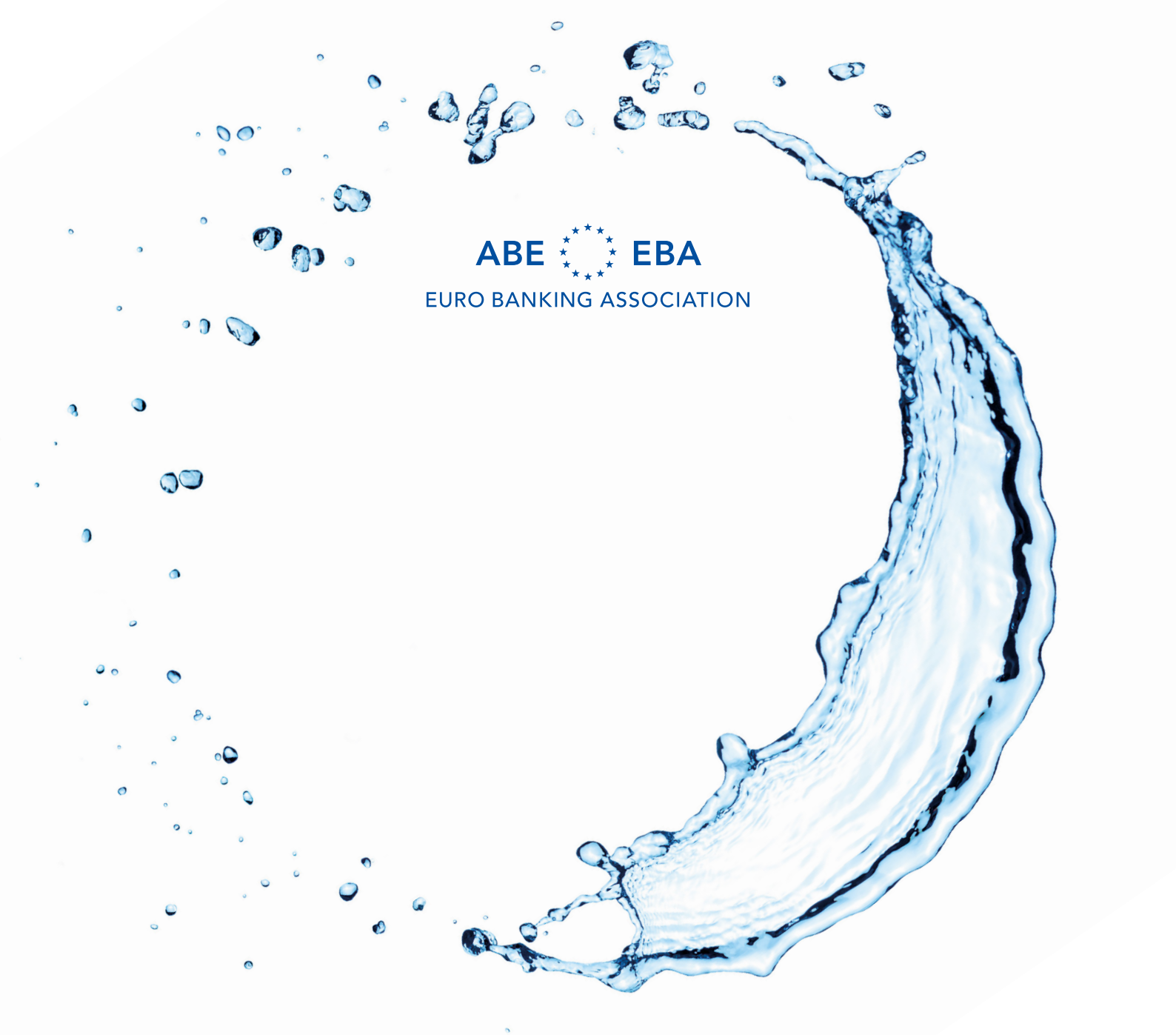

Thought Leadership

MANAGING CORPORATE LIQUIDITY AND BANK LIABILITIES: THE CHANGING CORPORATE LIQUIDITY MANAGEMENT ECOSYSTEM

EBA Liquidity Management Working Group

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This information paper is the result of an analysis carried out by the Euro Banking Association's Liquidity Management Working Group (LMWG).

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CONTENT

EXECUTIVE SUMMARY

Corporate liquidity management is an ecosystem where corporates and banks are interdependent. On one side, corporates rely on banks to provide a range of services, including: technology solutions, state of the art payment infrastructure, robust balance and transaction reporting, and cash pooling solutions. Most importantly, banks provide a trustworthy and well-managed balance sheet with access to central bank money. On the other hand, banks need deposits from their client base, both retail and corporate, to help them achieve their lending goals, while managing their balance sheets within the framework set by the authorities.

Recent regulation, most importantly Basel III, has impacted the balance of this corporate liquidity management ecosystem, introducing these changes affects both sides. Banks have had to adjust the incentives within their businesses to reflect the requirements of Basel III, notably the requirement to distinguish between operational and non-operational corporate deposits, which has had consequences for investors of corporate cash. At the same time, the lack of certainty over the future of notional pooling may also have far-reaching consequences for the many corporates that rely on the service to manage their company cash. This report analyses the effect of Basel III on these two key elements of corporate liquidity management: the investment of corporate cash and the future availability of notional cash pooling.

Whatever the long-term consequences of Basel III, and other regulation, banks and corporates will continue to co-exist in the corporate liquidity ecosystem. Faced with multiple challenges, ranging from new regulation to the ongoing digitalisation of the market, banks will want to continue to develop products and services that meet corporate needs. Given the central role technology already plays in tying corporates and banks together, identifying new ways in which banks can support corporates via the development of technology requires further investigation and will be developed in another report.

1. INTRODUCTION

Robust interbank payment infrastructure helps companies and individuals to exchange value and settle commercial transactions. At the end of each day, the effect of all these payments and collections are consolidated as net cash positions on bank accounts held with banks. These cash positions are simultaneously both an asset on the company's balance sheet and a liability on the bank's balance sheet.

For a company, cash is crucial to fund its operations (as working capital) and meet its current and future financial obligations. The company must also manage the cash on the balance sheet: holding cash with a bank exposes the company to a counterparty risk and there is also a cost of carry[1]. The company uses balance information from banks and its own forecasts to identify its current and future liquidity needs. It then employs various techniques, including cash pooling, to utilise this liquidity as efficiently as possible. The company manages this process with the support of various technologies obtained from banks (balance reporting, cash pools) and specialist providers like Treasury Management System vendors, as well as by using Excel as an operational and reporting tool.

For a bank, having cash (in the form of deposits) allows it to fund its assets (loan book) on the balance sheet, while minimising counterparty and liquidity risk, and the cost of carry.

1.1 RELATIONSHIP BETWEEN CORPORATE AND BANK BALANCE SHEETS

To put this into context, it is helpful to identify how a corporate deposit affects a bank's balance sheet.

Figure 1 explains the relationship between the two. The left-hand diagram represents a typical company's balance sheet. Its assets include work-in-progress, inventory of raw material and finished goods as well as the receivables which customers have committed to pay (order to cash). The company's assets also include any surplus cash (cash and cash equivalent) held on the balance sheet (which may be denominated in different currencies). The company's liabilities are indicated in the right-hand side and include its commitments to pay its suppliers (purchase to pay) in a range of currencies.

A company will hold its short-term cash/liquidity with banks, as well as potentially with asset managers, until it is needed elsewhere by the business (operating expenditure).

