“Gene Kranz is a leader. He is a man who gives others the feeling that they are about to go through the door together into the stadium where they are each going to play the game of their life.”

The Bank Treasury Operating Model and ALCO Governance Process Best-Practice

There are certain functions in a bank that are understood universally and which require very little effort in their definition. For example, it will be clear to every banker in every country in the world what the “corporate lending” department does. And while some departments in banks are relatively recent in their historical origins (think of the “correlation trading” desk), some departments will be as old as banks themselves.

The “Treasury” function is just such an ancient department. Whatever they may have been called at the time, the very first banks would have had an individual or team of individuals responsible for collecting all the deposits and for transmitting all the loans, and for dealing with the surplus or shortage of cash at the end of the day. However, mention “Treasury” to a banker (or University economics department professor) and it will not be entirely clear to them quite exactly what the Treasury department does in any one specific bank. There is considerable variety observable. This is not an uncommon thing in finance, which as a practical discipline is almost as much art as science, and while there is no one “right” or “wrong” Treasury operating model, what is important is that the Treasury function in any bank is the right one for that bank.

Treasury is an important part of the balance sheet risk management triumvirate in a bank. Figure 10.1 is a simple but effective illustration of this triumvirate.

What Figure 10.1 shows is that Treasury is a peer of the Finance and Risk functions, led respectively by the Chief Financial Officer and Chief Risk Officer. When it comes to managing the bank’s balance sheet, all three departments play an equally important function, and therefore the interaction between all three teams must be efficient and effective. There is one crucial aspect of operations that is unique to Treasury, however, and that
is that Treasury is the only department in a bank that is both inward and outward looking, and has responsibility for the entire balance sheet. That makes the Treasury function the cornerstone and vital underpinning of the entire bank. Given this importance, we can say without exaggeration that it is important that the Treasury function is organised and managed in a way that represents best-practice for the bank and which ensures that the bank itself is run along the best possible lines. Therefore in this chapter, we will cover the recommended operating model for the Treasury function in some detail.

The extracts from the author’s previous works describe the “traditional” approach to bank asset–liability management (ALM), and the role of the bank’s ALM committee (ALCO). This historically orthodox approach might be termed “reactive” ALM. As we shall see, for best-practice balance sheet management and optimisation it is important that banks move to a more “proactive” ALM discipline, and this is described in the author’s new material.

We will also describe what this means for the asset-liability committee (ALCO), and present a recommended best-practice governance structure for the bank’s ALCO. We do not exaggerate when we say that the ALCO is the most important risk and operating committee in the entire bank, and must function in an effective way. The book extracts consider the ALCO operating process, and we provide an ALCO Terms of Reference template at Appendix 10.A. This would be appropriate for virtually all commercial banking institutions.

The remainder of Part III in this book looks in further detail at the technical side of the Treasury function, and concludes with a preview of the future of the bank Treasury organisation structure.

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1 This ignores whether the Treasury function has an explicit trading and P&L target or not.
This extract from *Bank Asset and Liability Management* (2007)

**Asset-Liability Management III: The ALCO**

The third and final strand of our look at traditional ALM considers the reporting process, often overseen by the ALM committee (ALCO). The ALCO will have a specific remit to oversee all aspects of ALM, from the front-office money market function to back-office operations and middle-office reporting and risk management. In this chapter we consider the salient features of ALCO procedures.

**ALCO POLICY**

The ALCO is responsible for setting, and implementing, the ALM policy. Its composition varies in different banks but usually includes heads of business lines, as well as director-level staff such as the finance director. The ALCO also sets hedging policy.

The ALM process may be undertaken by the Treasury desk, ALM desk or another dedicated function within the bank. In traditional commercial banks it will be responsible for management reporting to the ALCO. The ALCO will consider the report in detail at regular meetings, usually weekly. Main points of interest in the ALCO report include variations in interest income, the areas that experienced fluctuations in income and what the latest short-term income projections are. The ALM report will link these three strands across the group entity and also to each individual business line. That is, it will consider macro-level factors driving variations in interest income as well as specific desk-level factors. The former includes changes in the shape and level of the yield curve, while the latter will include new business, customer behaviour and so on. Of necessity the ALM report is a detailed, large document.

Table 8.1 is a summary overview of the responsibilities of the ALCO, and is essentially a banking ALM strategic overview.

The ALCO will meet on a regular basis; the frequency depends on the type of institution but is usually once a month. The composition of the ALCO also varies by institution but may be comprised of the heads of Treasury, Trading and Risk Management, as well as the finance director. Representatives from the credit committee and loan syndication may also be present. A typical agenda would consider all the elements listed in Table 8.1. Thus the meeting will discuss and generate action points on the following:
Management reporting: this will entail analysing the various management reports and either signing off on them or agreeing to items for actioning. The issues to consider include lending margin, interest income, variance from last projection, customer business and future business. Current business policy with regard to lending and portfolio management will be reviewed and either continued or adjusted.

Business planning: existing asset (and liability) books will be reviewed, and future business direction drawn up. This will consider the performance of existing business, most importantly with regard to return on capital. The existing asset portfolio will be analysed.

<table>
<thead>
<tr>
<th>Mission</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALCO management and reporting</td>
<td>Formulating ALM strategy</td>
</tr>
<tr>
<td></td>
<td>Management reporting</td>
</tr>
<tr>
<td></td>
<td>ALCO agenda and minutes</td>
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<td></td>
<td>Assessing liquidity, gap and interest-rate risk reports</td>
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<td></td>
<td>Scenario planning and analysis</td>
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<td></td>
<td>Interest income projection</td>
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<tr>
<td>Asset management</td>
<td>Managing bank liquidity book (CDs, Bills)</td>
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<td></td>
<td>Managing the FRN book</td>
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<td></td>
<td>Investing bank capital</td>
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<td>ALM strategy</td>
<td>Yield curve analysis</td>
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<td>Money market trading</td>
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<tr>
<td>Funding and liquidity management</td>
<td>Liquidity policy</td>
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<td></td>
<td>Managing funding and liquidity risk</td>
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<tr>
<td></td>
<td>Ensuring funding diversification</td>
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<td></td>
<td>Managing lending of funds</td>
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<tr>
<td>Risk management</td>
<td>Formulating hedging policy</td>
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<td></td>
<td>Interest-rate risk exposure management</td>
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<tr>
<td></td>
<td>Implementing hedging policy using cash and derivative instruments</td>
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<tr>
<td>Internal treasury function</td>
<td>Formulating transfer pricing system and level</td>
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<tr>
<td></td>
<td>Funding group entities</td>
</tr>
<tr>
<td></td>
<td>Calculating the cost of capital</td>
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</tbody>
</table>

Table 8.1 ALCO main mission
from a risk-reward perspective, and a decision taken to continue or modify all lines of business. Any proposed new business will be discussed and if accepted in principle will be moved on to the next stage.\(^1\) At this stage any new business will be assessed for projected returns, revenue and risk exposure.

- Hedging policy: overall hedging policy will consider the acceptance of risk exposure, existing risk limits and the use of hedging instruments. The latter also includes use of derivative instruments. Many bank ALM desks find that their hedging requirements can be met using plain vanilla products such as interest-rate swaps and exchange-traded short-money futures contracts. The use of options, and even vanilla instruments such as FRAs,\(^2\) is much less common than one might think. Hedging policy takes into account the cash book revenue level, current market volatility levels and the overall cost of hedging. On occasion, certain exposures may be left unhedged because the cost associated with hedging them is deemed prohibitive (this includes the actual cost of putting on the hedge as well as the opportunity cost associated with expected reduced income from the cash book). Of course, hedging policy is formulated in coordination with overall funding and liquidity policy. Its final form must consider the bank’s views of the following:
  - expectations on the future level and direction of interest rates;
  - balancing the need to manage and control risk exposure with the need to maximise revenue and income;
  - the level of risk aversion, and how much risk exposure the bank is willing to accept.

