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## Optimizing company cash : a guide for financial professionals

Michele Allman-Ward

A. Peter Allman-Ward

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OPTIMIZING COMPANY CASH

Michèle Allman-Ward • A. Peter Allman-Ward

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# OPTIMIZING COMPANY CASH

A Guide for  
Financial Professionals



AICPA®

Michèle Allman-Ward  
A. Peter Allman-Ward

# **OPTIMIZING COMPANY CASH**



# Optimizing Company Cash

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A Guide for  
Financial Professionals

Peter Allman-Ward, FCA, CPA  
Michèle A. Allman-Ward, CTP, Cert ICM

### *About the Authors*

The authors, **Michèle and Peter Allman-Ward**, have been married for over thirty years, despite writing this book together. Although they both work in banking, they are in very different fields. Michèle has worked for a number of the most prominent commercial banks leading cash management and treasury-related businesses for more than 25 years. She now runs her own consulting company, Allman-Ward Associates, Inc., working world-wide with companies, professional associations and banks. She specializes in strategic planning, business development and training, with particular emphasis on international cash and treasury management. She also works closely with both the Association for Financial Professionals (US) and the Association of Corporate Treasurers (UK) in developing and teaching their respective cash management certification programs, the CTP and the Cert ICM. Her previous books are *The Essentials of Managing Corporate Cash* (Wiley) and *U.S. Cash Management: A Guide for the European Treasurer* (Treasury Today Publications). Peter, on the other hand, has worked with leading investment banks in a financial management capacity, most recently as Chief Financial Officer of Wedbush Morgan Securities Inc. When the AICPA approached Michèle to write a reference manual and workbook to help financial professionals to learn more about cash management, it was a logical extension for Peter, who is both a member of the AICPA and a Fellow of the Institute of Chartered Accountants in England and Wales, to provide the context for Michèle's subject matter expertise.

### *Notice to Readers*

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## *Dedication*

In loving memory of my mother Denise Lawley





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# Foreword

## *“Happiness Comes from Positive Cash Flow”*

We would like to provide a few words of explanation about the structure and the organization of this book. There are many ways we could have approached the topic of cash management, but we opted for what we felt was a logical progression, leading our readers through some basic, but essential, background before tackling the more complex elements.

Although our description of the U.S. banking structure and its operations (Chapter 4) might have been our starting point for this journey—a fascinating insight into the evolution of our extraordinarily complex nexus of banks and payment instruments—we felt it was important to address first our very reason for writing this book. Although cash managers and financial professionals frequently travel along parallel paths, they don’t always view things from the same perspective nor recognize how different those paths are. We saw this point borne out during our lively authorial discussions.

Thus, we started at the beginning, with *the company*. Cash managers and financial professionals both analyze the company but from different perspectives. We felt it was important to identify common ground of analysis as well as highlight the differences in viewpoint before proceeding to our next important topic—cash managers and their roles—in Chapter 2.

After covering these basic elements, our next important topic is liquidity, covered in Chapter 3. While the cash manager performs many functions, perhaps the most important one is ensuring the survival of the company by making certain there is sufficient liquidity to pay the company’s obligations when due. There have been examples in history when “profitable” companies have gone bankrupt through lack of liquidity. It is in optimizing and ensuring liquidity that the cash manager really shows his worth to the company by actively contributing to the bottom line. Cash is truly king!

Chapters 4 and 5 provide some background on the U.S. banking system and the payment instruments used. While it is no surprise to learn that U.S. businesses and individuals still favor writing checks, to the tune of almost 39 billion a year, we are on the brink of a significant change in our payment habits. A combination of factors, including the economy, regulatory changes, sophisticated banking services, and the threat of fraud, are motivating companies to change to electronic means of payment.

In Chapters, 6 through 9, we examine the ways in which a cash manager can optimize cash flows, both inflows and outflows. We explore the specialized vehicles for collection, concentration and disbursements. We examine how the cash manager can get the most out of working capital.

Chapter 10 briefly looks at fraud and fraud prevention techniques. It is estimated that fraud losses are in the region of \$10 billion–\$15 billion a year—the actual number is unknown, because many losses go unreported.

Chapters 11 through 13 discuss the importance of cash forecasting, the techniques used, and the role of the forecast in managing a company's liquidity through short-term borrowing and investing. A company has many options for borrowing and investing, and these chapters explore how to compare the true cost or yield of these instruments, as well as provide guidelines on how to select appropriate vehicles. Contrary to what might be expected, when investing a company's short-term surpluses, a cash manager should not consider return as paramount. Far more important is preservation of capital, followed by liquidity of the market.

Very few companies today are untouched by globalization. Whether it is in search of new markets, cheaper suppliers or new physical location, most companies take on an element of international business. Chapter 14 talks about the process of making and receiving payments from overseas and how to manage foreign exchange and commercial risk.

The final chapters deal with organizational issues. Chapter 15 examines how technology can be used to manage a treasury function. Chapter 16 discusses how to manage banking relationships, for example how many banks a company should use, how to evaluate performance, how to put service level agreements in place, and how to use the account analysis statement as a tool to manage the bank relationship. Chapter 17 takes a detailed look at the bank selection process and in particular how to use the "request for proposal" process. Chapter 18 covers the topic of how to organize and manage the treasury function, including the important topic of corporate governance and internal control. In Chapter 19, we explore the different options for centralizing treasury, from shared service centers and in-house banks to outsourcing.

Our final chapter takes a look the current topical issues facing treasury today and summarizes treasury best practices. The Appendix provides further sources of useful information.

So that this is not just "interesting information" but also leads to practical application in your company, we provide templates and checklists throughout and at the end of each chapter we have suggested how cash managers could use the information and apply it at their companies. We hope you enjoy the book and more important, we hope it helps you to optimize your business's cash.



## Acknowledgements

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# 1

## *A Cash Manager's Perspective on Company Financials*

### Chapter Goals

This chapter covers the following topics, and includes illustrations and worked examples of all the key metrics:

- Interrelation of the operating, cash, and accounting cycles
- Important metrics
  - Liquidity
  - Leverage
  - Capital structure
  - Performance
  - Efficiency
  - Risk-adjusted performance measures
  - Risk management

### Introduction

Financial managers and cash managers frequently work from the same information, such as a company's financial statements, but view the statements from different perspectives and interpret them differently. A company's balance sheet allows the cash manager to compare his company's performance with that of the industry, it provides key indicators as to how efficiently cash is being managed, and it is most importantly a measure of the company's liquidity. The balance sheet is a very important metric for cash managers.