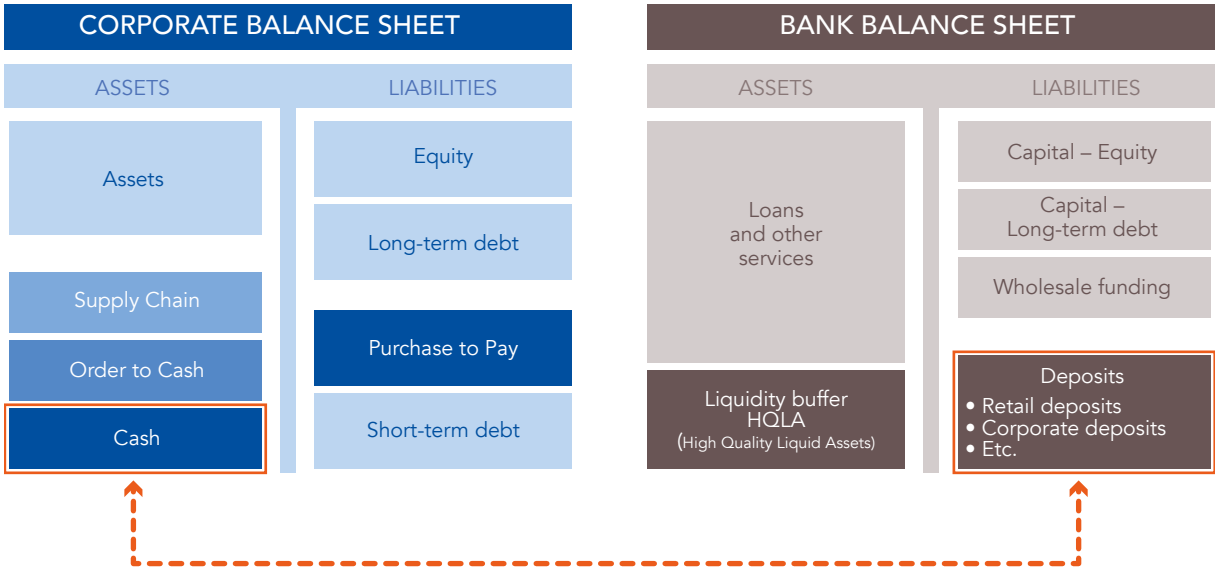
The right-hand diagram represents a typical bank's balance sheet. For banks, these corporate deposits are presented as liabilities as they are a commitment to pay in the future. Banks can manage these liabilities by changing the incentives for investors to place deposits with them. These deposits are crucial for the funding of the assets (loan book) of the bank.

1.2 THE EBA LIQUIDITY MANAGEMENT WORKING GROUP'S OBJECTIVES

Recognising the link between corporate and bank cash, the EBA organised a corporate liquidity seminar in April 2017. This brought together both sides of the corporate liquidity management ecosystem from across Europe: corporates and banks. Both parties face similar challenges: as well as ongoing technical, operational, management control and regulatory issues, increased focus is being paid to risk mitigation and to upgrade the liquidity management practices for the digital era.

1 This is the cost of holding cash on the balance sheet, which is the difference between return/yield and the Weighted Average Cost of Capital (WACC).

Figure 1 – The liquidity management ecosystem



The EBA Liquidity Management Working Group (LMWG) consists of representatives of EBA member banks and was set up to develop thought leadership on liquidity management practices with a clear focus on corporates as end users. It has discussed shared ideas and insights which have then been discussed with eight large European companies from various industries who shared their daily practices with the group.

The LMWG's objectives are:

- To identify and understand client needs and trends within the corporate liquidity management ecosystem; and
- To understand how both regulations and digitalisation are affecting this ecosystem, from both the corporate and bank perspectives.

This report is the first paper produced by the LMWG. It starts by identifying the core factors which determine corporate liquidity management. It establishes the key features of the Basel III reforms from a liquidity management perspective and analyses their effect on two key elements of corporate liquidity management: the investment of corporate cash and the future availability of notional cash pooling. The paper concludes with an outline of the proposed next stage of the LMWG's research. There is an appendix which defines various cash pooling terms for the purposes of this and future papers.

The LMWG has not addressed commercial or business aspects of liquidity management. The report should be seen as informative only.

2. IDENTIFYING CORPORATE LIQUIDITY NEEDS

Each company has its own liquidity management objectives, which it seeks to achieve via the adoption of treasury processes, supported by technology infrastructure and banking services. These objectives as well as broader corporate liquidity management needs, are determined by multiple interrelated factors.

2.1 VALIDATION WITH CORPORATE TREASURERS

To better understand the corporate liquidity needs, the LMWG invited eight corporates to share their objectives, challenges and daily liquidity management practices. Based on these discussions, the LMWG has identified a range of factors which influence the needs of corporate liquidity.

2.1.1 Internal factors

During the validation process with the corporate treasurers, the LMWG identified a number of internal factors which affect a company's approach to cash and treasury management, starting with the nature of its business. Other key factors include:

- **Company structure**
  Companies vary from small and medium-sized enterprises (SMEs), with a small number of legal entities, to regional or global multinationals, with complex legal structures.
- **Organisation and management responsibilities**
  Companies also vary according to their decision-making process and structure. In some, important business decisions, such as how to fulfil financing needs, are made centrally at headquarters; in others, these decisions are made locally, either by subsidiary or business unit management or by in-country organisations. A company's business decision-making structure will determine its treasury organisation, i.e. from highly centralised, with all key decisions made by group treasury acting as an in-house bank, to decentralised, in alignment with local businesses or entities. In other organisations, treasury can act as an agent, coordinating treasury activities across the group.
- **Geographic footprint and complexity of supply chain**
  A group with a presence in multiple jurisdictions and a network of international suppliers will face different challenges to a company with a primarily domestic focus. These challenges will materialise in terms of the number of currencies used, the company's exposure to counterparty risk and the complexity of collecting the sales value and making supplier and other payments. All these will make cash positions reporting more complex, and therefore more difficult.
- **Cash position**
  A company with net cash position will have different liquidity management requirements than a net borrower. The net borrower needs to constantly focus on liquidity, whereas a cash rich company has a safety cushion to absorb and mitigate any mismatches between cash forecasts and actuals.
- **Maturity of treasury organisation**
  The resources available to support decision making vary from well-resourced departments covering all activities to smaller teams focusing on key priorities.
- **Approach to risk**
  Companies have to manage a number of key risks in relation to liquidity management. These include

a. Counterparty risk: physical supply chain (receivables, factoring, Letter of Credits); investments (credit ratings, diversification); and counterparty risk (IT providers, banks, Fintechs – what happens if they fail?);

b. Operational risk: data processing, risk of error and fraud – both in-house and when outsourced to third parties; and

c. Market risk: foreign exchange, interest rate and commodity risk.

Appendix 2 contains a table, developed by the LMWG, listing these factors as criteria for client categorisation or segmentation. This table was used and evolving in the LMWG's discussions with the eight companies who shared their views with the group, and was the basis for the LMWG's identification of the three main drivers which frame a company's approach to liquidity management, which are outlined in 5.1 below.

2.1.2 External factors

Companies must adapt to their external environment. From a liquidity management perspective, more stringent bank regulation has seen companies streamline their bank relationships, while the focus on security and fraud has encouraged them to support their main bank with a back-up per region and/or currency. The evolution of technology and forthcoming regulation (such as the development of open banking via PSD2) will also have an effect on corporate views of their preferred bank relationships. In addition, unanticipated geopolitical and economic events arise which can have an impact on corporate-bank interaction and the liquidity needs of a corporate.

2.2 LIQUIDITY MANAGEMENT: FOCUS ON CORPORATE DEPOSITS AND CASH POOLING

In terms of needs, there are three key areas in which corporates rely on banks when managing their liquidity: bank technology, corporate cash investments, and cash pooling.

2.2.1 The central role of bank technology

First, while companies use technology to support decision-making within treasury and the finance departments, via solutions ranging from spreadsheets to sophisticated treasury management systems, they rely heavily on their banks' technology platforms to deliver data (such as end of day balance and transaction information), payment execution and other core services. Without these core services, corporates would find it difficult to manage liquidity with any degree of accuracy.

2.2.2 Investment of corporate cash

Second, being able to place cash on deposit with cash management relationship banks is an important corporate liquidity management tool. There are three core objectives when investing for any period: capital preservation (or security of principal), access to liquidity and return on investment. It is not possible to maximise all three at any one time, as investors will need to sacrifice security and/or liquidity to attain a higher return.

When investing surplus cash categorised as short-term working capital, treasurers will prioritise security of principal (by diversifying their portfolio and placing cash with stronger credits) and maintenance of liquidity (by selecting instruments with a short or no notice period). Such cash is

usually placed with relationship banks or with alternative investment instruments, including money market funds. If the cash flow forecasts indicate working capital cash can be invested for longer than a few days, the corporate treasury policy may permit a treasurer to sacrifice some liquidity to seek a return on that investment.

2.2.3 The importance of cash pooling

Third, treasurers use cash pooling to help them achieve their liquidity management objectives (notably to maximise available short- and medium-term working capital funding), typically by seeking:

- **A more efficient use of corporate liquidity**
  Cash pooling enables companies to include previously 'idle' cash in their working capital balances, without the need for manual intervention in these accounts.
- **Optimisation of credit lines to reduce reliance on external sources of funding**
  By using internal surplus cash to finance group operations, treasurers can reduce their reliance on external borrowing for short-term working capital finance. Since the financial crisis, corporate treasurers and financial directors, especially those in SMEs, are more aware of the risk of short-term market liquidity not being available when needed.
- **Interest optimisation**
  Cash pools allow companies to reduce the interest on debit balances or increase opportunities to earn a return on credit balances. In its simplest form, this involves adopting some form of cash pooling. Corporate participants in the LMWG corporate panel sessions confirmed that cash pooling is an important tool for them.