The ALCO is dependant on management reporting from the ALM or Treasury desk. The reports may be compiled by the Treasury middle office. The main report is the overall ALM report, showing the composition of the bank’s ALM book. This was discussed in Chapter 5. Other reports will look at specific business lines, and will consider the return on capital generated by these businesses. These reports will need to break down aggregate levels of revenue and risk by business line. Reports will also drill down by product type, across business lines. Other reports will consider the gap, the gap risk, the VaR or DV01 (interest-rate risk)

\(^1\) New business will follow a long process of approval, typically involving all the relevant front, middle- and back-office departments of the bank, and culminating in a “new products committee” meeting at which the proposed new line of business will be either approved, sent back to the sponsoring department for modification or rejected.

\(^2\) See Chapter 13. But, as a well-known old boy from the market is fond of saying, “Hedging is for gardeners!”
report and credit risk exposures. Overall, the reporting system must be able to isolate revenues, return and risk by country sector, business line and product type. There is also an element of scenario planning; that is, expected performance under various specified macro- and micro-level market conditions.

Figure 8.1 illustrates the general reporting concept.

Reproduced from Bank Asset and Liability Management (2007)
The ALCO: Terms of Reference and Treasury Operating Model

In the previous chapter we introduced the Asset–Liability Committee or ALCO, the most important operating committee in a bank. In this chapter we consider further the governance aspects of the ALCO, and a basic reporting pack that is part of ALCO MI reporting. We review a business best-practice approach to ALCO governance in a group banking structure, for a bank that operates across multiple legal entities and country jurisdictions. We also describe the organisation of a business best-practice Treasury function.

A presentation summary of the ALCO role and policy is available at the Wiley website (see Chapter 19 for details). This also holds examples of ALCO reporting packs.

THE ALCO GOVERNANCE MODEL

It is important that the ALCO function be set up and run with a governance structure and authority that befits its importance. For this reason, its terms of reference (ToR) must be articulated clearly to all bank management. Regular attendance by members of the ALCO must also be stressed. A common point of discussion is the frequency with which the ALCO should meet. At the minimum it should meet once every four weeks, ideally at the same time and on the same day each month. This establishes a pattern and ensures that the meeting is embedded in the firm’s risk and management culture. If for any reason a discussion is required ahead of the next scheduled meeting, for example during periods of market stress or because of a firm-specific issue of urgency, then certainly an extraordinary meeting should be able to be called at short notice.

We review here the ALCO ToR and some sample agendas.

ALCO Terms of Reference

Among the supplementary materials to this book appearing on the Wiley website (see Chapter 19 for details), we enclose a recommended sample template for an ALCO ToR. This is certainly appropriate for a small or medium-sized bank. We consider the ALCO ToR for a larger or multinational institution later in the chapter.

The most significant element of ALCO organisation is its membership, which reflects its status as a high-level management committee and key...
ALCO Membership

Members
CEO or Deputy CEO
Chief Financial Officer (Chair)
Head of Treasury (Deputy Chair)
Head of Corporate Banking
Head of Retail Banking
Head of Private Banking
Head of Research or Chief Economist
Chief Risk Officer

Guests
Head of ALM/Money Markets
Head of Market & Liquidity Risk
Head of Valuation Control/Product Control
Head of Financial Institutions Group

Secretariat
Treasury Business Manager or Liquidity team member

Table 10.1  ALCO membership.

policymaking body. Table 10.1 is an extract from the ToR template. This is the criteria recommended for ALCO membership in a medium-sized bank. What one observes from Table 10.1 is the seniority as well as the slant of the ALCO, which is ultimately a risk management mechanism. Note the following:

• the committee is chaired by the Finance Director, or in case of absence, the Head of Treasury, and not by the CEO or any of the business line heads (where the Treasury desk is a profit centre and not a cost centre, the Head of Treasury is less likely to act as Chair, but if no alternative is possible, this person must be mindful to not allow any conflict of interest whenever required to act as chair in the CFO’s absence);
• the head of each business line must be represented, as must the head of risk management (more often now termed the Chief Risk Officer);
• selected members of staff of relevant departments can also be invited to attend as guests; for example, the head of money markets or ALM (who reports to the head of Treasury). Where this occurs, the ToR must make clear that such persons have voting powers in the absence of their
department head. For effective management and decision-making, it is recommended that deputies be given such authority, so that the bank can function correctly in the absence of key senior individuals.

The author believes that the Head of Credit, or a senior person from the Credit Committee, should also attend ALCO, and certainly some banks do follow such an arrangement. However, credit decisions, including risk-related issues such as expected losses, forecasts and loss provisions, are often handled at the Executive Credit Committee level, and because the Credit department does not have a day-to-day involvement, from either an operational or policy level, with asset-liability issues it reduces the need to have it represented at the ALCO level. Ultimately, it is a decision for the CEO and ALCO chairman.

The membership of ALCO should be reasonably stable, but also flexible enough to allow for additional persons and expertise as and when necessary: for example, technical experts by invitation.

The ToR is a formal statement of the primary aims and objective of the ALCO. It should be a succinct document. We observe that its remit covers every aspect of asset, liability, liquidity and capital management of the bank’s operations. We show at Figure 10.1 an extract from the ToR, which is the committee’s operating agenda. The list is not exhaustive. The agenda makes clear that any aspect of the bank’s operations that impact ALM issues – which is essentially anything that a bank might undertake – must be addressed, for risk management purposes, at the ALCO level.

**Agenda Setting**

The ALCO agenda is varied and wide ranging, and by definition dynamic in line with market and firm-specific events. On the Wiley website we include a sample of hypothetical agendas from past ALCO meetings at different banks. Figure 10.2 is an example of one of these agendas, from a bank ALCO meeting. Specific items must be the responsibility of named individuals, who will present in accordance with the agenda. The agenda and supporting documents should be circulated at least one week before the meeting date, to enable members to have sufficient time to review the contents. Where this is not possible, for example for late items or for extraordinary meetings, the emphasis should be on making the meeting documents available to the circulation list as soon as possible.

Items for inclusion at the next meeting should be discussed, informally or formally, with the Chairperson before then being sent to the committee secretary for circulation on the agenda.
• Review gap limits, actual gaps, and their sensitivities, together with any recommendations to amend the limits;
• Review the liquidity ratio and other liquidity metrics, and adherence to regulatory and internal liquidity limits, and assess forecasted values for risk control purposes and adequacy;
• Review and discuss deposit and funding trends, including deposit concentrations, programs/products, deposit promotion campaigns, and forecasts;
• Review exceptions/excesses to internal and regulatory policies and limits as reported by the Head of Financial Planning and Control;
• Review current allocation of capital and profit contribution by business line, and present regulatory capital adequacy forecasts and requests for Board review;
• Review the market environment and potential impact on the branch’s interest-rate risk and trading activities;
• Review and approve authorised instruments and permissible hedging and position-taking strategies for gap management, trading and customer sales;
• Review and discuss recommendations to change policies, objectives or limits;
• Review internal funds transfer pricing arrangements and consider whether changes are required;
• Set standards and methodology for measuring and monitoring the quantitative limits on all trading activities;
• In liaison with CRO’s office, set and review stress testing scenarios;
• Review new trading activities recommended under the policy for New Products & Services; and
• Act as the centre for excellence for all ALM-related policy and governance issues.