Even if the accounting and cash positions are combined, as in smaller companies, each function will nevertheless require a very different analysis of the information. Accountants analyze ratios and make comparisons with industry averages over the long term, whereas cash managers, and the bankers who serve them, look for indications that in the short term a company can pay its bills and stay in business. This chapter examines how cash managers analyze financial statements and how they use many important accounting concepts to measure performance and manage cash.

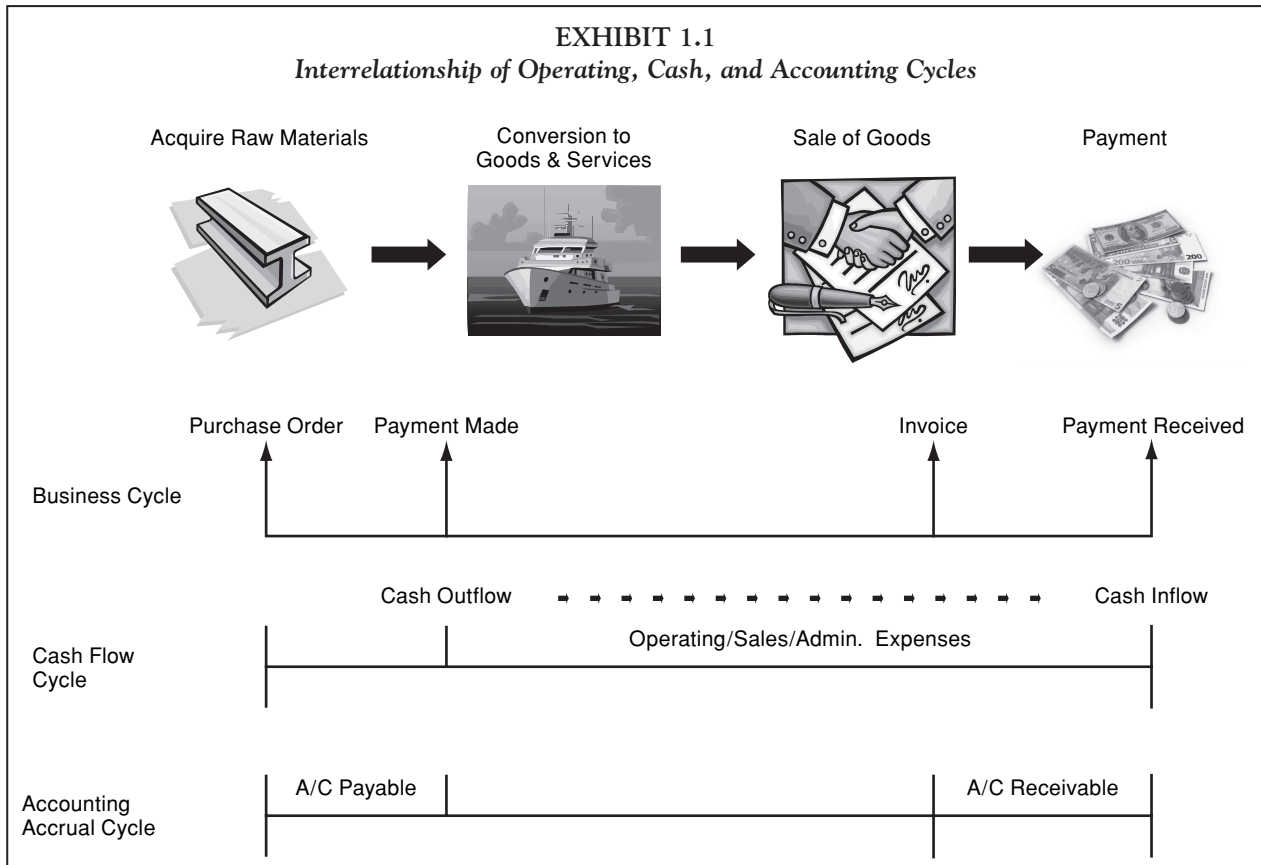
## Interrelationship of the Operating, Cash, and Accounting Cycles

A company has many different cycles:

- The business, or operating, cycle looks at the production flow from the purchase of raw materials to the sale of finished goods.
- The cash flow cycle concerns actual cash inflows and outflows, paying for materials, paying for ongoing expenses, and the eventual receipt of proceeds from the sale.
- The accounting cycle records the events in the operating cycle and anticipates the events of the cash flow cycle.

How these three cycles interrelate in an ongoing operation is illustrated in Exhibit 1.1.

Depending on your position in the company, you will have more interest in one cycle than another. Senior management is interested in the details of the business cycle. At what price are the goods being manufactured and at what price are they being sold, within what time frame? The perspective of the senior manager is the long-term viability of the business. The cash manager is watching when payments need to be made and when payments can be expected to be received. Timing is also important for the cash manager because the outflows must be financed until the inflows begin. The cash flow cycle does not end until available funds are in the bank. A cash management perspective is short-term. The accountant, on the other hand, needs to record the events. Most companies produce their financial statements on the accrual



method, that is, expenses and income are recognized as soon as they are contracted, and thus their accountants follow an accounting accrual cycle. What is important to the accountant is the date on which a purchase has been made and the date at which a sale has been recorded. An accountant's perspective is the length of the accounting cycle—usually one year.

It is possible for these three different perspectives of a company to produce widely varying impressions of the company's financial position. The senior manager may believe that because the raw materials are being purchased at a low price and being sold at a high price, the business has long-term viability. The accountant, seeing that raw materials are being purchased at a low price and that a sale of the goods has been recorded, judges the company to be profitable. The cash manager, on the other hand, sees that raw materials have been paid for but the proceeds for the sale are slow in coming. In the meantime, operating and ongoing expenses continue to drain the cash reserves. The cash manager is concerned that the company could become insolvent if the cash doesn't start flowing in soon. It is important not to confuse solvency with liquidity. Solvency is an accounting term that refers to the net position of a company's assets minus liabilities. Liquidity, however, is a cash management term for being able to pay obligations when due. It is possible for a solvent company to go bankrupt. It is equally possible for an insolvent company, once protected by bankruptcy laws, to remain liquid through ongoing operations and disposition of assets.

***Treasury Tip: Reconciling the Balance Sheet to the Statement of Cash Flows***

Although the balance sheet and income statement provide an indication of a company's financial health and performance, the company's cash position is what is important in indicating whether debt, bills, and investors can be paid. The accountant or financial manager concentrates on the balance sheet, and the cash manager concentrates on the statement of cash flows. The statement of cash flows shows the sources and uses of cash using the profit and loss statement and the balance sheet, and explains the net increase or decrease in a company's cash position between the two periods.

