supply of GS in the primary market, for market-makers to satisfy quoting obligations and other investors to execute their planned investment strategy. The debt manager needs to strike the right balance in consultation with the market. Auction frequency is also impacted by the need to build the size or outstanding volume of benchmarks quickly relative to the life cycle of the benchmark.18 Building benchmark size quickly supports the security’s liquidity and reduces the liquidity premium that the market demands. For this reason, countries have even chosen to syndicate the launch of benchmarks (e.g., several European countries; Mexico starting in 2011) in order to issue them with a sufficiently large size, and subsequently reopened them using auctions. 19

33. The organization of auctions refers both to the pace of issuance and the sequencing of auctions of different instruments, i.e., bonds, treasury bills, cash management bills. Large fluctuations in GS issuance amounts make it challenging to build benchmarks quickly and provide regular primary market reference prices. It can also substantially increase investors’ reinvestment risk. While seasonal swings in systemic liquidity and financing needs are important considerations, the debt manager should look for ways to support more stable issuance by considering measures such as primary dealer systems, where appropriate, LMOs, and cash management operations, supported by periodic market consultation. These measures help to balance market demand and financing needs with objectives to build benchmarks quickly.

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18 Life cycle of an on-the-run benchmark is defined as the period between the first time it is issued and when it is replaced with a bond of equivalent tenor bearing a different coupon and maturity date.

19 The World Bank Government Bond Market (Gemloc) Advisory Services Handbook on ‘Domestic Syndications’ discusses the use of this placement mechanism in the domestic market.
34. The debt manager may choose to offer and settle different instruments and tenors on the same day/week or different days/weeks. Offering several instruments and tenors on the same day could simplify administrative processes. Debt managers also choose to offer several instruments at a given auction in order to retain the flexibility to issue instruments that attract more demand. However, auctioning too many instruments on the same day could fragment market demand for each instrument and inhibit competitive pricing; it also adds an element of uncertainty that investors may find unattractive. Market consultation ahead of an auction should help gauge demand for particular instruments, tenors, and amounts, reducing the need to retain flexibility by offering several instruments at the same time. Different benchmark tenors could be offered in different weeks in order to avoid cannibalization of demand and help sequence the launch of benchmarks.

35. Auctioning bonds before treasury bills in a given week could help debt managers to support a more stable auction calendar for bonds by considering the bond auction results for that week and adjusting financing from treasury bills, if necessary. The market is likely to be more flexible about absorbing varying amounts of short-term treasury bills than about fluctuations in the amount of bonds offered. The scale of cash management operations, i.e. issuing very short-term bills, typically 3-month or shorter, and repo operations, would necessarily be based on the results of financing operations, i.e. issuing bonds and longer-term treasury bills. There may be a further case for separating the auctions of debt management and cash management instruments in different days of the week in order to make the purpose of these operations clear to the market.

D. Organization of Maturities

36. **Objective:** To manage the refinancing risk arising from building benchmarks by organizing the redemption months and dates of various benchmark lines.

37. **Information required:**

   37.1. Benchmark tenors, target size, and number of lines of each tenor to be issued

   37.2. Projections of government cash flow/balance and expectations of systemic liquidity through the budget cycle

38. **Analysis:** Organizing the redemption dates is a first step in managing refinancing risk and complements other tools such as buybacks, exchanges, and cash buffers. In order to do so, the debt manager needs to have the flexibility to choose the redemption date of a line independent of its date of first issuance. There may be “good” months and “good” weeks or days within a month to referee large benchmarks, based on seasonality in systemic liquidity (e.g. pension contribution periods) and government receipts (e.g. tax receipt periods). Redemption dates, especially of large benchmarks, could be chosen to fall in those months/weeks/days when the government is likely to have surplus cash and/or be able to issue substantial amounts of GS to refinance maturing benchmarks.

39. The redemption dates of multiple lines of the same tenor could be spaced out equally in order to provide more regular reference points on the yield curve and prevent cannibalization of demand for one security by the other. For example, if the debt manager supports two lines of 3-year bonds every year, organizing their redemption dates six months apart would ensure that there is not a longer period without a 3-year price reference in the market, and that the two lines are sufficiently different in terms of their remaining time to maturity such that they do not compete with each other for investor demand. The debt manager could further align redemption dates with expected settlement dates of future auctions thereby reducing the need for scale of short-term cash management operations and minimizing reinvestment risk for investors as discussed in Box 3.