Figure 10.1  ALCO operating agenda: extract from the formal ToR.

THE GROUP ALCO

Larger banks that operate across national boundaries and/or legal entities and subsidiaries will need to organise their governance on the basis of a central Group function and outlying regional and/or legal entity functions. This applies most crucially to the ALCO function. We present here recommended best practice for a Group ALCO (GALCO) organisation structure in a multinational and/or multi-entity bank.
The Bank Treasury Operating Model and ALCO Governance Process Best-Practice

ALCO Agenda
Date: Wednesday 25 November
Time: 15:00
Location: Board Room

1. Apologies
2. Minutes of last meeting
3. Matters arising
4. Review of ALCO monthly pack
5. ALCO Capital Investment Options for following year: update on recommendations to replace current practice (Head of Treasury)
6. Finance department interest-rate sensitivity: Scenario Analysis present agreed daily analysis already in production, highlighting key aspects, and parallel limits (CFO)
7. IPV Results for Q3 Following ALCO approval of the IPV policy, report results formally to ALCO on a calendar quarter basis, the first being Q3. (Head of Product Control)
8. Private Bank client deposit results and targets (Head of PB)
9. Internal Funds “Transfer Pricing” Model – update on implementation (Head of Financial Accounting)
10. European Central Bank Amendment to Collateral Rules (Head of Treasury)
11. Update and review of the bank’s Liquidity Policy Statement (Head of Market and Liquidity Risk)
12. Any other business
13. Date of next meeting

Circulation:
CFO (Chairman) CEO Head of Treasury
Head of Corporate Banking Head of Market Risk Head of Money Markets
Head of Product Control Head of FI CRO
Secretariat

Attachments:
Minutes (Item 2)
ALCO Reports Pack (Item 4)

Figure 10.2 Sample ALCO agenda.

Group Treasury Operating Model

A large or multinational bank should put in place a formal “operating model” that states formally what the objectives, roles, responsibility and ToR of the Group Treasury and branch and subsidiary Treasuries are. This forms the basis of the Group ALCO ToR. We describe here our recommended Group Treasury operating model framework.
Treasury Roles and Responsibilities
Group Treasury is responsible for overseeing that balance sheet capital and resources are utilised at their optimum level and on a sustainable basis across the bank. This is achieved via the following parallel tracks:

- **Strategic and tactical governance**
  - Ensure transparent governance and communication of policies and limits across the bank

- **Balance sheet management**
  - Compile board-approved Treasury policy statements for governance of the balance sheet, with regard to capital, liquidity, funding, transfer pricing and interest-rate and FX risk management. Implement and ensure compliance with these policies
  - Monitor the various balance sheet limits (including capital and asset limits) across the Group, legal entities and subsidiaries

- **Liaising and working with business lines**
  - Ensure seamless liaison with the business lines across the Group, to facilitate application of Treasury policy guidelines at the business line level
  - Ensure that capital, liquidity, funding, transfer pricing and interest-rate and FX risk management policies are adhered to at the business line level and part of the origination process.

The above can be drilled down into a more detailed document that includes the various policy statements, limits and approval levels. This would also include department organisation and names of individuals responsible for implementing policy. The communication process would be organised as shown at Figure 10.4.

**Group Treasury Role and Responsibility**
At a vanilla commercial bank operating in one jurisdiction, Treasury will typically be a profit centre, while also being responsible for overall ALM, funding, liquidity risk management, and policy setting and implementation. In a Group Treasury structure for a multinational and/or multi-entity bank group, it is more likely to be organised for the latter activity only, although the home country money market desk (a profit-making activity) may also be included within it.

Generally, Group Treasury will define Treasury policy for the entire bank and implement this across the group. It will also manage and be responsible overall for the relationship with the national and all external regulators, and the credit rating agencies. Overseas entities will also manage the local regulatory relationship on a day-to-day basis.
As a standard template, GALCO on an overview basis and Group Treasury on a delegated basis are responsible for all Treasury-related issues in the bank. These include the following:

- managing the capital base of the bank;
- monitoring at aggregate level the Group’s balance sheet risk;
- compiling for board approval the Group’s liquidity risk appetite and funding policy. This includes responsibility for all capital raising, including equity, hybrid capital instruments, and senior and subordinated debt;
- managing the Group’s funding structure, in line with approved guidelines, with respect to regulatory requirements and internal funding policy;
- managing the liquidity reporting to the national regulators;
- managing the Group’s non-traded interest-rate risk for the Banking book;
- setting policy for the management of the Group’s FX exposure risk, which is implemented as delegated authority to the individual local Treasury desks.

Again, this high-level operating model ToR can be drilled down into detailed policy statements and outlines of roles and responsibilities for each desk.
Local ALCO Organisation

Where the overseas business of the Group is organised as a branch, no local ALCO structure is necessary as the Head of Treasury at the branch will report direct to Group Head of Treasury (with a dotted line to the local CEO), and thus branch business is covered at the GALCO level.

A local ALCO organisation arrangement is necessary at any overseas business operation that is a subsidiary, partnership or separate legal entity to the parent. The ToR of the local ALCO will be virtually identical to that for a general ALCO of a domestic banking operation, described earlier, with the exception that the local Treasury is not responsible for any bank policy setting. The role of the local ALCO is to ensure that GALCO policy and all Treasury-related matters are adhered to in the local jurisdiction. The local ALCO ToR would include the following:

- managing the local regulatory relationship;
- ensuring that GALCO and Group Treasury policy is adhered to;
- overseeing balance sheet management for the local entity;
- in line with Group Treasury policy and principles, devising and implementing a liquidity and funding plan for the local entity;
- approving capital and funding, via the approval process at ALCO level, for local business origination, in line with overall bank strategy;
- managing the liquidity book or Liquid Asset Buffer (delegated to local Treasury).

The operating model should describe a clear delineation of roles and responsibilities, as well as a structure of transparent communication between GALCO, Group Treasury, local ALCO and the local Treasury, and thence to the business lines. For example, Table 10.4 shows how the approval levels for capital allocation may be set from GALCO downwards.

<table>
<thead>
<tr>
<th>GALCO</th>
<th>Any amount</th>
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<tbody>
<tr>
<td>Group Finance Director</td>
<td>Up to $100 m</td>
</tr>
<tr>
<td>Group Head of Treasury</td>
<td>Up to $50 m</td>
</tr>
<tr>
<td>Local ALCO</td>
<td>Up to $10 m</td>
</tr>
<tr>
<td>Local Head of Treasury</td>
<td>Up to $1 m</td>
</tr>
</tbody>
</table>

Table 10.4 Hypothetical capital approval limit structure.
**Local Treasury**

Both branches and subsidiaries overseas will have a local Treasury desk, managed by the local Head of Treasury. This person, in conjunction with the local ALCO, is responsible for compliance with local regulations and Group Treasury policy. This includes the following:

- ensure that the local entity adheres to the requirements of the national regulator;
- compile a local market liquidity contingency funding plan;
- chair the local ALCO and compliance with the set ALCO ToR;
- manage the day-to-day relations with the local regulator.

In addition, the local Treasury is responsible for managing the branch/subsidiary liquidity requirement and risk exposure, in line with internal limits and targets to comply with local requirements. That is, liquidity is managed at local entity level (in line with Group Treasury policy) and all liquidity modelling and stress testing (see Chapter 14) is undertaken locally. Assumptions used in stress testing would follow Group standards, modified where necessary to reflect local market conditions.