## Important Metrics

The stakeholders in a company (the creditors, the investors, the customers, and the employees) analyze financial statements to determine past performance (as a predictor of future performance) and to assess current liquidity and leverage. The statements can also be used as the basis for cash flow and financial forecasting. Finance professionals can make the greatest impact on shareholder value by understanding the impact of strategic decisions on the company's financial statements. We next describe and illustrate some of the key metrics that allow stakeholders to analyze a company's financial health. Ratio analysis is one of the basic tools that allows managers and investors to state meaningful relationships between the components of a company's financial statements. Ratios are useful in evaluating a company's financial position and operations and in making comparisons not only with results in previous years to identify trends but also with other companies in the industry to analyze competitive position.

### Liquidity Ratios

Liquidity ratios (Exhibit 1.2) measure a company's ability to meet current obligations. Note that they are only meaningful to the extent that they are viewed in the context of what is usual for an industry. The ratios, therefore, are not an absolute benchmark but are indicative of performance vis-à-vis the industry as a whole.

**EXHIBIT 1.2**  
**Liquidity Ratios**

Ratio	Formula	Definition	Comments
<i>Current ratio</i>	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Indicates current ability to pay current obligations.	<ul style="list-style-type: none"> <li>• The current ratio includes current assets that are not very liquid, such as inventory and prepaid expenses.</li> <li>• Does not take asset quality into account.</li> <li>• Assumes all current assets can be converted into cash.</li> <li>• Snapshot at one point in time.</li> </ul>
<i>Quick ratio (acid test)</i>	$\frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}}$	A more conservative measure of liquidity than the current ratio, the quick ratio indicates the extent to which current liabilities are covered by the <i>most liquid</i> current assets.	<ul style="list-style-type: none"> <li>• The quick ratio provides a more stringent test of liquidity by measuring only those items that can be quickly converted into cash.</li> <li>• The ratio does not take collectibility or timing of accounts receivable into account.</li> </ul>
<i>Cash flow to total debt ratio</i>	$\frac{\text{Net Income} + \text{Depreciation}}{\text{Short-Term Debt} + \text{Long-Term Debt}}$	Measures the extent to which <i>cash flows</i> cover total debt.	<ul style="list-style-type: none"> <li>• The most conservative view of liquidity.</li> <li>• Depreciation is added back into net income because it is not a cash outflow but an accounting convention.</li> <li>• A low ratio signals an inability to repay debt and has proven to be a good predictor of companies experiencing financial difficulties.</li> </ul>

## Leverage Ratios

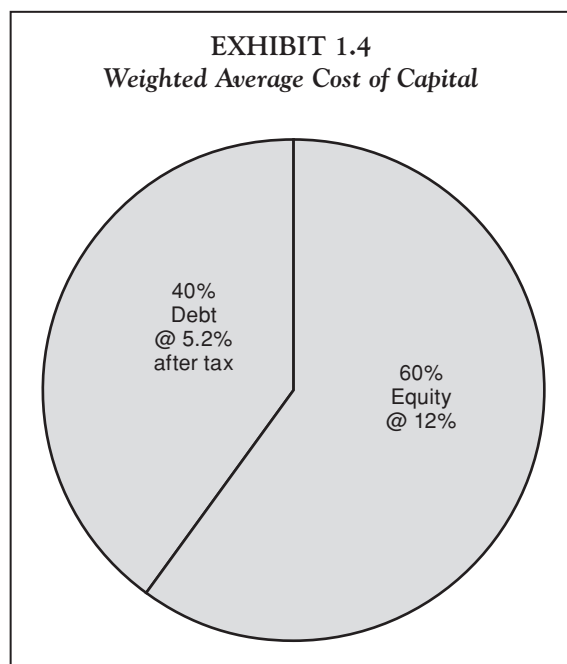
Leverage ratios (Exhibit 1.3) compare the funds supplied by the business owners with financing supplied from other sources. These ratios are often employed in debt management, and they measure a company's creditworthiness. They are also used as covenants in loan agreements to prevent a company from becoming overleveraged.

## Capital Structure—Weighted Average Cost of Capital

One of the key tools in assessing capital and capital structure is the weighted average cost of capital (WACC). The WACC (Exhibit 1.4) is the tool most often used to calculate a company's overall cost of debt. Although the objective is to minimize the cost of capital, using too much debt (which is typically less expensive than the rate of return expected or demanded on equity) can cause a company to become highly leveraged and less attractive to a lender or investor. Very often a bank's loan documents stipulate restrictions on the amount of debt a company can raise, to ensure that its ability to repay the debt is not impaired by a heavy burden of interest payments. The WACC averages the cost of equity and debt in relation to their proportionate weighting in the overall capital structure.

Debt is typically lower in cost because the interest paid is usually tax deductible (preferential) and it is repaid before equity should the company be liquidated. The WACC tells the company how much each dollar it uses to support its business assets will cost, and is often used as the discount rate for evaluating investing in internal projects.

<b>EXHIBIT 1.3</b> <b>Leverage Ratios</b>			
<i>Ratio</i>	<i>Formula</i>	<i>Definition</i>	<i>Comments</i>
<i>Times interest earned ratio (TIE)</i>	$\frac{\text{Operating Profit}}{\text{Interest Expense}}$	Determines a company's ability to repay debt from earnings.	<ul style="list-style-type: none"> <li>• The higher the TIE ratio, the better the company's ability to pay off debt.</li> <li>• This does not consider leased assets or other obligations under lease contracts.</li> </ul>
<i>Long-term debt to capital ratio</i>	$\frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Equity}}$	Measures the degree to which a company is leveraged and what percentage of its capital is provided by long-term debt.	<ul style="list-style-type: none"> <li>• A high ratio indicates a highly leveraged company and greater risk.</li> </ul>
<i>Debt to assets ratio</i>	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$	Indicates what percentage of the assets are funded by external sources.	<ul style="list-style-type: none"> <li>• The lower the ratio, the more creditors are protected against losses in the event of liquidation.</li> <li>• Higher-risk activities should have a larger equity cushion.</li> </ul>



In this example, the weighted average cost of capital is 9.28%. The calculation is shown on page 11.

### Performance Measures

Performance measures are ratios that measure management's ongoing performance and its ability to control expenses and generate a return on investment. Performance ratios look at a company's income-generating capability in relation to other important company financials. Because managers are usually given performance objectives, defined in terms of performance ratios, it is important that these measures be framed in such a way as to motivate managers to take actions that are in the best interest of the owners of the business (see Exhibit 1.5).