As with the other core services banks provide, any company that uses a bank's cash pooling solution relies on that bank's ability to manage this product through its own legacy technology, in a way that remains compliant with all relevant regulations.

2.2.4 Core products affected by new regulation

While corporates have multiple liquidity management needs, a bank's potential ability to accept deposits and to offer cash pooling products has been affected by recent regulation, notably Basel III.

3. THE BASEL III RULES AND LIQUIDITY MANAGEMENT

Following the liquidity crisis of 2008 and the subsequent collapse of some financial institutions, regulators wanted to reduce banks' reliance on short-term wholesale funding to fund their assets/loan book. The regulatory response was led by an international body, the Committee on Banking Supervision (Basel Committee) of the Bank for International Settlement (BIS), via its Basel III Accord (Basel III). The Basel Committee's objective was to make the global banking system more resilient in the future, by strengthening bank balance sheets.

3.1 RATIOS AND DEFINITIONS

Most of the focus of Basel III is on the introduction of more stringent capital requirements and the introduction of a simply applied leverage ratio. Basel III also created two new liquidity-related ratios: the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR).

3.1.1 Capital requirements

Basel III introduced reforms to capital requirements by both requiring banks to hold more, and higher quality, regulatory capital (Common Equity Tier One, Additional Tier One and Tier Two) and altering

THE PRINCIPLES OF CASH POOLING

There are two distinctive underlying principles: cash concentration and notional pooling. **CASH CONCENTRATION** involves physically transferring funds between participating accounts and one master account. This creates intercompany loans which should be accounted for. The frequency of concentration can vary, depending on the solution, from 'end of each period/day' to 'per transaction'. The actual pooling or concentration can be executed via automated sweeps. With cash concentration, there is a mingling of funds, with the result of a net position on the master account, which is the liability between the bank and the company. **NOTIONAL POOLING** offsets credit and debit balances across several accounts without any physical transfer of funds. There is no mingling of funds and balances on participating accounts remain as liabilities towards the bank. The offset means that the associated risk and/or interest (credit or debit) may be calculated on the notional net balance; however, the method used to calculate the interest may vary. The offset is only commercially achievable if the bank can offset these positions on its own balance sheet. This means all participating balances need to be shown on the pooling bank's balance sheet. Notional pooling is also referred to as 'interest offset pooling' or 'balance and/or interest compensation'. Both methods of cash pooling are commonly used, both individually and in combination, to support the achievement of companies' liquidity management objectives.

The concepts are not always fully understood, not least because different market participants use the same term to describe different solutions. There is an appendix to this paper that defines different types of cash pooling in more detail.

the way banks calculate their risk-weighted assets. Global systemically important banks (G-SIBs) and domestic systemically important banks (D-SIBs) are subject to additional capital requirements.

As well as a stricter allocation of capital, Basel III also introduced a requirement for banks to comply with a minimum leverage ratio. The leverage ratio requires banks to maintain a minimum of 3% equity against its on- and off-balance sheet exposures. Some countries have set a higher minimum leverage ratio: as an example, the leverage ratio in the Netherlands is 4%. The potential Basel IV could include new recommendations which would further impact these capital and liquidity requirements.

3.1.2 Liquidity coverage ratio - LCR

The LCR requires banks to hold sufficient, unencumbered high-quality liquid assets (HQLA)[2] to compensate for any net cash outflows over a stress-modelled 30-day period. The HQLA must exceed 100% of these net outflows on an ongoing basis. By definition, HQLA are easily converted into cash.

The required level of HQLA is determined by the following equation:

$$\frac{\text{Stock of HQLA}}{\text{Net Cash Outflows forecasted in the following 30 Calender Days}} \geq 100\%$$

The denominator is critical, as it references the concepts of 'net cash outflows' (the difference between inflows and outflows in the 30-day period) and 'forecasting'. The regulation includes additional qualifications to the different nature of flows and provides guidance, rather than a single, specified method, on how to run the forecasting exercise.

3.1.3 Net stable funding ratio - NSFR

The NSFR takes a longer-term view and requires banks to maintain a NSFR (the ratio between its available stable funding (ASF) and its required stable funding (RSF)[3]) above 100% on an ongoing basis. As a result, banks will have to align the maturities of their assets, liabilities and off-balance sheet activities more closely. In brief, the NSFR means that a bank will no longer be able to rely fully on short-term funding (deposits) to fund its long-term assets (lending portfolio).

$$\frac{\text{Available Stable Funding}}{\text{Required Stable Funding}} \geq 100\%$$

To summarise, as long as a bank meets a minimum requirement in terms of adequacy of its own capital, the combined LCR and NSFR should ensure a bank has:

- Prudent funding in relation to the obligations on the asset side to overcome any future period of market stress; and
- A broad match, in terms of duration, of both sides of its balance sheet. The bank should have considered how much funding is prudent and sustainable given its investments.

2 HQLA are, for example, cash at central banks and low-risk liquid securities. These assets have a low return on assets (ROA).

3 The RSF is determined by the composition of a bank's loan book and is based on a number of variables, including tenor of loans, type of counterparty (corporate or retail) and bond holdings. The ASF includes capital market funding, preferred stock, customer deposits and long-term borrowings (defined as >1 year).

3.1.4 Operational vs non-operational deposits

Basel III requires banks to distinguish between 'operational' and 'non-operational' cash, to help them calculate their net cash outflows for LCR purposes. In the European Union (EU), the Capital Requirements Regulation (CRR) delegated the role of defining 'operational cash' to the European Commission. Although the European Commission has legislated to define operational cash[4], the LMWG found this legislation to be open to interpretation by banks across Europe.

The concept of an operational deposit has a different meaning for a bank and its corporate clients. **Corporate treasurers** can use the terms 'working capital' and 'operational balances' or 'operational cash' interchangeably. For a corporate, operational balances are those which are held to enable payments of financial obligations (such as supplier invoices, tax and salary payments) over a short period of time.

Banks have a much tighter definition of operational deposits, not least because Basel III requires them to create a definition. Banks regard an operational deposit as one on which they can rely for balance sheet management purposes. In other words, an operational deposit is seen as one which is 'stickier' than a non-operational deposit and more likely to remain on the bank's balance sheet.

Given the framework approach by the regulator, and the different perspective of banks and their corporate clients, it is difficult to align the definitions of 'operational cash deposits' for market use. While the current regulatory framework allows banks to set their own definitions, it is envisaged that the different interpretations may evolve into a single best practice.

3.2 BASEL III: DIFFERENCES IN IMPLEMENTATION

Confusion over the implementation of Basel III comes from the fact that the Basel Committee has no formal regulatory or legislative power, with the three Basel accords technically being global recommendations for local regulators to implement. This means there are differences in the way Basel III is being implemented around the world, for example:

- In the EU, the Basel III accord was implemented through the CRR and the fourth Capital Requirements Directive (CRD IV), which, as a directive, is then enacted through local national legislation in each EU member state: and,
- In the US, Basel III has been implemented via the imposition of new rules by three banking regulators (the Federal Reserve, the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation).

4 Article 27 of the Delegated Act defined operational cash and stated that "credit institutions should multiply by 25% liabilities that are maintained [by the depositor] in order to obtain clearing, custody, cash management or other comparable services in the context of an established operational relationship from the credit institution [and] in the context of an established operational relationship other than [those]". The Act qualifies the concept of an "established operational relationship" as being "critically important to the depositor" and requires either the relationship to have existed for at least 24 months or for the deposit to be used for at least two services. Operational cash is considered to "have significant legal or operational limitations that make significant withdrawals within 30 calendar days unlikely". Banks are prohibited to provide an economic incentive to corporate clients to hold balances "in excess of what is needed for the operational relationship". The Act also requires banks to treat only that part of the deposit to be used for these purposes as operational cash. All other cash (except NBFI deposits) is to be considered as non-operational cash and credit institutions will need to multiply those by 40% (Article 28).

In addition, Basel III is being implemented in countries whose central banks are members of the BIS. Elsewhere, many regulators have not yet implemented Basel III for their local banks. In these markets, international banks require compliance with stricter regulations for their branches than locally regulated banks. Companies therefore face banks with two totally different approaches to deposit gathering in these locations.

3.2.1 The banks' view: LMWG survey

Given the broad scope and interpretation of the regulation, the LMWG decided to survey peer working group banks on a voluntary basis using publicly available information. The survey focused on two key points:

- Whether the nature of a bank's customer deposit base (composition of the balance sheet) and the proportion of retail versus corporate deposits influences how it is interpreting the rules; and
- Whether some banks are more reliant on operational cash, e.g. for metric enhancement purposes, than others.