**Organisation Structure**

There is of course more than one way to organise the GALCO governance structure at a multinational or multi-entity bank. We illustrate our recommendation at Figure 10.5. A Regional ALCO is not common and not
necessarily recommended; however, for banks with a number of overseas operations in the same defined region (such as the Gulf Cooperation Council, or in Asia-Pacific), it may be logical to organise the local entities into a Regional ALCO structure. This should only be done where value is added through a regional set-up. Otherwise, incorporating both local and regional ALCOs may create unnecessary bureaucracy and duplication.

For larger banks and multi-entity banking groups, it is frequently the case that the ALCO does not have sufficient time to review adequately all policies and relevant aspects of the balance sheet. Where this is the case, business best-practice suggests that a separate Balance Sheet Management Committee (BSMCO) be set up to review more technical items, and feed up to ALCO where necessary. The membership of BSMCO would include:

- Head of Balance Sheet Management;
- Deputy Head of Treasury;
- Regional or Subsidiary Treasury delegates;
- Interest-rate Risk Management delegates;
- Chief Economist.

The role of BSMCO is essentially to review interest rate and liquidity risk aspects of the balance sheet from a macro-level perspective, and to recommend action in advance of expected stress events. It will also bring relevant items to the attention of ALCO, and there will be some commonality of membership between the two committees. The Chair would usually be the Deputy Head of Treasury.

Figure 10.6 shows the Treasury organisation at the subsidiary and/or overseas level for a bank that operates as a Group entity. Figure 10.6A is where the Treasury function is not also a profit centre (so that all dealing and money market trading is conducted as part of the front office environment,
and Treasury is a middle office cost centre), and Figure 10.6B is the more common arrangement with the Treasury as a front-office profit centre, incorporating the money markets dealing function.

GALCO Agenda Setting

The agenda items for GALCO are conceptually identical to what we discussed earlier for the ALCO agenda. However, much of the operating level business will be discussed at the local ALCO level and, where they are set up, regional ALCO level. This means that much GALCO business concerns Group policy issues, or high-level strategic decision-making issues. A sample GALCO agenda is shown at Figure 10.7.
The ALCO is the most important senior management and risk committee in a bank. It must always be run as a value-added committee, which means it needs to have the correct composition, review up-to-date management information that reflects accurately the balance sheet position and risk exposures of the bank and be the centre of robust discussion and debate. Policies and recommendations approved by ALCO will have a considerable influence on the bank’s condition and future state, so it is important that all banks seek to manage their ALCO on best-practice lines.

The UK FSA opined on this in a publication in January 2011.\(^1\) It presented good practice guidelines that all ALCOs should seek to adhere to, in the following areas:

- the role of ALCO;
- the composition and authority of ALCO;

• the forward-looking nature of the ALCO discussion and the decisions it makes;
• the degree of senior management challenge during meetings, and evidence of this in the approved ALCO minutes;
• regular attendance from all members.

We list the FSA’s recommended guidelines here.

### Role of the Committee

- Proactively controls the business in line with the bank’s strategy and objectives, and focuses on the entire balance sheet;
- Ensures that risks remain within the stated risk appetite;
- Considers the impact on earnings volatility of changing economic and market conditions;
- Ensures that an appropriate internal funds pricing mechanism is in place that correctly charges for the cost of liquidity, incentivises the desired behaviour and is in line with the bank’s strategic objectives and risk appetite;
- Acts as the arbitrator in the debate and challenge process between business lines.

### Committee Membership

- Attended by the CEO or Deputy CEO, and chaired by the CFO;
- Includes all business group heads, the CRO, the Head of Research/Economics and the Head of Internal Audit.

### Nature of Discussion

- Is forward-looking in nature, focusing on the impact of future plans and strategy at the business line level;
- Takes proactive decisions to manage ALM risks, act to solve issues raised or otherwise escalating to the Executive Committee/Board rather than simply noting or observing the risks;
- Ensures issues are fully articulated and debated;
- Considers recommendations from a tactical sub-committee that excludes the CEO and other ExCo members. Where appropriate, delegates decision-making authority to an ALCO sub-committee;
- Ensures an active dialogue and debate among committee members, and shows evidence of a strong degree of challenge;
- Provides minutes summarising the extent of discussion and debate, and do not only record action points.

### Management Information (the ALCO “Pack”)

- Is content-focused on future plans and strategy;
- Presents market and economic outlook, together with impact assessment on ALM issues pertinent to the bank;
• Shows liquidity and funding metrics by currency; also provides a forecast of metrics based on current market expectations;
• Provides results of stress tests under specified stress conditions;
• Provides analysis of interest-rate risk using modified duration and VaR methodologies, NII/NIM sensitivity and basis risk, as part of an assessment of earnings volatility;
• Reports its current funding composition, and assesses potential refinancing risk stress points, based on its funding maturities, its market funding position and the position of the market generally;
• Presents liquidity stress testing scenarios of varying severity;
• Presents the Contingency Funding Plan (CFP) for the bank, and regularly updates it;
• Provides the required level of granularity and invites challenge from members.

The author endorses these recommendations, particularly the ones on regular attendance and management challenge.

An example of an ALCO pack is provided on the Wiley website link that accompanies this book.

TREASURY OPERATING MODEL

As the previous section showed, there is more than one way to organise the bank Treasury function. The principle decision to take is whether it should be a profit centre, incorporating the money market trading desk, or a cost centre “middle office” that sets policy and governance but is not a market-facing function. Both approaches have their merits, but in a well-run and well-governed institution it is more likely that effective control and discipline can be enforced if the Treasury set-up is as a market-facing profit centre.

When organising the bank’s Treasury operating model, it is recommended that a review of the functions be undertaken first, before then deciding which department they best fit in. Table 10.8 shows the relevant bank activities by discipline, illustrated as a matrix function.

There is no “right” way to organise the Treasury operating model with respect to the functions shown in Table 10.8. What is important, however, is that the structure that is selected is appropriate to the strategy and culture of the specific bank. All the alternative approaches shown here would be suitable. There is a large variety of models that can be selected, but in general the ones described here are a business best-practice approach; the author would not recommend structures outside what is described in Figures 10.9 to 10.12.

A common organisation structure is for Treasury to encompass both market facing and policy functions. This is shown at Figure 10.9, and describes a Treasury function that reports to the CEO, but with a “dotted
<table>
<thead>
<tr>
<th>Capital and balance sheet</th>
<th>Liquidity</th>
<th>NI/NIM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic management</strong></td>
<td><strong>Capital management</strong></td>
<td><strong>Liquidity risk management</strong></td>
</tr>
<tr>
<td>Risk limits (risk-weighted assets, or RWA)</td>
<td>Liquidity limits</td>
<td>Interest-rate risk management</td>
</tr>
<tr>
<td>Cost of capital</td>
<td>Liquidity policy</td>
<td>Interest-rate risk modelling</td>
</tr>
<tr>
<td>Budget forecasting</td>
<td>Liquidity stress tests</td>
<td>Forecasting NI/NIM</td>
</tr>
<tr>
<td>Setting capital policy</td>
<td>Contingency funding plan</td>
<td></td>
</tr>
<tr>
<td>Setting return metrics</td>
<td>LAB policy</td>
<td></td>
</tr>
<tr>
<td>Defining capital structure and ratios</td>
<td>Liquidity cost calculation</td>
<td></td>
</tr>
<tr>
<td>Capital allocation</td>
<td>Funding strategy</td>
<td></td>
</tr>
<tr>
<td>Internal funds pricing policy (FTP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Market facing functions</strong></td>
<td><strong>Term Liabilities Issuance</strong></td>
<td><strong>Money Markets Desk</strong></td>
</tr>
<tr>
<td>Senior unsecured debt</td>
<td>Cash management</td>
<td>Banking book</td>
</tr>
<tr>
<td>Subordinated debt</td>
<td>Money markets</td>
<td>Trading book</td>
</tr>
<tr>
<td>Equity instruments</td>
<td>– depos</td>
<td>Market risk hedging</td>
</tr>
<tr>
<td>Securitisation</td>
<td>– CD/CP</td>
<td></td>
</tr>
<tr>
<td>Secured</td>
<td>Repo</td>
<td></td>
</tr>
<tr>
<td>– ABS/MBS</td>
<td>Collateral management</td>
<td></td>
</tr>
<tr>
<td>– Covered bonds</td>
<td>Counterparty risk management</td>
<td></td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td><strong>Investor Relations</strong></td>
<td><strong>Rating Agencies</strong></td>
</tr>
<tr>
<td></td>
<td>Financial control and reporting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regulatory reporting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk and product control</td>
<td></td>
</tr>
</tbody>
</table>

Table 10.8  Bank operating functions relevant to Treasury.
line” reporting responsibility to the CFO. The areas of responsibility given to Treasury are shaded.