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20 In other words, the debt manager should have the ability to issue long-coupon securities and reopen them.
40. Once the debt manager has decided on the standard organization, or pattern, of redemptions, actual redemption dates must be chosen carefully during the transition to this pattern to prevent new lines from bunching with existing debt. If an existing line is maturing in a month/week that has been chosen for a new line, the redemption month/week for the new line must be adjusted for that year. If the standard organization were consistently respected, the market would eventually become familiar with and confident about the availability of benchmark lines in different maturity buckets and the shape of the redemption profile, supporting investors’ ability to design and execute investment strategies.

Box 3: Choice of Settlement and Redemption Dates

In developing the issuance plan the debt manager can make strategic choices regarding the settlement dates of auctions when there is a cash inflow and redemption dates of outstanding GS when there is a cash outflow.

**Aligning redemption dates with expected future settlement dates of auctions**

Aligning redemption dates of GS with expected settlement dates of future auctions facilitates better management of cash as well as refinancing risk (for the issuer) and reinvestment risk (for the investor). From the issuer’s perspective, future redemptions are supported by expected cash inflow from new issuance; similarly, large redemptions may be the best time to launch new benchmarks as investors look to reinvest their cash from the redemptions. From the investors’ perspective, it offers the opportunity to immediately reinvest cash from redemption of GS back into the primary market. This opportunity is more valuable for investors when money markets are not well-functioning or the secondary market is particularly illiquid. From a monetary policy perspective, it could help reduce the scale of liquidity management that the central bank may need to carry out as the change in market liquidity would be the net result of the redemption and new issuance.

**Aligning settlement dates of treasury bond and treasury bill auctions**

Combined with the practice of aligning redemption dates with expected future settlement dates, if treasury bonds and bills were auctioned on different days in a week, there could be a case for aligning the settlement dates of both instruments to the same date. Aligning settlement dates would simplify cash management by the DMU and liquidity management by the central bank as there is one inflow per week from new issuance, assuming that the alignment produces a greater total rollover percentage (netting) than if there were two linked redemption/settlement dates in that week. If however, settlement and redemption are not matched and resulting in net cash flows, then it may be preferable to deal with two settlement dates and the resulting (smaller) cash flows on each date.

From the investors’ perspective, they have the same opportunity to reinvest cash in the primary market. From the central bank’s perspective, again, this could reduce the volume of liquidity management that it may need to carry out as it would be dealing with the net result of total redemption and settlement for that week. From the issuer’s perspective, the opportunity to launch large benchmarks linked to large redemptions remains.

If the market were under stress, making it necessary for multiple auctions, this could disrupt the planned alignment of the settlement dates. There is also the question of transition to a steady state from current practice, which would need to be carefully planned to accommodate the current redemption profile during the transition.
4. STEPS IN DEVELOPING AND IMPLEMENTING THE ISSUANCE PLAN

E. Liability Management Operations

41. **Objective:** To consider the use of LMOs such as buybacks and exchanges, determine the securities and timing of LMOs, and their interaction with regular issuance/reopening of GS.

42. **Information required:**

42.1. Purpose of using LMOs, e.g. to mitigate refinancing risk, to improve portfolio composition, to provide liquidity to the market, etc.

42.2. Infrastructure and staff capacity to execute LMOs; market intermediaries’ and investors’ capacity to participate in LMOs

42.3. GS redemption profile and details of benchmark building strategy

43. **Analysis:** The choice of whether to use LMOs and which type are influenced by debt management objectives, risk management needs, and DMU capacity and infrastructure. Although LMOs constitute operations in the secondary market for GS, they impact the issuance plan and need to be closely planned with regular issuance/reopening of GS in the primary market. LMOs can help to mitigate refinancing risk and improve portfolio composition. They have also been utilized during times of market stress to provide liquidity to market participants that may have urgent cash needs, and to provide fresh transaction prices when secondary market trading is limited. LMOs can further support building benchmarks faster through exchanges of old securities for newer benchmarks or by creating a financing need from buybacks, which is particularly useful in an environment of low financing needs.