The main observations from respondent banks are:

- Banks have different interpretations of the regulatory definition of operational cash and how it should be calculated, albeit within the parameters set by the regulation.
- Banks also use different methodologies to forecast their net outflows for the next 30 days. Some use criteria based on balances only, others use criteria based on a combination of balances and a list of payments and collections book entry codes.
- Of the surveyed banks, those with a higher level of corporate deposits have a greater reliance on operational cash for the purposes of LCR and NSFR.
- There is strong support (80%) for the idea that operational deposits should be identified using client-specific data, rather than using groups of client data.
- There are strong indications that banks update their calculation methodology of the ratios consistently and on a regular basis, forming part of banks' LCR calculation model, and thus keeping the door open to possible non-linear changes in the future.
- Based on the survey, it appears that banks' application of Funds Transfer Pricing (see section 4.1 below) is not homogenous, although they are leaning towards differentiation from an operational versus non-operational perspective. The survey also suggests banks differ over the issue of whether to try to attract 'operational' deposits by offering tailored rates to those clients expected to provide them.
- Decisions on intra-day liquidity will have an impact on bank balance sheets and liquidity buffers. (Although part of the survey, the LMWG decided to address intra-day liquidity at a later date.)

3.2.2 Implications of survey results

Two points are of particular relevance:

- First, the survey shows that banks with a higher level of corporate deposits rely more on operational cash for the purposes of LCR and NSFR than banks with higher levels of retail deposits.

- Second, corporates are not generally aware of the ways banks view and treat their current accounts/demand deposits. The LMWG recommends, therefore, that each bank takes steps to educate its clients (by individual or segment basis) on how the bank views corporate deposits and, in particular, show how the bank balance sheets benefit from operational rather than non-operational cash. This process will help corporate treasurers to make an informed investment decision when seeking to invest cash with relationship banks.

The next section explores the implications of Basel III for corporate liquidity management.

4. HOW DOES REGULATION AFFECT CORPORATE LIQUIDITY MANAGEMENT?

Given the lack of corporate awareness of the implications of Basel III, it is useful to identify the precise impact of the regulations on the two elements of corporate liquidity management: the investment of corporate cash and the availability of notional cash pooling.

4.1 TREATMENT OF CORPORATE DEPOSITS

While banks have always had to keep a certain level of liquid assets in the past, Basel III has formalised this by requiring a minimum level of HQLA as a buffer. By tightening the requirements, the new regulations have a significant impact on both banks and their corporate clients.

To fully understand the implications, it is helpful to view them in the context of the impact the regulations have on a bank's funds transfer pricing (FTP)[5] policy. Each bank develops its own internal FTP policy, which is the pricing that the bank's internal treasury applies to bank business units on all loans (assets) and deposits (liabilities) that the business arranges with its clients.

4.1.1 Implications of LCR and NSFR

As discussed, banks have to hold sufficient HQLA against cash deposits to cover forecast net outflows for the next 30 days to mitigate liquidity risk. They are also required to distinguish between 'operational' and 'non-operational' deposits and hold HQLA at a minimum of 25% of operational cash deposits and 40% of non-operational cash deposits[6]. Figure 2 shows how different deposits from corporates and financial institutions are treated for the purposes of both the LCR and the NSFR ratios. Note that non-operational deposits from non-bank financial institutions are assumed to have a 100% run-off rate.

Whether a deposit is classified as operational or non-operational has consequences for a bank treasury and its policy (Figure 2).

- First, any deposit classified as non-operational partially restricts the bank's freedom when deciding its asset allocation.

- Second, as a result, a bank should identify which commercial initiatives generate 'non-operational' deposits and then manage them consistently with bank treasury.

The effect of this is that deposits are valued differently by banks from a long-term funding perspective, with the nature of the depositor (corporate versus financial institution) and whether they are considered to be 'operational' or 'non-operational' both having an impact. This consideration becomes more complex where companies and banks manage multiple buckets of cash denominated in different currencies.

5 As an example, consider a relationship manager (RM), who 'sells' a loan product to a customer. In effect, the RM will be buying funds from the bank treasury at a certain price (the FTP) and then reselling those funds to the customer, adding a certain 'spread' as a gross profit mark-up. The process is the reverse for deposit products. In this case, the RM buys effectively funds from the customer at a certain interest rate and sells them to the bank treasury. The price paid by the bank treasury is the FTP, with the gross profit the difference between the FTP and the interest rate granted to the customer (in theory, the rate paid to the customer will be lower than the FTP).

6 These figures are the minimum assumed 'run-off' rates, or the proportion of operational and non-operational cash that will flow out over a 30-day period.

Figure 2 – Deposits and LCR run-off and NSFR value

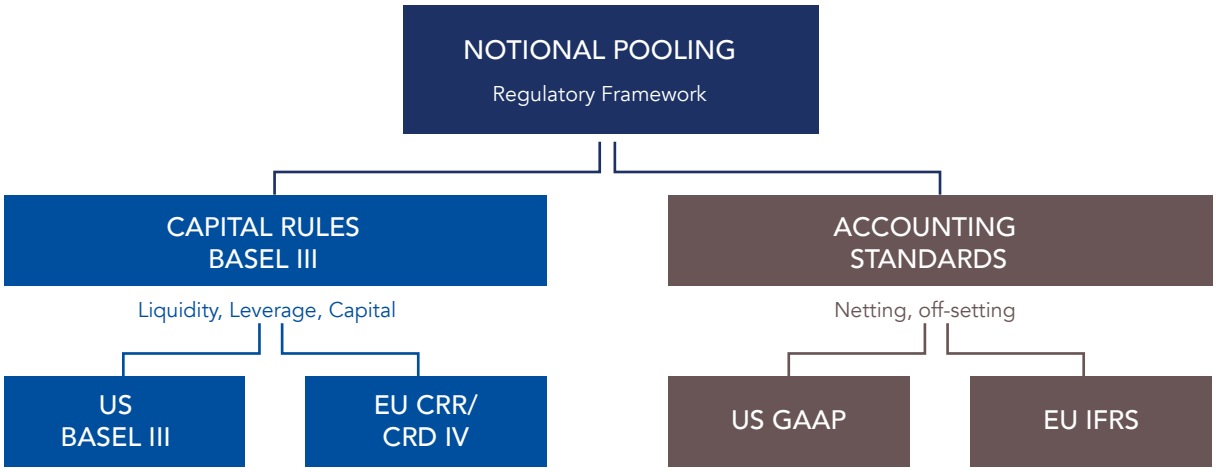
Deposits > 1.000.000 EUR (Unsecured Funding)	LCR / Run-off Rates	NSFR Value
Corporate, Sovereign and Public Sector **Operational deposits**	25%	50%
Corporate, Sovereign and Public Sector **Non-Operational deposits**	40%	50%
Financial institutions **Operational deposits**	25%	0%*
Financial institutions **Non-Operational deposits**	100%	0%*

* for a term deposit of > 6 months to maturity the NSFR is 50%

Banks have already revised their product ranges to reflect the new rules, with notable consequences for corporate users of these products in particular. Because of the different balance sheet treatment of operational and non-operational balances, operational balances have become more desirable to banks, giving them an incentive to attract them. On the other hand, banks have less incentive to accept non-operational balances, especially from single product clients as non-operational cash deposits bear a higher opportunity cost (and in some cases, a higher general cost) than operational cash deposits. When aggregated across its client base, the importance of operational (versus non-operational) balances becomes crucial in terms of both the sustainability of a bank's balance sheet and the net profitability of its products. This does not mean that banks do not value non-operational deposits: depending on the timing and composition of the bank balance sheet, banks are still willing to absorb these deposits.

While the effect of the regulation suggests bank FTPs might treat operational and non-operational cash differently, there is evidence to suggest that not all do so. The LMWG found that some banks pay (or are considering paying) a lower FTP to bank's own business units. The products the business units sell (or the customer they are dealing with) generate 'non-operational' cash, for example. Other factors, such as a client's historic behaviour, will also be taken into account when pricing corporate deposits internally. Although banks are able to differentiate with FTP to price in the cost of HQLA, there is a cost to implement this.

Figure 3 – Notional pooling & regulatory drivers



4.2 AVAILABILITY OF NOTIONAL CASH POOLING[7]

The availability of notional cash pooling depends on the approach by the regulators in all relevant jurisdictions. This applies to both the banks providing the solution and the corporate client seeking to benefit from it. As well as bank-specific capital and liquidity rules, the recognition of any legal documents underpinning the cash pool (including set off or cross-guarantee clauses), the treatment of intercompany loans and the ability to account for positions on a net, rather than gross, basis will all have an impact on the availability and efficiency of a notional cash pool.