In a large bank the reporting line to the CEO may be replaced with one to the head of markets or the head of an operating division. We observe from Figure 10.9 that in this arrangement the Treasury desk has a P&L responsibility, but is also the control function for capital and liquidity policy. The financial reporting for Treasury therefore must separate activities conducted with the external market from internal activities, to ensure that the P&L shown is only for external business. So, for example, internal transactions undertaken as part of the internal funding policy, otherwise known as funds transfer pricing (FTP; see Chapter 15) would be reported separately, usually as part of the ALCO book and not as Treasury P&L.

The opposite to this structure is a “middle office” Treasury that is responsible for policy setting and implementation, but has no market facing function. The governance function would not encompass financial reporting, but may include regulatory reporting. In this arrangement the reporting line is typically to the CFO, although we recommend that it be to the CEO or Deputy CEO. This is shown at Figure 10.10.

The first two methodologies represent the most common arrangements. A mixture of the two, which must be implemented with care because it risks generating control and policy implementation problems, is for Treasury to manage the term liabilities functions, but not the money markets and collateral management functions. In this arrangement it has a market facing function, but not the day-to-day cash management side of this function. This is shown at Figure 10.11. This model also includes the Investor Relations department, and may or may not include the regulatory reporting (not shown as shaded, as this responsibility may reside within Finance). The Treasury head would report to the CFO or CEO. However, for most banks, the effective operating model would be either Figure 10.9 or Figure 10.10.

A final option is shown at Figure 10.12. This is a larger Treasury that is again front office facing and so would report to the CEO. It holds the policy

<table>
<thead>
<tr>
<th>Capital management</th>
<th>Liquidity risk management</th>
<th>Banking book interest rate risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Term Liabilities Issuance</strong></td>
<td><strong>Money Markets Desk</strong></td>
<td><strong>Swaps and Derivatives desks</strong></td>
</tr>
<tr>
<td>Collateral management</td>
<td>Counterparty risk management</td>
<td></td>
</tr>
<tr>
<td>Investor Relations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance and Risk Management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 10.9** Front office treasury operating model.
### Figure 10.10
Middle office treasury operating model.

<table>
<thead>
<tr>
<th>Capital management</th>
<th>Liquidity risk management</th>
<th>Banking book interest rate risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term Liabilities Issuance</td>
<td>Money Markets Desk</td>
<td>Swaps and Derivatives desks</td>
</tr>
<tr>
<td></td>
<td>Collateral management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Counterparty risk management</td>
<td></td>
</tr>
</tbody>
</table>

Investor Relations

Finance and Risk Management

Regulatory reporting

### Figure 10.11
Treasury operating model with market facing function.

<table>
<thead>
<tr>
<th>Capital management</th>
<th>Liquidity risk management</th>
<th>Banking book interest rate risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term Liabilities Issuance</td>
<td>Money Markets Desk</td>
<td>Swaps and Derivatives desks</td>
</tr>
<tr>
<td></td>
<td>Collateral management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Counterparty risk management</td>
<td></td>
</tr>
</tbody>
</table>

Investor Relations

Finance and Risk Management

Regulatory reporting

### Figure 10.12
Treasury operating model with market facing governance function.
and governance responsibility as well as the money market function, but the
term liabilities and securitisation roles are placed elsewhere, perhaps within an
investment bank division or a debt capital markets department.

As we noted at the start, there is more than one way to arrange the Treas-
ury operating model. It is important that the method selected be fit for purpose.
The critical areas of capital and liquidity management policy and operation,
both day-to-day and long term, are best placed within a strong central Treas-
ury function, which is why the author prefers the option shown at Figure 10.9.
Reproduced from The Principles of Banking (2012)

THE TREASURY AND ALCO OPERATING MODELS: SINGLE
LEGAL ENTITY STRUCTURE

Before looking at the Treasury operating model in detail, consider the fol-
lowing illustrations on the Treasury function, at Figures 10.2, 10.3, 10.4
and 10.5. Rather than necessarily providing the “right” solutions, these fig-
ures ask the right questions.

Figure 10.2 shows the various functions that may sit in a Treasury
department, and how the department itself might be organised. Figures 10.3
and 10.4 show orthodox “front office” Treasury functions in banks, and
are quite common in combining a market-facing P&L element with a risk
management liquidity and capital management element. Figure 10.4 is
not uncommon in smaller banks which seek to extract more shareholder

**FIGURE 10.2** Treasury operating model overview
The Bank Treasury Operating Model and ALCO Governance Process Best-Practice

- Executing Derivatives
- Executing Cash Funding Deposits
- Executing Cash Funding Loans
- Counterparty Risk Management
- Managing Liquidity Buffer
- Collateral Management
- Money Market / FX / Repo
- Bank Balance Sheet Hedging

- RWAs
- Securitisation / Covered Bonds
- ABS / MBS
- Cost of Capital
- Capital Allocation
- Sub-loan Debt Issuance

- Defining Capital Structure
- ALCO / MI
- IRRM Policy
- Banking Book Policy
- Trading Book Policy
- BSM Code
- ICAAP

- Funds Transfer Pricing
- ILAA
- Cost of Liquidity
- Liquidity Reporting
- Liquidity Policy

FIGURE 10.3 Orthodox front-office Treasury function
FIGURE 10.4 Front-office Treasury function with Sales function
The Bank Treasury Operating Model and ALCO Governance Process Best-Practice

FIGURE 10.5 Treasury high-level operating model overview and linkages
value-added by having the Treasury function work directly with the business lines (usually a corporate banking team) to facilitate customer business. Finally Figure 10.5 is a high level overview of the Treasury operating model illustrating recommended core capabilities within the function, along with key linkages to other areas.

We note in the ALCO ToR that one of its strategic objectives is to maintain a forward-looking review of the balance sheet. To that end, just one of the key tools used to assist this process must be an “early warning indicator” (EWI) report that highlights key risk indicators (KRIs) for the bank. We provide a template ALCO EWI report at Appendix 10.B. Note that what exactly constitutes an EWI for a bank will depend on the type of bank concerned, its strategy, business model, product line, customer franchise, and geographical spread. The template we present would be appropriate for a medium-sized vanilla commercial bank.