45. Planned LMOs need to be incorporated into the issuance plan in order to assess their interaction with regular issuance/reopening of GS and their impact on portfolio targets. For example, an exchange is likely to be more successful if the destination bond is a recently issued benchmark with a fresh price reference, or a recent auction of a treasury bill could help to price an illiquid source bond with the same remaining time to maturity. Therefore, the debt manager needs to carefully choose the specific securities and timing of LMOs based on progress in the implementation of the issuance plan and the profile of investors that are expected to participate in these operations.

F. Auction Schedule

46. **Objective:** To produce an auction schedule for GS to be issued in the domestic market.

47. **Information required:**

47.1. Outputs of Steps 1 – 5. of the Implementation Phase (refer Figure 1)

47.2. Analytical tool to simulate different auction schedules

47.3. DMS portfolio targets (if any)

48. **Analysis:** Ideally, the auction schedule should be generated for at least a one year period. This schedule or a subset, say for the next quarter or month, may be periodically updated with the availability of new information and disseminated to the market with necessary adjustments and details (refer Section IV.G.) In this process, the debt manager consolidates information on the financing needs, the chosen instruments, the organization of auctions and maturities, and planned LMOs. Modeling of the various inputs and their interactions in a spreadsheet can be extremely useful to generate the auction schedule and to assess its impact on the redemption profile and risk indicators.

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21 A more detailed discussion of the mechanics and considerations for successfully designing and executing LMOs is provided in the World Bank Government Bond Market Advisory Services (Gemloc) Handbook on “Liability Management Operations.”

22 To facilitate the simulation of different auction schedules, the Toolkit includes an Excel-based analytical tool accompanied by a user guide.
schedules by modifying the inputs can help the debt manager to choose the optimal schedule to meet both financing and market development objectives. This is an iterative and dynamic process based not only on new market information and budget execution, but on the implementation of the issuance plan itself.

49. The optimal auction schedule is both country-specific, in that it depends on the debt manager's objectives, priorities, capacity, and available options, as well as situation-specific, in that it needs to be adapted to temporary or structural changes in the market and the economy. In choosing the auction schedule, the debt manager needs to consider both quantitative indicators on the portfolio composition and risk, the redemption profile, etc., and qualitative factors such as support to benchmark building and GS liquidity. Simulations of the auction schedule and its impact on the redemption profile and risk indicators provide a basis for internal discussion between the FO and the MO (typically in the context of a formal auction committee) to prioritize different objectives and tradeoffs.

50. If the debt manager has developed a DMS, assessing the cost-risk tradeoffs between different financing strategies, the resulting portfolio targets provide high-level guidance for choosing the optimal auction schedule. However, simulations of the auction schedule also attempt to fine tune the volume and timing of GS issuance to each auction and the pace of issuance within the year, i.e. front-loading or back-loading or more or less stable issuance each month. This is to ensure that resulting cash balances are sufficient to cover financing needs at least on a weekly basis, or otherwise to ensure that any shortfall can be covered by short-term cash management operations. Therefore, the debt manager needs to make several tactical decisions about the monthly/weekly auction schedule in consultation with the cash management function, the central bank when appropriate, and the market. If the simulations of the auction schedule indicate that at the end of the year the portfolio composition will be close to the annual targets (if any) and/or approaching the medium-term targets, then the debt manager can be confident that the chosen auction schedule is consistent with the DMS.

G. Market Communication

51. **Objective:** To determine the frequency, format, and details of market communication to ensure that the issuance plan is appropriate for and successful in meeting the government’s objectives.

52. **Information required:**

52.1. Planned auction schedule and LMOs, periodically updated

53. **Analysis:** A system of primary dealers and market-makers provides a formal arrangement to gather market intelligence on liquidity conditions and investor preferences, the best timing for the launch of new benchmarks, benchmark sizes that would support secondary market liquidity, profiles of end-investors and potential new investors, and information that the market still seeks from the DMU. However, a primary dealer/market-maker system is not the only way to do so. In the absence of a formal primary dealer/market-maker arrangement, the debt manager would need to periodically interact with key market intermediaries and investors. In either case, the interaction itself can be formalized through monthly meetings, investor surveys, etc., and supplemented with less formal meetings/calls. The debt manager may also need to coordinate closely with the securities exchange or the providers of clearing and settlement services if such entities play an active role in the GS market. Information on systemic liquidity conditions and the impact of the DMU's operations on systemic liquidity may need to be coordinated closely with the central bank.