Collectively, these rules and standards determine how banks are permitted to net or off-set credit and debit balances for reporting purposes and, then, how much capital and liquidity a bank must set aside to support pooling positions.

7 Definitions of the different forms of cash pooling are provided in an appendix to this paper.

4.2.1 Regulation of notional pooling

Evolving capital and liquidity regulations and accounting standards affect the way banks offer notional pooling. Banks need to ensure the balance sheet treatment of clients' notional pooling structures is compliant with the applicable capital and liquidity rules and accounting standards in the relevant jurisdictions where the product is offered.

For the purposes of European notional cash pooling, the regulatory environment is summarised in Figure 3.

While most banks in the EU are subject to EU regulation (CRD IV) and report to International Financial Reporting Standards (IFRS), some are subject to other regulation (notably, US banks have to meet US Basel III rules and report to US GAAP). Whichever regulatory regime is relevant, the rules should establish whether cash positions in a notional cash pool can be netted and the difference between the capital treatment of a gross and net position. This, together with the extent to which the rules are clear or open to interpretation,

will help to understand whether it is possible and economic for banks to offer notional cash pooling in the new regulatory environment.

4.2.2 The benefits of net position reporting

There are two ways banks can report notional pooling positions on their balance sheet: net or gross. The rules establish under what conditions cash positions in a notional cash pool can be netted and outline capital requirements for gross and net positions. Banks may interpret the rules and accounting standards differently.

Whether a bank is required to report its positions gross or net will have a significant impact on its ability to offer cost-effective pooling. Consider the example in Figure 4:

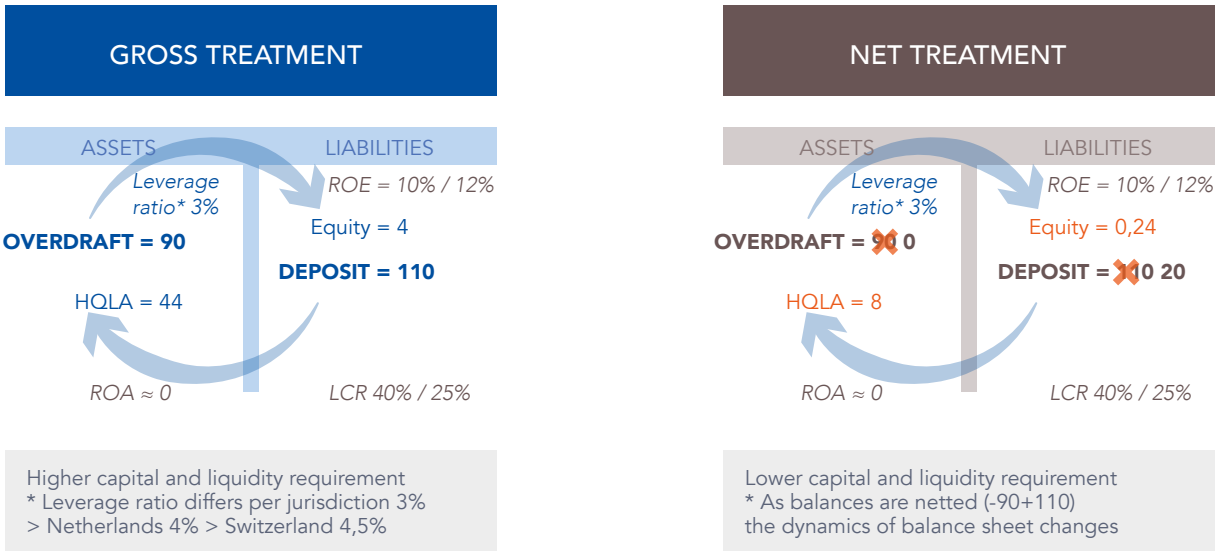
- The left-hand column shows a bank's balance sheet entries for a client's notional pooling structure if it is reported gross.
- The right-hand column shows the same entries if the bank is permitted to report the same positions on a net basis.

Under gross treatment, the bank will have to hold a liquidity buffer of HQLA against 110 of client deposits. If net treatment is permitted, it will only have to hold a buffer against 20 of client deposits. In addition, netting the balances will have the effect of shrinking the balance sheet, meaning lower capital charges will apply too. Together, this means banks are able to offer more attractive pricing on notional pooling if net treatment is permitted.

The difference can be quantified (see Figure 5). With gross treatment, the bank is required to hold an HQLA buffer of 44 (40% of 110) against the 110 of client deposits (assuming these are non-operational balances, requiring an LCR of 40%). At the same time, under the standard Basel III 3% leverage ratio, the bank will have to hold 4 of equity against the assets of 134 (the overdraft of 90 and the HQLA of 44), with shareholders demanding a return on equity of 10% to 12%. (Note, in some jurisdictions, the leverage ratio is higher.)

Figure 4 – Gross vs. net treatment of notional pools

Figure 5 – Gross vs. net treatment of notional pools - impact



With net treatment, the balance sheet changes. The bank will only have to hold 8 of HQLA against the deposit of 20. From a leverage perspective, the position is transformed. The netted balance sheet is smaller, requiring the bank to only hold 0.24 of equity against the lower HQLA, making it much easier to satisfy shareholders too.

The LMWG has not calculated the impact of the overdraft facility on LCR and NSFR, so the benefit of net treatment is not as simple as illustrated. The overdraft facility of 90 will have an additional impact on the bank's LCR and, consequently, the level of HQLA it has to hold. The precise treatment will vary according to the terms of the overdraft including, for example, whether it has a maturity date. In addition, banks may also apply some form of capital cost, depending on the nature of the notional pooling structure itself.

4.2.3 Summary of existing notional pooling regulations

As discussed above, the ability of banks to offer notional pooling is determined by both bank capital rules (including Basel III) and accounting treatment. Although these regulations and accounting standards are open to interpretation (notional pooling is not a defined term in US GAAP or IFRS), it is possible to summarise the main rules:

Capital rules

- Deposits within a notional pool need to be evaluated against LCR tests. If the notional pool is linked to operating accounts, the LCR treatment may be favourable, reducing the level of HQLA a bank must hold.

- For the purposes of the leverage ratio, US-regulated institutions may report loans and deposits on a net basis; EU-regulated

institutions may not. This means EU-registered banks may face higher capital costs than US-regulated banks when offering notional pooling.

- The capital cost impact of the different interpretation is significant. The Basel III standards have made it more expensive for banks to support notional pooling, especially in the EU, although the potential CRD V is likely to bring some relief (see 4.2.4).

As discussed in the previous section, although capital and liquidity rules are driven by Basel III, the rules are implemented at national level. As a consequence, differences exist between liquidity, leverage and capital rules as applied to US- and EU-regulated banks.[8]

Accounting treatment

Accounting standards vary between the US (US GAAP) and the EU (IFRS). Under IFRS, a factor for corporate treasurers is whether IAS 32.42 requires the (notional or physical) pool to be periodically settled. If not, the relationship may be considered an intercompany loan and, therefore, any net accounting treatment is not permitted. This requires treasurers to settle the pools, at the end of a month or quarter, negating some of the benefits of the liquidity management structure, notably if additional external finance is required during this period.

Conflict between capital rules and accounting treatment

EU-regulated institutions face further challenges given that accounting standards and capital regulations in the EU are not harmonised and there is a difference between IFRS and CRD IV rules. IFRS states positions can be netted if a "company has a legal right of offset and can show on a periodic basis that an offset has actually taken place". It also refers to the capital rules. CRD IV, on the other hand, makes it difficult for banks to net positions, meaning it is similarly difficult for banks to account for cash pools on a net basis. In contrast, to achieve net reporting under US GAAP, a bank must demonstrate it has a right of offset.

4.2.4 Possibility of a CRD V

The European Commission released its review of CRD IV in November 2016. The review suggested a set of amendments, collectively referred to as the CRD V Package, which included proposed changes to the capital and liquidity requirements. The proposals are still in consultation.

Cash pooling has been under scrutiny as Basel III, and particularly the leverage ratio, may affect banks' commercial ability to offer certain products to their corporate clients. In December 2017, the Basel Committee issued its final version of the Basel III framework. It includes a specific section on notional pooling,[9] which contains a new recommendation clarifying when and how positions can be reported net for leverage ratio purposes. Under this recommendation, if banks meet these criteria, they can net positions and will therefore benefit from lower capital costs.