### Efficiency Ratios

Efficiency ratios look at management's ability to effectively manage and control the use of cash and assets (see Exhibit 1.6). In the following chapter, we discuss how cash managers use the cash conversion cycle to determine working capital needs and how the cycle can be made more efficient.

### Risk-Adjusted Performance Measures

Risk-adjusted performance measures take performance ratios one step further by adjusting the returns for risk. These ratios are based on the principle that shareholder value is created when earnings on invested capital exceed the cost of capital when adjusted for the risks of the business and the time frame within which results are expected. Some businesses are riskier than others, and the degree of risk is an important factor to consider. Associated with the risk of the business is the aspect of timing. Results must be achieved within an acceptable time frame. Sophisticated proprietary models, such as risk-adjusted return on risk-adjusted capital (RARORAC), have had a limited appeal until now due to their complexity. The combined impact of improved technology, increased market volatility, and new regulations, however, may result in growing popularity of these techniques.



**EXHIBIT 1.5**  
**Performance Measures**

Ratio	Formula	Definition	Comments
Return on equity (ROE)	$\frac{\text{Net Income}}{\text{Equity}}$	Measures the return as a percentage of owners' equity.	<ul style="list-style-type: none"> <li>• Provides a good indication of management's ability to run a profitable business.</li> <li>• A good ROE improves a company's ability to generate additional capital.</li> <li>• Reflects the return that is <i>potentially</i> available to shareholders. Dividends are what is <i>actually</i> paid out to shareholders. Any excess profit is retained as part of equity.</li> </ul>
Return on sales (ROS) (Net profit margin)	$\frac{\text{Net Income}}{\text{Revenues}}$	Measures the profit margin.	<ul style="list-style-type: none"> <li>• Indicates the percentage net return to shareholders on every dollar of sales.</li> <li>• Often used as the hurdle rate when assessing new products.</li> </ul>
Return on assets (ROA)	$\frac{\text{Net Income}}{\text{Total Assets}}$	Compares the net income as a percentage of the asset base.	<ul style="list-style-type: none"> <li>• Measures a company's productivity <i>after taxes</i>.</li> <li>• Some industry averages use operating profit rather than net profit.</li> </ul>
Economic value added (EVA)	$(\text{Operating Profit} \times (1 - \text{Tax Rate})) - (\text{WACC} \times \text{Total Capital})$	Compares the aftertax operating profit after making a charge for the cost of capital.	<ul style="list-style-type: none"> <li>• Measures whether the return from the investment in the business is greater than the cost of capital.</li> <li>• Tied directly to the market value of the company and measures the incremental value of being in business.</li> <li>• A positive EVA means that ongoing operations are adding to the value of the company and the stock price.</li> <li>• If the EVA increases, it can mean that the rate of return on capital has improved, that investments have been made in new projects yielding a higher return than the cost of new capital, or that capital has been withdrawn from projects and operations whose return is not greater than the cost of capital.</li> </ul>

**EXHIBIT 1.6**  
**Efficiency Ratios**

<i>Ratio</i>	<i>Formula</i>	<i>Definition</i>	<i>Comments</i>
<i>Net working capital</i>	Current Assets – Current Liabilities	Indicates the net assets available for working capital.	<ul style="list-style-type: none"> <li>• A company's net working capital is crucial to short-term liquidity and long-term viability as a business.</li> <li>• Because current assets typically have a low rate of return, there is an opportunity cost to having too much liquidity.</li> </ul>
<i>Days sales outstanding (DSO)</i>	$\frac{\text{Accounts Receivable}}{\text{Annual Sales}} \times 365$	Indicates the health of the collection process and credit screening abilities.	<ul style="list-style-type: none"> <li>• A high DSO could indicate problems in converting sales into cash.</li> <li>• Decreasing DSO means greater operating efficiency.</li> <li>• DSO may reflect a company's payment terms or a high level of international sales for which payment is typically slower.</li> </ul>
<i>Days payables outstanding (DPO)</i>	$\frac{\text{Accounts Payable}}{\text{Cost of Goods Sold}} \times 365$	Measures trade creditor financing of inventory.	<ul style="list-style-type: none"> <li>• Provides an indication of payment policy.</li> <li>• Low or declining DPO may mean bills are being paid too quickly.</li> <li>• High or increasing DPO may indicate cash flow problems.</li> </ul>
<i>Days inventory outstanding (DIO)</i>	$\frac{\text{Inventory}}{\text{Cost of Goods Sold}} \times 365$	Measures efficiency in managing inventory.	<ul style="list-style-type: none"> <li>• Low or declining DIO means greater operating efficiency.</li> <li>• High or increasing DIO means decreasing efficiency.</li> </ul>
<i>Cash conversion cycle (CCC)</i>	Days Inventory + Days sales – Days Payables	Indicates how long it takes to convert cash outflows into cash inflows.	<ul style="list-style-type: none"> <li>• Depending on what is normal for the industry, the CCC provides an indicator of whether the company is using its cash efficiently or whether it might need to take steps to reduce inventory, speed up collections, or slow down payables.</li> </ul>

## Risk Management

### Value-at-Risk

There are a number of techniques available to assess how the value of a company can be affected by financial risks, such as interest rate, foreign exchange, and commodity price risk. One of the more common current techniques is value-at-risk (VaR), which calculates the risk exposure in a portfolio of financial assets using historical data. Proprietary models, such as Monte Carlo simulations, measure risk covariance to a selected degree of statistical confidence. The result is a single measure that summarizes over a wide range of factors the risk as a function of the probability, and monetary impact, of adverse events over a period of time.

### Enterprise Risk Management

Enterprise risk management (ERM) reaches further than VaR by attempting to evaluate potential business risks across all business lines and political situations. ERM considers risk as all encompassing and thus analyzes, for example, the impact of a significant product defect, and assigns probabilities to specific situations that could adversely affect a company.

Following the enactment of the Sarbanes-Oxley Act in 2002 (see Chapter 4 for more details), which requires companies to make full and complete disclosure of known risks, in 2004, the Committee of Sponsoring Organizations of the Treadway Commission, known as COSO, released the publication "Enterprise Risk Management—Integrated Framework," which was authored by PricewaterhouseCoopers. This principles-based framework provides direction and criteria for improving an organization's ability to manage risk. More information can be obtained at the following Web site: [www.coso.org](http://www.coso.org).