54. Information provided to the market regarding the issuance plan should be calibrated based on striking a balance between being transparent and predictable about the issuance plan, and maintaining flexibility to adjust the issuance plan with changing needs and market conditions. The debt manager needs to carefully choose the amount and timing of information that is disseminated to the market. The objective is to offer a degree of transparency and predictability about the supply of GS (instruments, tenors, amounts, and timing), which will allow market intermediaries and investors to plan their operations. At the same time,
the debt manager’s credibility depends on adhering to announced operations. Therefore, it would be prudent to offer only as much transparency as the debt manager is capable of supporting and gradually increase capabilities to be more predictable.23

55. The debt manager can maintain some flexibility by providing only general information at the beginning of the budget cycle (e.g. global issuance amount, benchmark tenors, purpose of LMOs and criteria for choosing the securities, etc.) and follow up with the exact securities and issuance amounts (still providing an indicative range, if necessary) at the beginning of each quarter or month or the week before the auction in the announced auction schedule for that period (refer Figure 5 for selected country practices in auction announcement). It is sometimes possible to indicate how the issuance plan would change in a particular event, e.g. a different budgetary outcome than anticipated.

56. Information on the issuance plan and outstanding debt portfolio may be disseminated bilaterally to market participants during periodic meetings with the DMU, on the DMU’s webpage, and/or the country’s Bloomberg/Reuters page. Dissemination on a wider platform, such as the DMU’s webpage or Bloomberg/Reuters page has the advantage of providing information not only to active participants in the GS market, but also potential domestic and global investors and industry analysts covering the market. Some countries publish minutes of meetings with the market to ensure that everyone has the same information. Periodic reports on operations offer the debt manager a chance to showcase progress towards the implementation of the issuance plan, as well as to explain the reasons for any deviations from the announced issuance plan. This can help market participants to evaluate the quality of debt management operations after discounting for unexpected changes in fiscal or monetary indicators.

Figure 5: Selected Country Practices in Auction Announcement24

<table>
<thead>
<tr>
<th>Country</th>
<th>Auction announcement</th>
<th>Information disclosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>Administrative order is released before each auction</td>
<td>Objective, issuance date, amount to be offered, maturity</td>
</tr>
<tr>
<td>Egypt</td>
<td>Posted on the website of the Ministry of Finance</td>
<td>Security type, auction/settlement/maturity dates, nominal amount, coupon</td>
</tr>
<tr>
<td>Germany</td>
<td>Issue is announced six working days before (except for inflation-linked securities for which the announcement is flexible) the auction</td>
<td>Announcement of the issue: maturity, issuance volume, time schedule for auction</td>
</tr>
<tr>
<td></td>
<td>Invitation to submit bids is published one working day before the auction</td>
<td>Invitation to submit bids: coupon, maturity, interest payment, date, volume, time schedule for auction</td>
</tr>
<tr>
<td>Hungary</td>
<td>Announced five days before the auction</td>
<td>Bills: auction/maturity/payment dates, offering amount</td>
</tr>
<tr>
<td></td>
<td>Bonds: auction date, details of the bond offered for sale, offering amount</td>
<td></td>
</tr>
</tbody>
</table>