However, it is still uncertain how this will develop within the EU as the guidelines need to be implemented into local legislation, potentially via a new EU directive (CRD V). And, even if CRD V does relax the framework, the final treatment of notional pooling will not be clear until it is implemented by all member states.

8 There are also some differences within the EU as each member state is responsible for implementing the CRD IV.

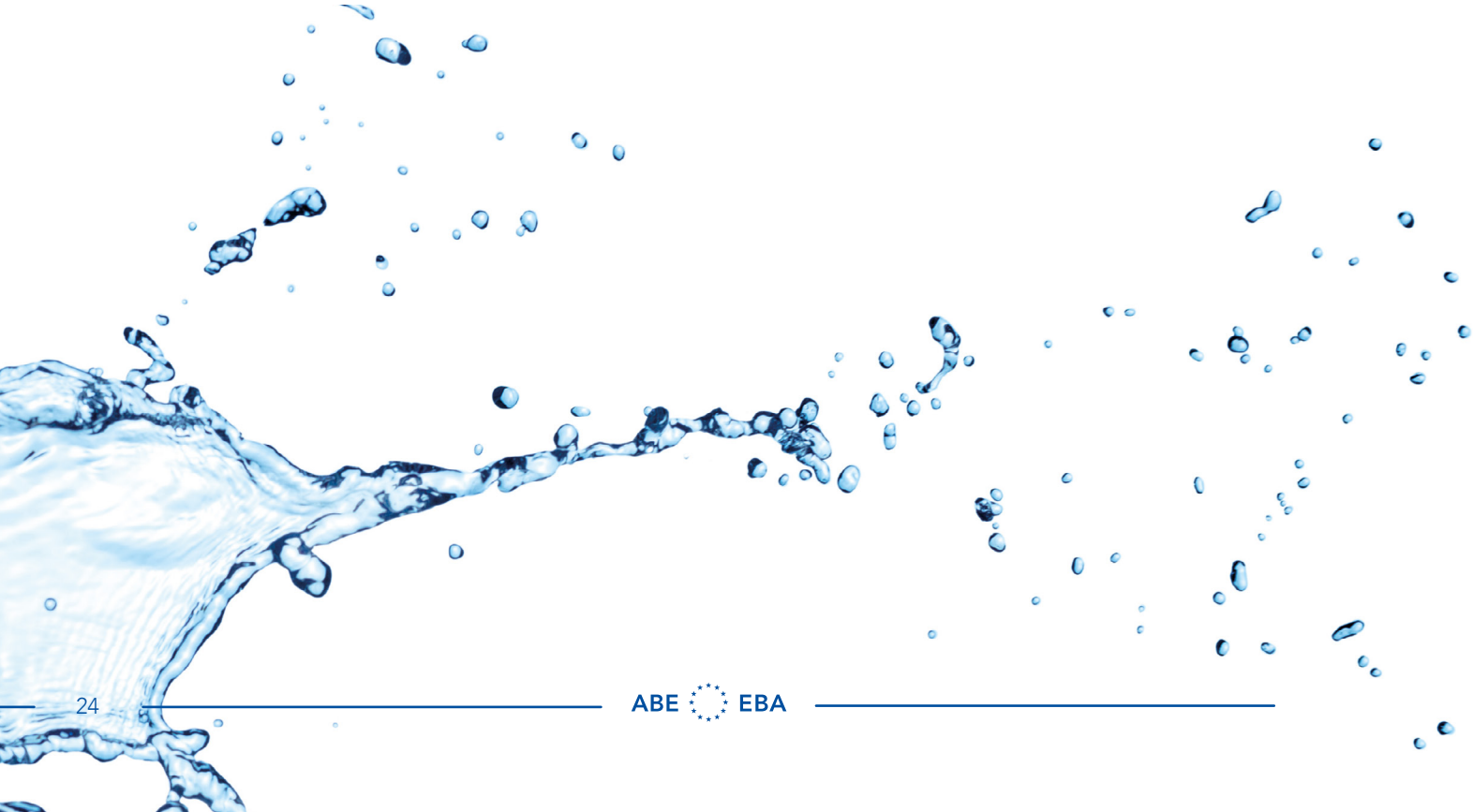
9 P. 145, Basel III: Finalising post-crisis reforms, Bank for International Settlements, 2017.

Under CRD V, the treatment of netting in the EU is expected to be more aligned with the current US interpretation. As a result, the LMWG expects a higher level of consistency between the two regulatory regimes over time.

4.2.5 Ongoing uncertainty over notional pooling

In summary, the LMWG has found that there is no consistent approach to notional pooling, making it difficult for banks and their corporate clients to understand the potential liquidity management options. Each bank operates within its own context, notably its specific balance sheet structure, with the result that differences exist between banks cross-region, within region or even within the same country.

Given this uncertainty, the LMWG discussed whether banks could do more to educate their corporate clients about the impact of existing and future regulations.



5. NEXT STEPS

The LMWG has identified areas for future research. In particular, the LMWG plans to analyse whether there is scope for banks to develop and provide further technology solutions for their corporate and SME clients, monitor and assess the detail of CRD V/Basel IV and its implications for cash pooling, and assess the impact of PSD2 and the implications of real-time payments for the liquidity management ecosystem.

5.1 FURTHER ASSESSMENT OF CORPORATE LIQUIDITY MANAGEMENT NEEDS

The corporate approach to liquidity management is complex. As outlined in 2.1.1, corporate needs are driven by a number of internal and external factors. Given the wide-ranging nature of these factors, it is not easy to categorise companies according to a single factor, be it size, business activity, geographic footprint or any other factor. Instead, by using these internal and external factors, the LMWG has identified three main drivers which frame a company's approach to liquidity management:

- **The level of treasury sophistication**
  The level of treasury sophistication is determined by the use of a formal treasury organisation and the use of dedicated technology. Small companies mostly do not have a formal treasury function as their treasury activities are often managed by their finance director or accountant in business. In these smaller organisations (often referred to as SMEs which also includes both young and fast-growing companies) most often these treasury activities are supported by generic finance tools, e.g. consolidation systems, general ledger (GL) and Excel. Compared to larger and more established companies who use dedicated treasury technology (like treasury management systems (TMS)). Companies with a dedicated, specialist treasury function, employing financial professionals to focus on process efficiency, short- to medium-term financing, risk management and liquidity management, often deploy dedicated treasury technology to support the execution of the corporate treasury strategy.
- **Organisational complexity**
  The level of organisational complexity determines the extent to which dedicated treasury technology is used. Companies with few legal entities, a limited geographic footprint, and with cash flows in one or more currencies, do not tend to use complex technology. However, as their geographic footprint, the number of legal entities and the number of currencies used increases, companies will look to use more appropriate technology to manage this complexity.
- **Risk awareness**
  A company's approach to risk determines its use of treasury technology to a significant extent. A company without a formal risk framework and with a limited focus on cash and future obligations will use technology that meets its operational requirements. However, a company with a formal risk policy (including, for example, a foreign exchange strategy, a policy to manage counterparty risk and an approach that manages liquidity positions closely to safeguard future financial obligations) will select technology to support this policy, operational processes and the wider treasury strategy.

5.2 UNDERSTANDING HOW COMPANIES USE TECHNOLOGY

Technology is a critical tool that companies deploy to achieve their liquidity management objectives. At a base level, companies use a combination of their general ledger and spreadsheets to manage liquidity. They may also rely heavily on bank technology for core services, including balance and transaction reporting and payment processing, although it is easy for banks to underestimate the value of these services to their corporate and other clients. A number of other services commonly used by corporates, including cash pooling, are similarly important for companies to achieve their liquidity management objectives. It is fair to conclude that companies rely heavily on solutions provided by banks, all of which are driven by each bank's internal technology.

As companies evolve into more sophisticated organisations, they employ a wider range of more specialised solutions and activities, all of which rely on technology. Provided by banks and/or specialist technology companies, these solutions offer: access to bank systems (single and multibank) to gather real-time information, visibility of company liquidity, account aggregation for multibank reporting, support for cash flow forecasting, access to foreign exchange and money market trading systems (both proprietary and independent), and the ability to support in-house banking and virtual account management. For some companies, these solutions are delivered through an integrated treasury system provided by specialist treasury system vendors.

Because of the central role bank technology already plays in supporting corporate liquidity management, there is potential for banks to extend this provision and access new revenue streams. As an example, there may be potential for banks to attract corporate deposits of operating cash via the provision of additional cash pooling products and/or other targeted technology solutions.