#### *Treasury Tip: Comparative Industry Ratios*

The Risk Management Association's (RMA) *eCompare2* product provides comparative industry ratios available online. Web site: [www.rmahq.org](http://www.rmahq.org).

## Worked Examples of Company Metrics

For the purposes of illustration, the examples that follow are based on the abbreviated financial statements shown in Exhibit 1.7.

### EXHIBIT 1.7 Sample Financial Statements

#### A. Income Statement (000s)

Revenues	\$53,786
Cost of Goods Sold	<u>33,245</u>
<b>Gross Profit</b>	<b>20,541</b>
General Operating Expenses	8,972
Depreciation	<u>2,554</u>
<b>Operating Profit</b>	<b>9,015</b>
Interest Expense	<u>4,228</u>
<b>Net Profit before Taxes</b>	<b>4,787</b>
Income Tax (35%)	<u>1,675</u>
<b>Net Income</b>	<b>3,112</b>
Dividends	<u>120</u>
<b>Retained Earnings</b>	<b><u>\$ 2,992</u></b>

EXHIBIT 1.7 (continued)			
B. Balance Sheet (000s)			
Assets		Liabilities and Equity	
Cash and Equivalents	\$ 75	Accounts Payable	\$ 2,333
Accounts Receivable	5,873	Notes Payable	2,541
Inventory	7,889	Deferred Taxes	1,220
Prepaid Expenses	<u>1,253</u>	<b>Current Liabilities</b>	<b>6,094</b>
<b>Total Current Assets</b>	<b>15,090</b>	Long-term Debt	<u>28,000</u>
		<b>Total Liabilities</b>	<b>34,094</b>
Fixed Assets	<u>46,996</u>	Common Stock	25,000
		Retained Earnings	2,992
		<b>Total Equity</b>	<b><u><u>\$27,992</u></u></b>
<b>Total Assets</b>	<b><u><u>\$62,086</u></u></b>	<b>Total Liabilities and Equity</b>	<b><u><u>\$62,086</u></u></b>

#### Worked Examples: Liquidity Ratios

**Current ratio** 
$$\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{15,090}{6,094} = 2.48$$

**Quick ratio** 
$$\frac{\text{Cash} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}} = \frac{75 + 5,873}{6,094} = \frac{5,948}{6,094} = .98$$

**Cash flow to total debt ratio** 
$$\frac{\text{Net Income} + \text{Depreciation}}{\text{Short-Term Debt} + \text{Long-Term Debt}} = \frac{3,112 + 2,554}{2,541 + 28,000} = \frac{5,666}{30,541} = .19$$

#### Worked Examples: Leverage Ratios

**Times interest earned ratio (TIE)** 
$$\frac{\text{Operating Profit}}{\text{Interest Expense}} = \frac{9,015}{4,228} = 2.13 \text{ times}$$

**Long-term debt to capital ratio** 
$$\frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Equity}} = \frac{28,000}{28,000 + 27,992} = 50\%$$

**Debt to assets ratio** 
$$\frac{\text{Total Liabilities}}{\text{Total Assets}} = \frac{34,094}{62,086} = 55\%$$

**Worked Example: Capital Structure—Weighted Average Cost of Capital**

If a company has a capital structure of 40% debt costing 8% before taxes and 60% equity costing 12%, and a marginal tax rate of 35%, the WACC is calculated as follows:

$$\text{WACC} = (\text{Aftertax Cost of Debt} \times \% \text{ Debt}) + (\text{Cost of Equity} \times \% \text{ Equity})$$

$$\text{Aftertax Cost of Debt} = \text{Cost of Debt} \times (1 - \text{Tax Rate}) = .08 \times (1 - .35) = 5.2\%$$

$$\begin{aligned} \text{WACC} &= (.052 \times .40) + (.12 \times .60) \\ &= .0208 + .072 = .0928 = 9.28\% \end{aligned}$$

**Worked Examples: Performance Measures**

$$\text{Return on equity (ROE)} \quad \frac{\text{Net Income}}{\text{Equity}} = \frac{3,112}{27,992} = 11.12\%$$

$$\text{Return on sales (ROS)} \quad \frac{\text{Net Income}}{\text{Revenues}} = \frac{3,112}{53,786} = 5.79\%$$

$$\text{Return on assets (ROA)} \quad \frac{\text{Net Income}}{\text{Total Assets}} = \frac{3,112}{62,086} = 5.01\%$$

**Economic value added (EVA)**

Using a WACC of 9.28% and a tax rate of 35%:

$$\begin{aligned} \text{EVA} &= (\text{Operating Profit} \times (1 - \text{Tax Rate})) - (\text{WACC} \times \text{Total Capital}) \\ &= 9,015,000 \times (1 - .35) - (.0928 \times (28,000,000 + 27,992,000)) \\ &= 5,859,750 - 5,196,058 = 663,692 \end{aligned}$$

**Worked Examples: Efficiency Ratios**

$$\begin{aligned} \text{Net working capital (NWC)} & \quad \text{Current Assets} - \text{Current Liabilities} \\ & \quad = 15,090,000 - 6,094,000 = 8,996,000 \end{aligned}$$

$$\begin{aligned} \text{Days sales outstanding (DSO)} & \quad \text{Accounts Receivable/Annual Sales} \times 365 \\ & \quad = 5,873/53,786 \times 365 = 40 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Days payables outstanding (DPO)} & \quad \text{Accounts Payable/Cost of Goods Sold} \times 365 \\ & \quad = 2,333/33,245 \times 365 = 26 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Days inventory outstanding (DIO)} & \quad \text{Inventory/Cost of Goods Sold} \times 365 \\ & \quad = 7,889/33,245 \times 365 = 87 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Cash conversion cycle (CCC)} & \quad \text{Days Inventory} + \text{Days Sales} - \text{Days Payables} \\ & \quad = 87 + 40 - 26 = 101 \text{ days} \end{aligned}$$

**Practical Applications**

Using the annual reports for both your company and a couple of your major competitors (for publicly traded companies these are widely available on the Internet), calculate the ratios for each company for the past two years. Comparing the results for your company with those of the competition, what differences do you notice? What do you surmise about the differences, and what are they telling you about the financial health of your company compared with your competitors? Are there areas where you would like to see improvements?