THE TREASURY AND ALCO OPERATING MODELS: GROUP STRUCTURE

A bank that operates across national jurisdictions and/or with multiple legal entities must pay careful attention to its Treasury operating model, or more accurately to its Group Treasury operating model. This is to ensure that uniformity of policy and adherence to minimum standards are maintained throughout the institution’s balance sheet management discipline. Hence, a group or multinational bank should put in place a formal operating model that states formally what the objectives, roles, responsibility, and terms of reference (ToR) of the Group Treasury and branch and subsidiary Treasuries are. This forms the basis of the Group ALCO ToR. Group Treasury is responsible for overseeing that balance sheet resources such as capital and liquidity are utilised at their optimum level and on a sustainable basis across the entire bank worldwide.

A summary of the Group function responsibilities should include the following:

- Strategic and tactical governance: transparent governance and communication of policies and limits across the bank;
- Balance sheet management: compile Board-approved Treasury policy statements for governance of the balance sheet, with regard to capital, liquidity, funding, internal funds transfer pricing, and interest-rate and FX risk management; implement and ensure compliance with these policies; monitor the various balance sheet limits (including capital and asset limits) across the Group, legal entities, and subsidiaries;

---

2 This section was co-authored with Polina Bardaeva.
Liaising and working with business lines: ensure seamless liaison with the business lines across the Group, to facilitate application of Treasury policy guidelines at the business line level; ensure capital, liquidity, funding, internal funds transfer pricing, and interest-rate and FX risk management policies are adhered to at the business line level and as part of the origination process.

The above tasks can be drilled down into the various policy statements, limits, and approval levels. At the same time, there are practical issues faced by the Group function that often argue towards a more decentralised operating model. These include the following:

- Different regulatory requirements:
  - Local lending limits;
  - Capital adequacy ratios;
  - Liquidity buffer requirements;
  - Regulatory constraints to transfer funds across legal entities and jurisdictions.
- Local specifics of markets (opportunities for growth, market share, types of business lines, and products):
  - Availability of different products;
  - Availability (or lack) of some funding maturities;
  - Difference in interest rates levels and costs of funding;
  - Volatility of exchange rates of local currencies.
- Double reporting lines may cause conflicts or ambiguity. This needs careful attention to ensure a proper establishment of the structure and governance within the Group in adherence with the requirements of Group Treasury. Of course exemptions from Group policy may be arranged for specific areas of local responsibility.

Ultimately, from the shareholder point of view the overarching objective is for balance sheet funding and capital consumption optimisation across the Group.

Figures 10.6 to 10.9 present the cases for and against a centralised versus a decentralised Group Treasury arrangement in a multinational banking entity. When organising the Group Treasury function, the same rules apply as when considering the single legal entity Treasury function: first, the imperative is to craft the structure that is the best fit for that specific bank’s business model and culture; and second, the existing structure and what has transpired in the past are irrelevant.
Group Strategy

1. Same organizational structure
2. Direct interaction
3. Adjustments to local specifics to be approved by Group Treasury
4. Definite list of reports to Group Treasury

Governance

1. Capital and long-term funding plans provided by the Group Treasury
2. Group Treasury as the primary lender for Subsidiaries
3. Group treasury controls the alignment of principles and practice to the Group standards

Practical issues

1. Top-down approach
2. Subsidiaries

FIGURE 10.6 Centralised Group Treasury model

Virtues

- Transparency
- Comparability
- Reduction of costs (due to scale effect)
- Optimized interaction with counterparties

Drawbacks

- Local specifics neglected
- Lack of local knowledge about constraints and opportunities in capital and liquidity management

FIGURE 10.7 Centralised Group Treasury model efficiency

High-level guidelines

- Group Treasury incorporates local budgets and funding plans into Group plan
- Acts as the lender of last resort in cases of emergency
- Coordinates complicated processes, provides expertise, facilitates interaction with market participants when needed by Subsidiaries

Interaction between Subsidiaries according to local needs

1. Reporting only to local decisive bodies
2. Local decision making and execution
3. Locally elaborated budget and action plan
4. Independent policies in line with Group guidelines (the Group is informed about applied principles)
5. Capital allocation to different risks and business lines remains within Subsidiaries

FIGURE 10.8 Decentralised Group Treasury model
We noted at the start that the Treasury department of a bank is its cornerstone, the vital risk management function that is responsible not simply for basic cash management but also for ensuring stewardship of the balance sheet such that the bank is able to remain a going concern over multiple economic cycles, whatever the external market conditions may be. Subsequent chapters in Part III consider the technical challenges facing the Treasury function and the tools it uses to carry out its function. We end this chapter by including a template Treasury Policy Statement for a hypothetical medium-sized commercial bank, with balance sheet assets and liabilities in more than its reporting currency. This can be applied at any commercial banking institution. Please go to the files relevant to Chapter 10 held on the companion website for this book to download the policy statement, which is a Word file. Full details on the companion website are in Chapter 20.

CONCLUSION

It is difficult to exaggerate the importance to a bank of its ALM function, and its approach to balance sheet origination. To reiterate, there is more than one “right” Treasury and ALM organisation structure; the key requirement is that the Treasury operating model be appropriate to the bank in question. Changes to the external environment, the internal business model, the customer franchise, the product suite – indeed any change in internal or external factors – demands a review of the Treasury structure to ensure it is still fit-for-purpose. And the final authority on whether this is always the case should sit with the bank’s ALCO.
APPENDIX 10.A: Bank Asset and Liability Management Committee (ALCO) Template Terms of Reference

ALCO Recommended Terms of Reference

Chair
- Chief Financial Officer
  In the absence of the Chief Financial Officer, the Head of Treasury will act as the meeting Chair. If the Head of Treasury is unavailable a suitable alternative for the Chair shall be appointed by the Chief Executive Officer.

Members
- Chief Financial Officer
- Chief Executive Officer
- Head of Treasury
- Global Head of Balance Sheet Management, Group Treasury [for GROUP entities] or alternate
- Head of Corporate Banking
- Head of Retail Banking
- Head of Private Banking
- Chief Risk Officer
- Head of Strategy

Attendees
- MD Products & Marketing
- Head of ALM / Money Markets
- Head of Liquidity Risk
- Head of Valuation Control / Product Control
- Chief Economist
- [Head of Internal Audit]
- [Board NED]

Additional Invitees
As appropriate.

Deputies
If a Member is unable to attend a meeting, he/she shall appoint a deputy to attend on his/her behalf. Such deputy’s attendance shall not count towards the quorum and the deputy shall not hold the right to vote.

Quorum
Three members, at least one of whom shall be the Chief Financial Officer or the Chief Risk Officer, one from the 1st line of defence and one from the 2nd line of defence.

Meeting Frequency
Monthly and ad hoc as required by any member.
*Ad hoc* meetings are permitted to take place via email if necessary. Rules regarding decision making and quorum remain the same as for face to face meetings.
The Bank Treasury Operating Model and ALCO Governance Process Best-Practice