5.3 OUTLOOK: EMERGING LIQUIDITY MANAGEMENT TECHNOLOGIES

This paper examined how current regulations are developing and impacting the current liquidity management solutions offered by banks. Other factors are influencing the potential liquidity solutions used by corporate treasurers, including:

- The need to understand the detail of CRD V/ Basel IV and its implications for cash pooling;
- New and emerging liquidity management technologies and solutions developed by technology companies; and
- The introduction of instant payments, which may release liquidity currently trapped during the day, increases the potential for intraday liquidity issues to arise (for both banks and companies). This may impact the way companies manage their liquidity and cause banks to redefine their value proposition.

While treasury management systems have been developed by specialist providers to support corporate treasurers in managing liquidity more efficiently, banks could consider offering similar technology services to their corporate clients in the future in order to:

- Retain client relationships by providing valuable services to their clients – corporate participants in LMWG panel sessions want banks to become more than just a financial partner;

- Provide companies with functionality they would not normally have access to as technology providers typically focus on the largest multinationals – banks have more market depth than a typical global technology player;

- Access new client wallets to increase revenue;

- Gain and retain more valuable balances, i.e. those which may be designated as operational from a Basel III perspective; and

- Reduce credit risk with respect to their customers by helping them to improve their liquidity management.

If banks are to offer additional technology to their corporate clients, they will need to work with a technology partner (unless they develop an in-house solution). In turn, this will mean working with the partner in a way where the risks and rewards are shared appropriately. There are three core models which suggest different models of collaboration:

- **The referral model**
  In this model, the bank refers its customers to an external provider. Although the contractual relationship is between the customer and the technology provider, the bank's reputation is at stake should something go wrong. As a result, the bank will want to check the provider's security protocols, reliability and financial stability, as part of the reference relationship.

- **The white or grey labelling model**
  In this model, the bank plays a more active role in the design of the solution and may integrate it into its own technical environment, bringing more value to its corporate customers than a stand-alone solution. In this case, the contractual relationship will be between the bank and the technology provider, so risk, security and liability aspects are key criteria in this model, necessitating more formal checks before such a solution can be offered to corporate clients.

- **The acquisition model**
  The bank takes a financial stake in the technology provider. As part of this transaction, the bank will perform a full due diligence process.

Each model has different implications for the relationship between the bank and the technology partner, and the associated trade-off between risk, security and liability. Because of the potential benefits of wider technology provision, these different models warrant further investigation.

6. CONCLUSION

The LMWG's recommendations are based on the following conclusions:

1. Bank development of technology for corporate customers

- Corporates already rely to a significant extent on bank-provided technology when managing cash, notably to receive balance and transaction reports and to use cash pooling solutions.

- Banks could extend the range of technology solutions they provide to corporate customers for a number of reasons including to enhance the client relationship, to increase revenue (tap into new wallets) and to gain and retain more valuable corporate cash deposits.

The LMWG proposes to assess the potential for banks to provide technology solutions to corporate clients and to identify appropriate collaboration models for banks and technology companies to do so. The findings will be published in a future paper.

2. The implications of Basel III for investment of corporate cash

- Banks with a higher level of corporate deposits rely more on operational cash for the purposes of LCR and NSFR than banks with higher levels of retail deposits.

- Banks are currently interpreting the guidelines differently, in terms of both their distinction between operational and non-operational deposits and how they execute their FTP policy in light of the new regime.

- Corporates are not generally aware of the ways banks view and treat their current accounts and demand deposits.

The LMWG recommends that each bank takes steps to educate its clients on how the bank views corporate deposits and, in particular, show how the bank balance sheet benefits from operational rather than non-operational cash. This will help corporate treasurers to make an informed investment decision, when seeking to deposit cash with different banks.

3. The future of notional cash pooling

- There is no consistent regulatory approach to notional pooling, making it difficult for banks and their corporate clients to understand the potential liquidity management options. Differences between banks exist cross-region, within region or even within the same country.

- Basel III, particularly the leverage ratio, may affect banks' commercial ability to offer certain products to their corporate clients. While the Basel Committee issued a clarification on notional pooling in December 2017, it is still uncertain how this will develop within the EU as the guidelines need to be implemented into local legislation, potentially via a new EU directive (CRD V). Even if CRD V does relax the framework, the final treatment will not be clear until it is implemented by all member states.

The LMWG recommends that banks enhance their client education initiatives about the impact of existing and future regulations on the solutions banks provide to their clients.

APPENDIX

APPENDIX 1: CASH POOLING

A.1 DEFINITIONS OF DIFFERENT CASH POOLING METHODS

Using the principles outlined in Section 2.2 above, the LMWG has defined the different cash pooling methods for the purpose of this paper, not least because the terms are sometimes used slightly differently in the market. These definitions help to identify the benefits of specific techniques for corporate treasury departments as well as some of the issues which can arise.

Figure 6 – Cash concentration/target balancing

A.1.1 Cash concentration/zero balancing

Cash concentration is the physical transfer of funds from a number of accounts into a single central master (target or consolidation) account. All accounts are real legal accounts and can thus be held in the name of a single legal entity or across multiple legal entities. Cash can also be concentrated from accounts held across a number of relationship banks, using a process sometimes referred to as sweeping or topping.

End-of-day (or intraday) balances are automatically concentrated from participating accounts to the master account. Cash concentration can be structured so that all cash is concentrated from the underlying accounts (zero balancing) or so that underlying accounts hold a pre-set level of cash (target balancing).

This allows liquidity to be consolidated from participating business units as well as from different banks. Interest is then calculated on the balance after concentration, whether credit or debit.

Company benefits:

- Cash concentration allows a company to move all balances to one central location, in the name and ownership of central treasury. Automation is critical as this process would be impractical and error-prone using manual transfers.
- It has the effect of shortening the company's group balance sheet, as all participating positive and negative balances are physically offset.
- As long as the sweeps are administered well, it provides certainty over ownership of consolidated funds, as the sweeps are legally intercompany loans.

Figure 7 – Notional cash pool

- All accounts participating are real legal accounts and no other netting takes place except for the physical consolidation of balances between the participating accounts and the master account.

Considerations:

- Any transaction generated via automated sweeps across different legal entities creates intercompany liabilities, which can have both interest and withholding tax implications. An efficient internal or external reporting system is essential.

- Most cash concentration structures are between accounts in the same currency although cross-currency cash concentration is available.

A.1.2 Notional cash pooling

All accounts participating in a notional cash pool are legal accounts. Balances are notionally netted across participating accounts, so there is no physical movement of funds. Notional cash pooling is usually a single country and single currency product.

It is possible, but extremely complex, to implement cross-border and/or multicurrency notional pools. Corporate treasurers consider multicurrency notional pooling to be a convenience product as it allows balances in different currencies to be set off against each other, earning enhanced interest compensation, without the need for costly foreign exchange transactions on a daily basis.

Variants of notional pooling

There are three variants of notional pooling in which balance and interest compensation are used differently. The differences are explained in the following table:

		Balance compensation/ balance off set	
		YES	No
Interest compensation	YES	1. Real notional pool (right of set off/interest offset)	2. Interest enhancement/ set off (referred to as notional pooling)
	NO	3. Balance netting	4. Not a notional cash pool. Stand-alone accounts

The differences are:

1. A real notional pool offers full balance and interest compensation.
2. Although interest enhancement/set off may be considered to be a notional cash pool, it is technically only a reduction of the interest margin. The credit and debit balances are not offset.
3. With balance netting, the balances are offset against each other for risk management and credit management purposes. However, interest is still calculated on each individual balance, rather than on the pooled balance.

The difficulty for corporate treasurers is that the term 'notional pooling' is used to describe all three products. Because of the different treatment of each product, the implications for both company and bank balance sheets vary, affecting the potential benefits for the corporate treasurer.

Company benefits:

- All accounts participating in a notional cash pool are legal accounts held with the bank. Therefore, each balance reflects a debt/claim toward the bank, simplifying the intercompany liabilities.
- All balances from the real accounts are netted against each other, as long as they sit on the pooling bank's balance sheet. Banks typically enforce limits on both a net (aggregated position of all accounts) and a gross (aggregation of all debit positions) basis.
- The lack of physical movement of cash reduces a group's transaction fees and banking costs.
- A notional pooling structure enables a company to use the bank's balance sheet to centralise liquidity. Because there is no mingling of funds, cash is owned and held in the name of the pooling participants, retaining local independence.