## Summary of Key Points

- Although pursuing different routes, the accountant and the cash manager both end up looking at a company's financials, albeit from two different perspectives.
- The business cycle is concerned with the operations of a company, the cash flow cycle looks at the timing of the cash inflows and outflows and the accounting cycle records the events of the business cycle in anticipation of the cash flows occurring.
- Ratios are an important way of evaluating a company's financial position in terms of trends and industry benchmarks.
- The types of ratios a cash manager is interested in analyzing are:
  - Liquidity ratios: Can a company meet its obligations?
  - Leverage ratios: Who is supplying the funds for operations, the business owners or other sources?
  - Capital structure: What is the average cost of capital?
  - Performance measurement: How well is management generating a return on investment?
  - Efficiency ratios: How efficiently are the company's cash and assets being used?
  - Risk-adjusted performance measures: How well is the company doing when the returns are adjusted for risk?

# 2

## *It's All About the Bottom Line!*

### Chapter Goals

This chapter covers the following topics and includes worked examples involving the time value of money:

- The major functions of cash management
  - Factors that influence the cash manager's role
  - A representative organization chart
- Important cash management concepts
  - The cash flow timeline
  - Financial float
  - Availability
  - Finality
  - Opportunity cost of funds
  - Transaction balances
  - Time value of money
- The nature of cash flows

### Introduction

In the previous chapter, we concentrated on financial metrics and how the financial and cash management worlds intersect. This chapter delves further into the role of the cash manager, why the role is evolving, and how the cash manager's responsibilities are expanding. In the 1980s a cash manager's primary function was to poll banks for bank balances and effect the payments for the day. Today, he is an important strategic partner in managing the liquidity of the company and monitoring business risks. Although the cash manager performs many functions, he also can impact the bottom line, adding value to the company by improving the net present value of operating flows by:

- Minimizing banking costs
- Minimizing net interest expense
- Improving credit interest
- Reducing liquidity risk

- Managing financial exchange exposure
- Managing commodity risk
- Managing interest rate risk
- Reducing hedging costs

In this chapter we examine the many roles of the cash manager and explain some of the concepts that are central to the treasury and cash management function. In subsequent chapters each of these areas is discussed in more detail.

## The Major Functions of Cash Management

The role of the cash manager has evolved from being primarily a gatherer of historical information to being a cash flow specialist who can contribute significantly to the bottom line by forecasting and managing future flows. Although the duties are expanding, the following are the major functions that usually fall under the responsibility of the cash manager:

**Ensuring liquidity.** This means maintaining sufficient liquidity (either in cash or near-cash reserves, or as unused borrowing facilities) to meet the short-term obligations of the company (current liabilities).

**Managing the intraday daily cash position.** The cash manager is responsible for determining the daily cash position of the company, monitoring funds that are received and disbursed, initiating transfers, and controlling the cash balances at the bank.

**Ensuring efficient collection of cash.** This entails setting up a collection system that is appropriate to the business and the types of cash flow. A further step concentrates the balances in the collection accounts to optimize liquidity for disbursements, pay down loans, or invest surpluses.

**Controlling the timing of funds disbursements.** Cash outflows should be timed so that payments are made in a timely manner and do not jeopardize vendor relations, and yet maximize use of the funds by not making payments too early. The longer it takes for a payment to be made, the longer the company has use of the funds. There comes a point, however, where extending the disbursement cycle can damage business relationships.

**Optimizing the use of surplus funds.** This can entail either investing temporary surpluses in the short term, usually overnight, or repaying loans if the loan terms permit.

**Procuring cost-effective financing.** There should be sufficient unused borrowing capacity to meet any short-term needs of the company at the right terms. The cheapest source of funds is usually internal; the most expensive source is last-minute, unanticipated financing.

**Providing accurate and timely short-term and medium-term cash forecasts.** This includes selecting an appropriate forecasting method and using the tools to enhance the company's liquidity, financial control, cost control, and capital budgeting. An accurate forecast can help ensure that both investments and financing are made at the best rates and terms from banks and other providers.

**Assessing, monitoring, and controlling risk.** The cash manager is increasingly viewed as a partner in identifying and managing financial risk, and, therefore, should keep abreast of market movements with foreign exchange and interest rates in countries where the company does business, as well as industry practices and developments. The increased use of technology and its portability allow additional kinds of risks (for instance, migrating to a channel such as the Internet before all of the vulnerabilities have been assessed and mitigated, or the loss of data when a laptop computer is stolen) to be monitored and controlled.



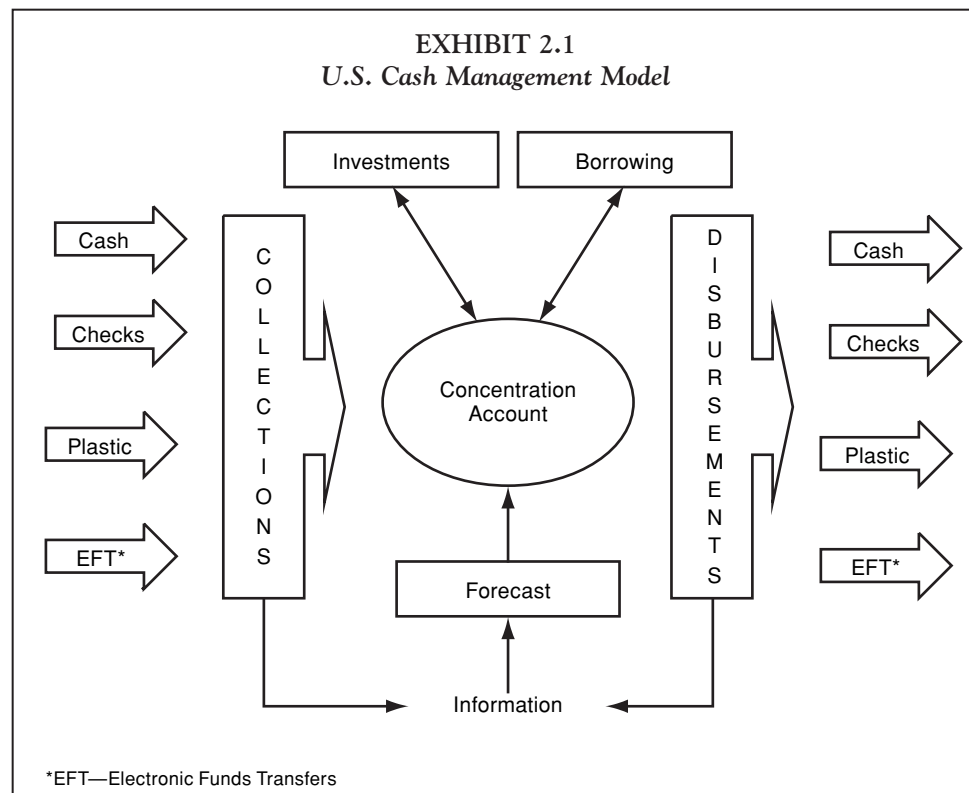
**Managing information.** The cash manager not only is dependent upon the inflow of information but also is responsible for coordinating and providing data to other internal users. The information is crucial for the management of funds, accurate forecasting, updating internal systems, and risk management.