23 The debt manager may still want to state, e.g. in the formal documentation, that the announced auction schedule is only indicative and that it retains the right to adjust it, but it should avoid doing so as much as possible.
<table>
<thead>
<tr>
<th>Country</th>
<th>Press release to announce the sale a few days (typically one week) before the auction, reported widely in print media and wire agencies</th>
<th>Amount of bills on offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>Press release to announce the sale a few days (typically one week) before the auction, reported widely in print media and wire agencies</td>
<td>Amount of bills on offer</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Announced at least five business days before the issue via the Fully Automated System for Issuing/Tendering (FAST), in major newspapers, Bloomberg, and Reuters</td>
<td>Tender opening/tender closing/issue/maturity dates, stock code, stock short name, coupon rate</td>
</tr>
</tbody>
</table>
| Poland      | Bills: announced the Friday before the Monday auction  
Bonds: announced the Monday before the Wednesday auction | Type of security, maturity, value of the offer, description of terms of issue, time and place for submitting bids |
| Singapore   | Announced five business days before for bonds, and three business days before for bills; on the SGS website and in major newspapers | Tenor, total amount offered, minimum denomination, non-competitive tender amount, issue/ISIN codes, issue/settlement/maturity dates, method of sale, coupon rate and coupon payment dates for bonds |
| Turkey      | Announced on the Treasury website at least one day prior to auction | Auction number, auction/settlement/maturity dates, maturity, security/issuance type, coupon, ISIN code |
| United Kingdom | Conventional and index-linked Gilts: announced on the Tuesday of the week preceding a scheduled auction  
Bills: announced with the results of the previous auction | Auction/issue/settlement/maturity/interest dates, bidding convention, interest adjusted accrued interest payable with bid, auction close, title, nominal amount for auction, nominal outstanding after auction, parent ISIN/SEDOL codes, reference index applicable to first issue date, index ratio, index payable, next interest date, when issued trading (commences/closes), when issued ISIN/SEDOL code, TIDM (for trade reporting) |
H. Review and Adjustments

57. **Objective:** To periodically review the issuance plan and incorporate new information.

58. **Information required:**

   58.1. Up-to-date information on the implementation of the issuance plan

   58.2. Periodically updated information on projections of budget, cash flow/balance, at least for the next three months

   58.3. Periodic market intelligence on interest rates, investor preference and demand, and market liquidity

59. **Analysis:** Developing and implementing the issuance plan is a dynamic process with feedback loops involving budget execution, macroeconomic policies, and domestic and global market conditions, besides the ongoing implementation of the issuance plan itself. Since one of the key objectives of developing and disseminating an issuance plan is to offer predictability to the market, any adjustments need to be carefully calibrated and communicated to the market as and when possible. The debt manager may also need to follow internal procedures for the approval and communication of adjustments to the issuance plan. Therefore, the debt manager can only be as dynamic as the legal, regulatory and institutional framework allow.

60. If market conditions are such that the issuance of longer maturities at reasonable cost is severely constrained, the debt manager will necessarily have to adjust the issuance plan to reflect such constraints. If fiscal and macroeconomic projections were updated during the budget cycle (e.g. if the gross borrowing requirement increased or tax revenues were delayed, or if there were adverse shocks to systemic liquidity), the debt manager might need to increase gross issuance, accelerate the pace of issuance, or adjust the instrument mix, providing advance information to the market as and when possible. In situations where the gross borrowing requirement has decreased unexpectedly within the budget cycle (or against the medium- to long-term projections) the government faces a policy decision whether to continue with the implementation of the issuance plan as it is to support market development objectives (refer Box 5 for a discussion on benchmark building in an environment of declining debt stock).

61. While being responsive to changes in market conditions, the debt manager must also look for ways to support the implementation of the issuance plan, such that progress is made towards financing and market development objectives. For example, instituting a primary dealer system, where appropriate, with a framework of incentives and obligations, could greatly facilitate the implementation of the issuance plan by ensuring certain demand in the primary market. Short-term financing requirements beyond the planned issuance of benchmark securities could be satisfied with adjustments to treasury bill issuance, through cash management operations, or the use of cash buffers. LMOs, especially buybacks, could be used to create a financing need during a period of low cash needs to support planned issuance of certain volumes. If the gross borrowing requirement increased or there were an adverse shock to domestic liquidity, the debt manager could reduce pressure on the domestic market and rates by borrowing externally or drawing on contingent lines of credit.
Box 4: Benchmark Building in An Environment of Declining Debt Stock

Countries sometimes experience a structural change in their fiscal situation (e.g. OECD countries in late-1990s/early-2000s), with a period of small primary deficits or fiscal surplus leading to low financing needs. Other countries may be resource rich (e.g. Norway, Kazakhstan) or may have been fiscally prudent for a sustained period (e.g. Singapore, Hong Kong), obviating the need for debt financing. Such countries may adopt a policy to issue debt explicitly for market development purposes. The challenge that these countries face is to support benchmark building at different tenors and to adequately invest surplus cash to minimize the cost of carry. In this context, debt managers can adopt several measures depending on the purpose:

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Measures</th>
</tr>
</thead>
</table>
| Manage low financing need    | • Create additional financing need using buybacks of outstanding GS to improve portfolio composition  
                                • Consolidate benchmarks into fewer lines and tenors, and with smaller size  
                                • Adopt more efficient benchmark building methodologies (refer Box 3)                                                                            |
| Support GS liquidity         | • Reduce auction frequency and extend reopening periods  
                                • Use LMOs and/or derivatives to support GS liquidity                                                                                           |
| Invest surplus financing     | • Develop an investment strategy to invest temporary surplus cash at market interest rates (a structural surplus would usually be subject to a different investment and governance framework)  
                                • Use surplus financing to build a cash reserve for capital transactions, contingencies, etc.                                               |

25 Asset accumulation by the government raises several new challenges in terms of cost of carry, governance issues, and potential distortionary effects on asset prices that are beyond the scope of this guidance note, but which need to be carefully considered by the government.
5. Key Linkages

A. Cash Management

62. Cash forecasting and cash management capabilities of the government are critical to how well the debt manager can design and implement the issuance plan, and how sensitive the issuance plan should be to volatility in financing needs. They are significant for the pace of GS issuance and benchmark building, and for minimizing the cost of carry on cash balances that the government may choose to maintain.

63. Most EMEs face challenges in forecasting cash for a sufficiently long period, say for the next three months, with a certain degree of reliability. The challenges often go beyond the direct responsibilities of the DMU. However, the debt manager can highlight the importance of adequate and reliable cash forecasts and coordinate with relevant agencies to obtain necessary information. Such coordination needs to take place within MoF, between the FO and the unit responsible for cash forecasting and management, as well as between MoF and those responsible for budget execution elsewhere in the government ministries. Weekly cash flow projections should be generated and updated at least for the next three months to identify whether the issuance plan will sufficiently support budget financing and debt servicing or, if it needs to be adjusted and/or if the debt manager needs to tap other sources of funding to satisfy cash needs in the short term.

64. The debt manager’s and the cash manager’s judgment on the feasibility and appropriateness of cash management operations are important inputs to refining the issuance plan. In addition to compiling reliable forecasts, the unit responsible for cash forecasting and management needs to develop, in coordination with the debt manager, short-term borrowing instruments. For example, cash management bills and repos to manage a temporary cash shortfall, or invest short-term surplus cash using (collateralized) deposits or reverse repos at close to market rates. This is necessary to smooth the government’s cash balance, which allows a lower average level of cash balance, and to minimize the cost of carry on the government’s cash balance. The strength of cash management capabilities greatly influences the degree of regularity and predictability that the debt manager can provide in implementing the issuance plan.
B. Coordination with the Central Bank

65. Coordination between MoF/DMU and the central bank is mutually beneficial to their respective functions. The implementation of the issuance plan and associated cash management operations can complement the central bank’s liquidity management operations with sufficient coordination. Operational coordination is also important to avoid competing issuances from the government and the central bank at similar tenors (or at similar times of the day or week). If there is an overarching understanding of these issues between MoF/DMU and the central bank then coordination becomes easier.

66. The central bank is an important source of information for the debt manager regarding systemic liquidity conditions and monetary policy operations that impact the implementation of the issuance plan. For example, the debt manager may wish to time the launch of benchmarks during periods of sufficient systemic liquidity. In return, the debt manager could share information on the maturity structure of the government debt portfolio, the planned timing and size of borrowing, and planned cash management operations that are likely to impact systemic liquidity and monetary policy implementation.

67. In some instances where the central bank issues its own instruments for liquidity management, the MoF/DMU and central bank have reached an agreement to divide the short-term maturity spectrum for their respective securities. For example, the central bank issues bills at maturities of one month or shorter while the MoF/DMU issues treasury bills of maturities longer than one month. In other cases, the central bank has agreed to use securities issued by MoF/DMU to carry out open market operations with the proceeds sterilized in a government account at the central bank. MoF/DMU securities also serve as collateral for central bank repo operations.