Considerations:

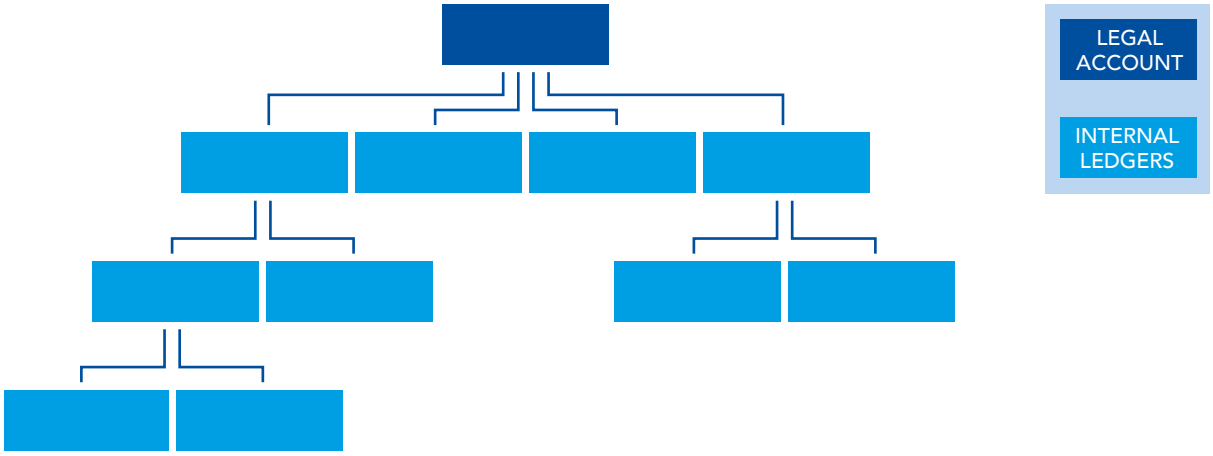
- Notional cash pooling is heavily regulated and not permitted in some jurisdictions.
- Alternative products (referred to as interest optimisation, interest enhancement or interest compensation) are sometimes used to achieve the interest netting.
- As there are no physical sweeps of funds, there is potential for the bank´s and the group's balance sheet to become enlarged.
- The method of allocating the pool or interest benefits to participants can be complex.

A.1.3 Balance netting/single legal account

Balance netting is also referred to as single legal account and/or Nordic cash pooling, as it is the most commonly used method across the Nordic countries. The master or top account is the only legal account held with the bank, so it holds the net balance representing the claim between the company and the bank.

All other accounts are internal ledgers set up by the bank, rather than legal accounts. Balances on underlying ledgers automatically reflect the group's internal debt/claim for each participant. Internal terms and conditions can be applied to underlying accounts for the automatic calculation of group internal interest, which banks will normally administer. This structure is used by both centralised and decentralised corporate

Figure 8 – Balance netting



treasuries and benefits any organisation that uses multiple bank accounts. Balance netting is normally implemented as a local single currency cash pool, even if accounts can be grouped into multicurrency solutions.

Company benefits:

- Effective cash management is achieved by centralising funds on one account. The group's liquidity is automatically updated in real time via the master account and external interest is calculated based on the net position on this account.
- There is only one net liability between the bank and the company across all entities participating in the cash pool.

Considerations:

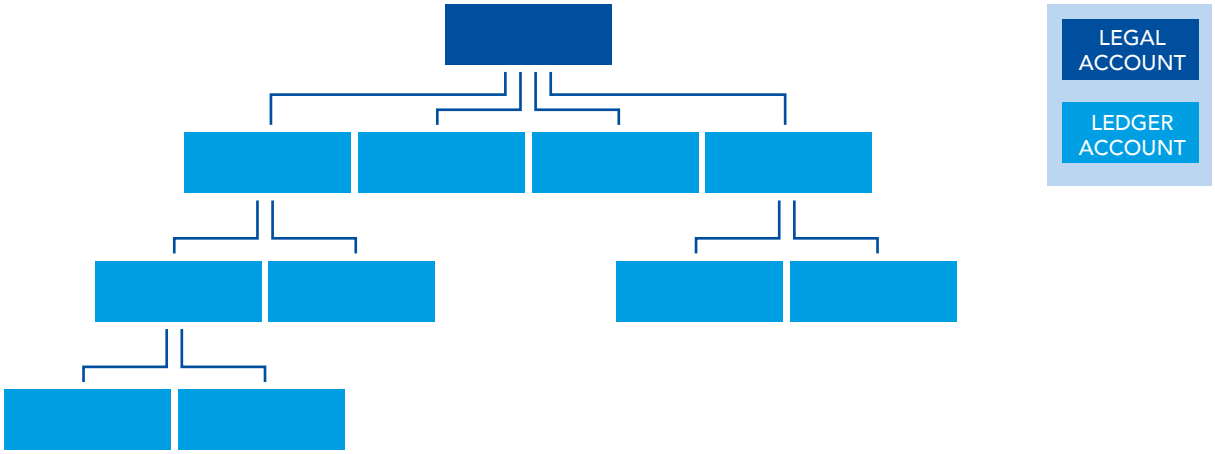
- Any activity on the legal account creates internal loans.
- Participating subsidiaries do not maintain their own separate legal accounts with the bank.
- There is a risk in certain jurisdictions that, in the eventuality of a bankruptcy, the balance of an underlying ledger may be perceived as a liability towards the bank and not merely towards the holder of the top accounts.

A.1.4 Virtual accounts

Virtual accounts, shadow accounts or 'Virtual IBANs', are non-physical accounts which can be opened solely by the company without changing any relationship with the bank. By setting up flexible account structures and hierarchies, the virtual account structure is an efficient tool for companies to use to optimise their working capital processes and can also help with invoice reconciliation.

There is only one legal bank account holding the balance with the bank, with any number of virtual accounts linked to it. The virtual accounts can take different forms, from being in-house bank accounts or virtual accounts with their own IBANs. In other words, several virtual accounts can be linked to one physical account. In contrast

Figure 9 – Virtual accounts



to balance netting where the non-physical or ledger accounts are established by the bank, virtual accounts are set up and managed by the company.

Company benefits:

- Corporate treasurers view this concept as a way to significantly reduce the number of physical bank accounts.
- A virtual account management structure gives treasurers the ability to open and close virtual bank accounts, providing flexibility in internal account design. However, any new virtual account will be treated as a real account from an anti-money-laundering and know-your-customer perspective.
- In the virtual account structure, there is only one legal account with the bank, so it always holds the legal net balance for the group. The virtual account structure is effectively the company's in-house bank.
- On top of this many other added value services can be attached to a virtual account, for example:
  - It can be used as a reconciliation tool to increase straight-through processing and automation in invoice matching.
  - It can run flexible pooling structures.
  - Some companies use a centralised structure, such as shared services or a treasury centre, to process payments on behalf of (POBO) and/or collections on behalf of (COBO) group entities. Such structures give treasury greater visibility and control over group payments and liquidity.

Considerations:

- The balances on virtual accounts reflect a debt/claim between the virtual account holder and the owner of the bank accounts and so the implications of the resultant internal loans must be considered.

APPENDIX 2: CRITERIA FOR CLIENT CATEGORISATION OR SEGMENTATION

			
Company size: • **balance sheet / turnover** • **number of legal entities**	• Small & medium size enterprise (SME) • Low	• MidCap • Medium	• Large client • High
Country & currency scope	• Local • Single currency business	• Regional • One main currency, some side currencies	• Global • Multi-currency business
Tax implications	Low levels of company hierarchy	Complex company hierarchy	• Multiple legal entities and ownership relationships in different countries
Risk management & appetite	• Single counterparty • Near to none management	• Multiple counterparties • Regular exposure management	• Highly diversified • Daily exposure management
Time criticality of data	Information from previous day	Time triggered intraday information (spot checks)	Real-time delivery
Business type	B2B	B2C	B2B2C
Position in the value / delivery chain of a product	Start of the process; creating basics that can be further processed; back office services	Mid of the process; processing basic products to a new combined product; intermediary services	End of the process; finishing the value chain and creating final product; front office services
Maturity status of the company	Start-up/new to the market	Growing phase	Established industry company
Level of sophistication in a treasury department	Small team focusing on key priorities	Well-staffed organisation	Big department that covers all treasury functions front-to-back
Technical affinity and support / ERP infrastructure	Low with basic IT support; Fully reliant on solutions and services from external service providers	Medium; established treasury processes supported by in-house solutions	High, using modern technology from different service providers, but connected in an intelligent way using API technology
Scope of requested services	Full service	Raw data delivery	Dedicated data from individual service providers
Daily business times	Standard business hours	Specific business hours	24/7
Business behaviour throughout period, e.g. one year	Seasonal	Peak	Stable
Nature of interaction with banks	Standard and basic demand	Regular updates on changes and improvements on existing solutions	Thought Leadership; discussion partner on future trends as a consultative approach

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