**Implementing internal and external systems.** Many systems and interfaces between systems are necessary to perform the functions described above. The cash manager has had to become increasingly technically savvy, as well as aware of the interrelationship between cash management and the broader organization and how systems and banking product decisions in the treasury area can affect other company functions.

**Managing banking relationships.** The cash manager is responsible for making sure that the company is using the right number of banks to ensure it receives the services it needs at a fair price for the value received, as well as limiting exposure to any one financial institution.

The traditional world of the cash manager is encapsulated in Exhibit 2.1, which is a representation of the cash management model used in the United States. The cash inflows, described in the cash flow cycle in Chapter 1, can be received in a number of ways (the individual vehicles are discussed in more detail in Chapter 5). This means the cash manager must have an efficient collection system in place. Similarly, disbursements (the ongoing cash outflows in the cash flow cycle) can be made by a number of different methods. The disbursement system must accommodate all the needs of the company, its suppliers, and its vendors.

To move inflows smoothly to optimize liquidity and fund disbursements, the cash manager must put in place a concentration system from which liquidity can be managed. To the extent that there are any short-term surpluses or deficits, it is also the cash manager's responsibility to make those dispositions. Although all of this can be done on a day-to-day basis, to maximize efficiency, the cash manager needs to have access to information systems that also will allow him to forecast cash positions and thereby position the company when terms and conditions are most favorable.



## Factors That Influence the Cash Manager's Role

Some of the factors that influence the role of the cash manager within a company are:

**Industry.** The industry will determine the operating cycle and consequently the cash flow timeline. Some industries have an extremely short timeline between acquisition of raw materials and payment for finished goods and services. An example of a business with a short cash flow timeline is the restaurant business, where raw materials are purchased the same day they are converted to meals and payment is generally by cash or credit card before the end of the evening. At the other end of the scale, in the car manufacturing industry, contracts for raw materials are signed sometimes years in advance and once cars are sold, it is often on extended payment terms. The cash managers in each of these industries face very different challenges, while largely performing the same functions.

**Size.** Although segregation of duties is one of the fundamental principles in fraud prevention, the size of a company determines the amount of segregation that is possible. In very small companies, the role of the cash manager may not even be segregated from the finance or accounting function. In larger companies, the cash management department may consist of an entire team with each member having different responsibilities. The cash manager in a large company will have a much more specialized role than that in a small company.

**Types of cash flows.** The industry also will, to a certain extent, dictate the types of cash flows received and disbursed, which will greatly influence the type of cash management systems and services that a company will require. The retail industry necessitates a collection system that can handle cash, coin, plastic, and checks and a disbursement system to wholesalers that might require electronic data interchange (EDI). A wholesale business, on the other hand, might have an entirely centralized electronic collection and disbursement system. The cash manager should be familiar with the products and services that manage the company's cash flows most efficiently.

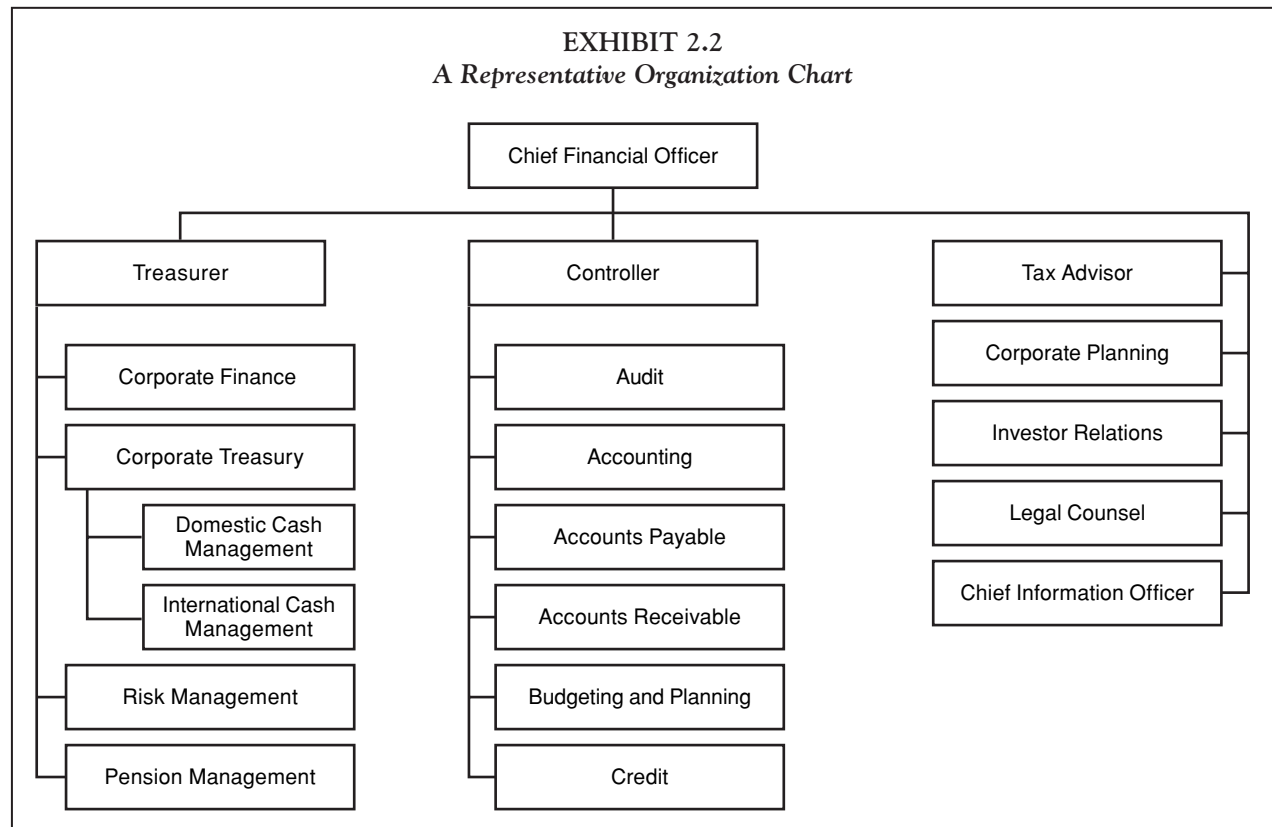
**Geography.** A company with very centralized operations will have a different banking structure than a company that is geographically dispersed, especially if the locations are overseas. Managing cross-border liquidity requires a very different level of knowledge and expertise than that required for managing a consolidated domestic operation.