<table>
<thead>
<tr>
<th>Voting protocol</th>
<th>Items presented for approval may be approved by majority vote in favour, provided at least one from the 1st line of defence and one from the 2nd line of defence are in favour.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretary</td>
<td>Provided by Treasury.</td>
</tr>
<tr>
<td>Committee Authority</td>
<td>ALCO operates as a sub-committee of the Board.</td>
</tr>
<tr>
<td>Authority</td>
<td>ALCO may delegate any of its powers to a sub-committee consisting of one or more ALCO members. Any sub-committee so formed shall conform to any regulations that may be imposed on it by ALCO and the acts and proceedings of a sub-committee shall be reported to ALCO.</td>
</tr>
<tr>
<td>Delegated by the Committee</td>
<td>ALCO shall review and approve the ToR of those committees to which it has delegated authority at least annually and on an ad hoc basis should material amendment be proposed.</td>
</tr>
<tr>
<td></td>
<td>The ABC Bank Products Pricing Committee will report as a sub-committee of ALCO.</td>
</tr>
<tr>
<td></td>
<td>The ABC Bank Balance Sheet Management Committee will operate as a technical sub-committee of ALCO.</td>
</tr>
<tr>
<td></td>
<td>Specific delegated authorities are set out within “Scope of the Board/Committee’s oversight and responsibility”</td>
</tr>
<tr>
<td>Committee accountability</td>
<td>ALCO operates as a sub-committee of the Board and reports to the Board.</td>
</tr>
<tr>
<td>Escalation</td>
<td>Management decisions beyond this Committee’s authority and matters which this Committee deems necessary for escalation will be escalated to the Board or appropriate other Board committees where relevant.</td>
</tr>
<tr>
<td>Purpose of the Committee</td>
<td>It is responsible for identifying, managing and controlling all of the bank’s balance sheet risks and capital management in executing its chosen business strategy. Balance sheet risks are managed by setting limits, monitoring exposures and implementing controls across the dimensions of capital, credit, FX, funding and liquidity, and non-traded interest rate risk.</td>
</tr>
<tr>
<td></td>
<td>It is responsible for the implementation of ALCO strategy and policy for the bank’s balance sheet.</td>
</tr>
</tbody>
</table>

(continued)
ALCO Recommended Terms of Reference (Continued)

Scope of the Committee’s oversight and responsibility

Strategic overview
- Provide a single forum where the balance sheet risks of the bank can be monitored and managed.
- Ensure a consistency of approach across a range of Treasury issues.
- Establish risk appetite for the individual business lines and monitor exposures against limits.
- Provide oversight of business line Stress Testing
- Provide a single forum to consider developments in Treasury policy and regulation.
- Approve significant transactions where appropriate.
- Ensure that the decisions and policies from the Board are fully adhered to.
- Ensure compliance with regulatory requirements.

Capital
- Monitor long-term RWA trends and oversee actions to optimise RWA levels.
- Monitor and review capital usage and return on capital metrics for each business against targets.
- Review capital budgets/forecasts by business to ensure compliance with Board strategy.
- Approve allocation of capital between businesses where appropriate.
- Review strategic transactions as required.
- Review proposed changes in bank risk policy and drive action as required.
- Exercise responsibility for the overall oversight, preparation, drafting, and approval of the internal capital adequacy assessment process (ICAAP), for upward submission to the Board.

Non-Trading Interest Risk & Foreign Currency Exposure
- Establish risk appetite and set appropriate business limits.
- Review principle positions and hedging strategies and approve excesses as required.
- Review proposed changes in Board policy and drive action as required.
- Review the effects of stress tests and potential impact of significant external events on interest rate and FX exposure.
Liquidity and Funding
- Establish liquidity risk appetite and set appropriate business limits (where measurable) and targets.
- Set liquidity risk tolerances via specific metric limits, at bank, corporate banking, retail banking, and business line level
- Review liquidity and funding positions by business (where possible) against limits and approve excesses as required.
- Review liquidity and funding budgets/forecasts by business to ensure compliance with Group strategy.
- Review stress testing and underlying assumptions. Consider whether alterations to modelling scenarios are required.
- Approve and sign off on the bank’s Contingency Funding Plan
- Approve the sign off Treasury Funding Policy statements
- Exercise responsibility for the overall oversight, preparation, drafting, and approval of the individual liquidity adequacy assessment process (ILAAP), for upward submission to the Board.

Pricing
- Support business pricing strategy through transparent identification and communication of liquidity, funding and capital costs.
- Review and monitor portfolio pricing initiatives and implications for strategic balance sheet management
- Review and challenge margin trends/movements.
- Ensure that pricing methodologies remain appropriate, including the FTP and RAROE pricing model (where appropriate), particularly the assumptions of funding costs.

Credit risk
- Credit risk oversight in within the scope of ALCO governance to the extent that it approval of all credit policies and direction, and approval of country and sector limits.
- Includes high level reporting and review of key credit risk parameters which have implications for RWA reporting and trends.

Intra Group Limits (IGLs)
- [For GROUP entities] Oversight, approval, and monitoring of all intra-group limits and limit usage by business lines and [subsidiaries for GROUP entities]

(continued)
ALCO Recommended Terms of Reference (Continued)

Internal funds pricing regime
- Approve the Bank’s internal funds pricing regime (“FTP”) and sign off the FTP policy on semi-annual basis.
- Delegate authority for FTP implementation to Treasury.
- Approve and sign off FTP policy statements for Retail banking and Corporate Banking

Other
- Approve all funding cost re-charge mechanisms.
- Other issues relating to the management of financial risk and the balance sheet, as the Chair and members identify from time to time.
- Ensure effective operation of the ALCO in line with best-practice and regulator requirements, including as the appropriate forum for challenge and debate of all balance sheet-related issues and concerns
- Promote and ensure a culture of good corporate governance.
- Escalation of issues to Board where necessary.

Board Administration/Secretariat

The Treasury team is responsible for meeting administration. The draft agenda for each meeting is agreed with the Head of Treasury and the Chief Financial Officer in advance of meetings. Papers are circulated to Members and Attendees a minimum of three business days before each meeting. Draft minutes and agreed actions are circulated for approval as soon as possible after each meeting, preferably within a period of one week.

The minutes of the meeting shall include:
- A record of all material issues discussed and agreed by the Committee;
- All agreed actions and items approved by the Committee; and
- Any matters which require escalation.

The Chair of the meeting has responsibility for ensuring the minutes are reviewed before circulation to the Members and Attendees for review and comment. The minutes from the previous Committee meeting will be submitted for formal approval at its next meeting.

Copies of the approved minutes and record sets for all meetings are retained by the secretary.
## APPENDIX 10.B: Liquidity Risk Early Warning Indicators (EWI) Template

The table below provides a template for liquidity risk early warning indicators (EWIs) specifically tailored for the Choudhry Bank Group. The indicators are designed to help identify potential liquidity stress and include both quantitative and qualitative measures. Each indicator is categorized by whether it is relevant for the Group or the Parent. The table includes the latest data for the specified dates, with no data entries indicating that the indicator is not applicable or not available.