68. Proceeds from government debt issuance are typically deposited at the central bank in a treasury single account or TSA. If the government chooses to maintain a cash buffer as part of its risk management strategy, it would aim to increase the size of the TSA balance. The size of this balance, how it is remunerated and the impact on the central bank’s balance sheet, and how the cost of maintaining this cash buffer could be shared between MoF and the central bank are all important matters for close coordination between the two entities.
69. Developing and implementing an issuance plan for GS is an important ongoing activity for EME debt managers, with implications for the government’s cost of financing, managing risks in debt servicing, supporting monetary policy implementation and financial stability, and promoting financial sector development. It is based on the principle of offering greater transparency and predictability to the market on the government’s debt issuance, while building and maintaining the DMU’s credibility with respect to debt management operations. A well-designed issuance plan takes into account the government’s objectives, investor preferences and the macroeconomic environment. Implementing an issuance plan is a dynamic process that requires close coordination with investors and market intermediaries, with other public sector agencies responsible for fiscal and macroeconomic projections, and with the central bank. With consistency in planning and implementation over a medium- to long-term horizon, the government as the issuer can hope to reach a better cost-risk tradeoff in its financing activities and contribute to financial sector development and stability.
7. Annex: Illustration of Steps in Developing an Issuance Plan

Background

• The government’s debt management objectives include issuing regular benchmark securities and gradually lengthening the tenors of the benchmarks offered; issuing and maintaining a steady volume of shorter-term (less than one year) treasury bills; and gradually increasing the proportion of gross financing met from DX fixed-rate GS issuance in the domestic market.

• Debt rollover will be financed through issuance of GS in DX in the domestic market.

• A portion of the budget deficit (including interest payments) will be financed through issuance of GS in DX in the domestic market.

• During the previous year, the government raised around DX 40.0 bn through GS issued in the domestic market. The gross financing need this year in DX in the domestic market is larger but systemic liquidity is expected to be favorable, helping to satisfy the increased financing needs.

• During the last year the debt manager has been able to issue between 500 mn and 1.0 bn at each auction; auctions are held weekly with T+2 settlement.

A. Financing Need

• Gross financing need for 2014 in the domestic market from issuance of GS = 46.0 bn, of which

  • Portion of budget financing (including interest payments) = 18.0 bn
  • Debt refinancing = 28.0 bn
### B. Instrument Selection
- Treasury bills: 6-month, 12-month
- Treasury bonds; fixed rate in DX: 3-year, 5-year, 7-year

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Target size</th>
<th>Number of lines supported over a year</th>
<th>Total financing over the year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-month</td>
<td>1.0 bn</td>
<td>6</td>
<td>6.0 bn</td>
<td>Gross issuance is 12.0 bn with the intra-period rollover of maturing lines</td>
</tr>
<tr>
<td>12-month</td>
<td>1.5 bn</td>
<td>6</td>
<td>9.0 bn</td>
<td></td>
</tr>
<tr>
<td>3-year</td>
<td>3.5 bn</td>
<td>4</td>
<td>14.0 bn</td>
<td></td>
</tr>
<tr>
<td>5-year</td>
<td>5.0 bn</td>
<td>2</td>
<td>10.0 bn</td>
<td></td>
</tr>
<tr>
<td>7-year</td>
<td>7.0 bn</td>
<td>1</td>
<td>4.0 bn</td>
<td>Demand for this tenor is expected to be lower than the desired target size</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>43.0 bn</td>
<td>Additional 3.0 bn needs to be raised by either adjusting the size of some benchmarks or opening an additional line of 3-year or 5-year bond</td>
</tr>
</tbody>
</table>

### C. Organization of Cuctions
- An indicative pattern of auctions of different instruments may be announced to the market with the actual auction calendar announced periodically

<table>
<thead>
<tr>
<th>Week of the Month</th>
<th>Instrument offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>6-m, 3-y</td>
</tr>
<tr>
<td>Week 2</td>
<td>12-m, 5-y</td>
</tr>
<tr>
<td>Week 3</td>
<td>6-m, 3-y</td>
</tr>
<tr>
<td>Week 4</td>
<td>12-m, 5-y or 7-y (offered once or twice a quarter, possibly in the fifth week of five-week months)</td>
</tr>
</tbody>
</table>
D. Organization of Maturities

- The different lines of each tenor are arranged systematically such that the redemption of large benchmarks does not bunch in any given year.
- This organization represents a steady state and it would need to be adjusted during the transition to this steady state to avoid bunching of redemptions with already outstanding GS.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Size</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-month</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-month</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-year</td>
<td>3.5</td>
<td></td>
<td>3.5</td>
<td></td>
<td>3.5</td>
<td></td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-year</td>
<td>5.0</td>
<td></td>
<td></td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>7-year</td>
<td>7.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.0</td>
</tr>
<tr>
<td>Total</td>
<td>1.5</td>
<td>1.0</td>
<td>5.0</td>
<td>6.0</td>
<td>1.5</td>
<td>4.5</td>
<td>1.5</td>
<td>7.0</td>
<td>5.0</td>
<td>6.0</td>
<td>1.5</td>
<td>4.5</td>
<td></td>
</tr>
</tbody>
</table>

E. Liability Management Operations

- Large benchmarks maturing within the next 12 months would be considered for buybacks during times of relatively lower cash needs
- The DMU will begin with buyback transactions, since they are simpler to execute than exchanges
F. Auction Schedule

• An auction schedule is generated for the next year with the planned instruments, amounts and timing of issuance and after modeling the various inputs in a spreadsheet (such as the analytical tool that is part of the Toolkit); the planned auction schedule for the first quarter is provided below.

• The issuance week for each instrument is based on the organization of auctions.

• The maturity month of each instrument is based on the organization of maturities.

• The planned auction amounts for each week are calibrated to promote competitive price formation, and to be within market absorption capacity.

• A new line is launched when the target size of the previous line is expected to be reached.

<table>
<thead>
<tr>
<th>Week of</th>
<th>6-m</th>
<th>12-m</th>
<th>3-y</th>
<th>5-y</th>
<th>7-y</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>Maturity</td>
<td>Amount</td>
<td>Maturity</td>
<td>Amount</td>
<td>Maturity</td>
<td>Amount</td>
</tr>
<tr>
<td>1</td>
<td>Jul-14</td>
<td>400</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jul-15</td>
<td>400</td>
<td>Apr-19</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Jul-14</td>
<td>300</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Jul-15</td>
<td>400</td>
<td>Apr-19</td>
<td>750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Jul-14</td>
<td>300</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Jul-15</td>
<td>400</td>
<td>Aug-21</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Aug-14</td>
<td>400</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Jul-15</td>
<td>300</td>
<td>Apr-19</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Aug-14</td>
<td>300</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Mar-15</td>
<td>400</td>
<td>Apr-19</td>
<td>750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Aug-14</td>
<td>300</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Mar-15</td>
<td>400</td>
<td>Aug-21</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Oct-14</td>
<td>400</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,400</strong></td>
<td><strong>2,300</strong></td>
<td><strong>3,500</strong></td>
<td><strong>2,500</strong></td>
<td><strong>1,000</strong></td>
<td><strong>11,700</strong></td>
</tr>
</tbody>
</table>

G. Market Communication

• The following information is provided for the month of February 2014.

• Indicating that the DMU maintains the right to adjust this calendar with a week’s advance notice to the market.

• Providing a range for the planned issuance amount for the 7-year instrument maturing August 2021 to maintain.

<table>
<thead>
<tr>
<th>Week of</th>
<th>6-m</th>
<th>12-m</th>
<th>3-y</th>
<th>5-y</th>
<th>7-y</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maturity</td>
<td>Amount</td>
<td>Maturity</td>
<td>Amount</td>
<td>Maturity</td>
<td>Amount</td>
</tr>
<tr>
<td>3-Feb</td>
<td>Jul-14</td>
<td>300</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-Feb</td>
<td>Jan-15</td>
<td>400</td>
<td>Aug-21</td>
<td>500-750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-Feb</td>
<td>Aug-14</td>
<td>400</td>
<td>Mar-17</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-Feb</td>
<td>Jan-15</td>
<td>300</td>
<td>Apr-19</td>
<td>500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
H. Review and Adjustments

- The planned auction schedule is reviewed periodically, every quarter and every month before publishing the quarterly/monthly auction calendar
- Further adjustments, if any, are announced the week before the auction
- Planned LMOs may also be announced, say one or two weeks, before the operation, indicating a maximum amount for the chosen instrument that the DMU wishes to buy back or exchange