<table>
<thead>
<tr>
<th>No.</th>
<th>Indicator description</th>
<th>EWI specification</th>
<th>Threshold</th>
<th>Group Latest</th>
<th>Parent Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Liquidity Coverage Ratio (&lt;LCR&gt;)</td>
<td>Stock of HQLA / net cash outflows over 30 days</td>
<td>&lt; 120%</td>
<td>180.7%</td>
<td>246.5%</td>
</tr>
<tr>
<td>2</td>
<td>Rapid asset growth funded by volatile liabilities</td>
<td>Monitored through Advance / Deposit (A/D) Ratio</td>
<td>&gt; 75%</td>
<td>37.3%</td>
<td>37.0%</td>
</tr>
<tr>
<td>3</td>
<td>Deposit Coverage Ratio (&lt;DCR&gt;)</td>
<td>Overall liquidity reserve / Deposits due &lt; 90 D</td>
<td>&lt; 60%</td>
<td>123.3%</td>
<td>123.3%</td>
</tr>
<tr>
<td>4</td>
<td>Funding concentration ratio (&lt;FCR&gt;)</td>
<td>Largest single bank commitment or depositor &lt; 30D / Total due to banks &lt; 30D + total depositors &lt; 30D</td>
<td>&gt; 8%</td>
<td>9.7%</td>
<td>9.7%</td>
</tr>
<tr>
<td>5</td>
<td>Withdrawal of deposits during last 30 days (&lt;WD30&gt;)</td>
<td>Percentage of deposit withdrawal</td>
<td>&gt; 10%</td>
<td>no data</td>
<td>no data</td>
</tr>
<tr>
<td>6</td>
<td>Correspondent banks eliminate / decrease credit and FX lines</td>
<td>Total amount of credit and FX line decreases &gt; CHF 50 million</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Key FX rate development</td>
<td>USD / CHF rate largely deviating from budget rate</td>
<td>&gt; 25%</td>
<td>9.3%</td>
<td>5.7%</td>
</tr>
<tr>
<td>8</td>
<td>Overall market volatility</td>
<td>VIX (CBOE Volatility Index)</td>
<td>&gt; 25%</td>
<td>27.0%</td>
<td>24.5%</td>
</tr>
<tr>
<td>9</td>
<td>Negative publicity about the Bank</td>
<td>Immediate Notifiable Event (&lt;&lt;INE&gt;&gt; significant case)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Comments:
- The Group’s LCR decreased during 2015. However, the 180.7% LCR ratio at 11/30-15 largely exceeds both the internal requirement (110%) as well as the future regulatory requirement (100%).
- On August 24, 2015, the VIX volatility index peaked to 40.7% mainly driven by China’s devaluation of the Yuan by 1.9% to boost exports earlier in August, the subsequent FX / stock market turmoil, the Chinese slowdown as well as reduced global growth outlook. Since then the volatility index had its low at 14.2% on November 2, 2015. In 2016 the volatility index increased rapidly to the peak of 27% on January 8, 2016. After some decrease the following week, the index reached again 27% on January 15, 2016, and exceeds the stipulated threshold of 25%.
- In Q4 the countries performed further liquidity stress tests. The Group and all countries have sufficient liquidity to absorb the market driven stress outflows (LST 1) as well as to absorb the projected deposit outflows (LST 2) at 9/30-15.
- GALCO to consider to substitute KRI 5 “Withdrawal of deposits” with “Net deposit movement” (for which data is readily available).

Liquidity risk early warning indicators (EWI) (Continued)
Glossary

<table>
<thead>
<tr>
<th>Indicator / Term</th>
<th>Description</th>
<th>Characteristics</th>
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<tr>
<td>Loan to Deposit Ratio («LDR»)</td>
<td>The L-D Ratio shows to what extent customer advances are financed with customer deposits. It is also used for the early identification of rapid asset growth, which cannot be funded by deposits and needs to be financed alternatively. Funding by volatile liabilities, e.g., wholesale financing, increases liquidity funding risk.</td>
<td>L-D Ratio is closely monitored by Management with regard to strategic risk and the achievement of lending targets / revenue generation.</td>
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<tr>
<td>Credit &amp; FX line cancellation</td>
<td>Correspondent banks may cancel credit or FX lines granted to Group companies, which reduces the Group’s flexibility for liquidity management and may indicated negative opinion or sentiment in the market.</td>
<td>Only limit cancellations by counterparty to be reported.</td>
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<tr>
<td>Deposit Coverage Ratio («DCR»)</td>
<td>The DCR is a liquidity funding risk indicator, which highlights to which extent the total deposits due within 90 days are covered by the Overall Liquidity Reserve («OLR»).</td>
<td>Overall liquidity reserve / Deposits due &lt; 90 days</td>
</tr>
<tr>
<td>Funding Concentration Ratio («FCR»)</td>
<td>Funding concentrations are determined to identify potential dependencies. The FCR puts the largest commitment to a single bank / banking group or largest amount due to a depositor in relation to total due to banks and depositors for a 30-day timeframe.</td>
<td>Largest single bank commitment or depositor &lt; 30 days / Total due to banks &lt; 30 days + total depositors &lt; 30 days</td>
</tr>
<tr>
<td>High-Quality Liquid Assets («HQLA»)</td>
<td>HQLA have to be unencumbered and the stock of HQLA has to be managed so that a Group entity is able to use the HQLA immediately during the 30-day stress period without restriction on the liquidity generated.</td>
<td>To be eligible as HQLA, the assets must neither be issued by, nor an obligation of a financial institution.</td>
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<tr>
<td>Immediate Notifiable Event («INE»)</td>
<td>INEs are triggered by the following: (i) Operational loss &gt; CHF 100’000 or equivalent, (ii) Fraud cases / fraud attempts (regardless of size), (iii) Systems down and affecting &gt; 25% of all clients, (iv) Robbery, kidnapping and branch attack and (v) Reputational risk identification (e.g., unfavourable mention in the press), in case of the latter, significant cases reported are to be included in the EWI table above.</td>
<td>INE reporting within 24 hours</td>
</tr>
<tr>
<td>Key FX rate development</td>
<td>As the GBPUSD rate is of utmost importance to the Group and the achievement of defined objectives (e.g., the Group’s annual results and budget in USD equivalents), large fluctuations and deviations from the budget rate are monitored.</td>
<td>2015: The budgeted GBPUSD rate amounts to 1.42</td>
</tr>
<tr>
<td>Liquidity Coverage Ratio («LCR»)</td>
<td>To promote the short-term resilience of the liquidity risk profile of banks, the LCR ensures that banks have an adequate stock of unencumbered HQLA that can be converted easily and immediately in private markets into cash to meet their liquidity needs for a 30-calendar-day liquidity stress scenario.</td>
<td>Stock of high HQLA / Net cash stressed outflows over next 30 days</td>
</tr>
</tbody>
</table>

Liquidity risk early warning indicators (EWI) (Continued)
**Negative publicity about the Bank**

Negative publicity about a bank may result in significant deposit outflows and cancellation of correspondent banking relationships. Therefore, the Group monitors INE reports and in particular reputation risk situation (e.g., unfavourable mention in the press).

**Net Stable Funding Ratio («NSFR»)**

To promote more medium- and long-term funding of the assets and activities of banking organisations, the NSFR establishes a minimum acceptable amount of stable funding based on the liquidity characteristics of an institution's assets and activities over a one-year horizon.

**Overall Liquidity Reserve («OLR»)**

The OLR complements the LCR computation and focuses on a 90-day horizon under normal markets.

The liquidity reserve comprises net liquid assets, which are unencumbered and freely disposable, as well as unused committed funding lines. While required minimum reserve balances to be held with central banks are excluded from the “freely disposable liquidity”, they are added back when computing the OLR as they can be used in case of large deposit withdrawals.

**Overall market volatility**

Market volatility is a measure of prevailing market price fluctuations. Higher overall market volatility expresses increased uncertainty and fears.

**Red-Amber-Green («RAG»)**

The benchmarks of the Group's Key Risk Indicators (KRI) are applied to the EWI, too. The EWI are primarily geared to the identification of situations or trends, which deviate from the desired level ("green"). Furthermore, if an excess over threshold is identified during the reporting period, it is highlighted, as well.

**Withdrawal of deposits during last 30 days («WD30»)**

WD30 or the percentage of deposits withdrawn within the last 30 days is used as an indicator for potential additional deposit withdrawals in the immediate future.

**Overall liquidity reserve / Deposits due < 90 days**

Available amount of stable funding / Required amount of stable funding

Effective date: January 1, 2018.

**VIX (CBOE Volatility Index)**

As measure of implied volatility of S&P 500 index options

Market volatility is a measure of prevailing market price fluctuations. Higher overall market volatility expresses increased uncertainty and fears.

**WD30 = Deposits withdrawn during last 30 days / Total deposits at beginning of the year**

Distribution: GALCO members

Liquidity risk early warning indicators (EWI) (Continued)

**SELECTED BIBLIOGRAPHY AND REFERENCES**