**Company culture.** Company culture may also dictate the amount of innovation and change that is tolerated or required. Some companies prefer to operate in a decentralized structure, trading off economies of scale for local-level entrepreneurialism. Sometimes autonomy retained at the local level is prescribed by the terms of acquisition. In other companies cost control and risk management dictate a highly centralized treasury function, and divisions are compensated on their contribution to overall corporate liquidity rather than performance at the local level.

**Technology.** Aligned with corporate culture is the deployment of technology within the company. Even large corporations sometimes operate with antiquated systems and hardware, the cost of conversion and retraining being high. Without current technology, the cash manager's ability to optimize corporate liquidity is severely limited in providing information and straight-through processing, transaction initiation, cash forecasting, and reporting.

## A Representative Organization Chart

Although no two companies are organized identically, it is typical for the treasury function to report to the senior financial manager or chief financial officer (CFO), who is also responsible for internal audit, internal control, accounting (including accounts payable and accounts receivable), and payroll. Exhibit 2.2 illustrates some of the basic principles companies follow in organizing financial functions.



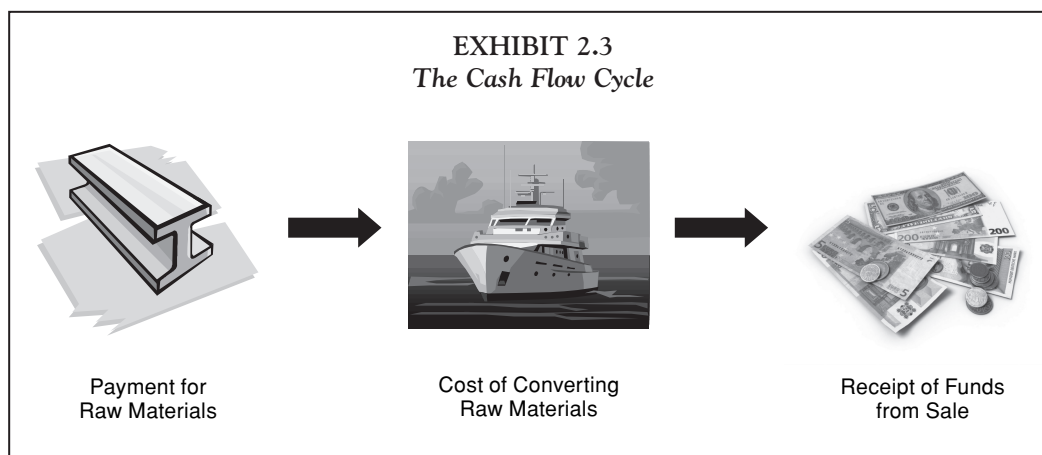
Sometimes, in the largest companies, the cash management role is divided between domestic cash management (managing the cash flow that occurs within the company's domestic market) and international cash management (managing the corporate flows that arise outside of the domestic market). This distinction is made because international cash management is very complex and requires a different skill set and knowledge base from domestic cash management. If the volume of international business warrants, companies often elect to split the function to ensure that the international business flows are optimized and handled by a specialist.

## Important Cash Management Concepts

### Cash Flow Timeline

For the majority of companies the operating cycle consists of buying raw materials, converting those materials into goods and services, and selling the finished product (see Exhibit 2.3). The cash flow timeline, however, is not always in synch with the operating cycle. Payment for goods may occur at some point after the acquisition of raw materials. In many businesses payment is received long after the sale has been concluded, such as in the aeronautical industry, where contracts spread payments out over decades. Although the accountant is concerned with accruing for the payments and receipts, the cash manager is focused on the timing of the actual cash flows in and out and, in particular, ensuring that there is sufficient liquidity to keep paying the bills until funds start flowing in.

Companies have been known to go out of business due to lack of cash, in spite of having assets on the books in excess of liabilities. Midway Airlines, for example, went out of business a couple of days after the events of 9/11 because it no longer had sufficient cash to pay for fuel and landing fees. The airline, nevertheless, still had valuable assets such as aircraft and facilities in airports. The importance of liquidity is discussed in detail in the next chapter.



### Financial Float

Throughout the operating cycle there are opportunities for delay. Whenever delay affects the timing of a payment and, more importantly, when funds are debited or credited to an account, there is an opportunity for the cash manager to either accelerate the receipt of the funds or postpone the debit to the account. The underlying principle is that there is a cost to *float* (a time interval, or delay, between the start of a process and its completion along the cash flow timeline during which value is lost to one or more parties).

Every day a cash manager waits for funds to be collected is an extra day that funds may need to be borrowed for working capital. Every day a disburser can delay the debit of funds to its account is one day less that the amount needs to be financed. The importance of maximizing working capital, however, has meant that the cash manager has become more involved in making recommendations on improving the entire operating cycle.

Traditionally, the cash manager's management of float begins when a check is written and ends with the withdrawal or credit of funds in the bank account, although, as Exhibit 2.4 illustrates, float occurs throughout the operating cycle.

Although some float is outside the control of the cash manager, at each step float can be managed either through improved internal processes or by using specialized bank services. However, float is a zero-sum game. Efficiencies in reducing float are to the disadvantage of the disburser. Increases in float are to the disadvantage of the collector. The irony is that the cash manager finds himself on both sides, as a collector and a disburser. In the days when interest rates were in double digits, float had a real value, and an early proponent of cash management coined the phrase, "May the float be with you." In today's environment, float is becoming less of an issue and is being replaced with more efficient, cost-effective ways of transacting business.

### Availability

Availability refers to the time at which a company may use funds that have been deposited at the bank, subject to collection. Depending on the type of payment being received, availability can range from zero days for wire transfers to four days for checks drawn on distant endpoints. For checks drawn on foreign banks, availability can stretch to several weeks. Banks issue availability schedules to their customers that specify when funds may be used, based on the endpoint of the check. Availability is not, however, the same thing as *collected* funds, which is when the funds become final and irrevocable. If availability has been granted on an item which is returned unpaid, the funds will be withdrawn from the account by the bank.

<b>EXHIBIT 2.4</b> <b><i>Financial Float in the Operating Cycle</i></b>		
<i>Source of Float</i>	<i>Type of Float</i>	<i>Responsibility</i>
Between the buying decision and placing the order	Purchasing float	Purchaser
Between placing the order and the vendor receiving the order	Mail float or transmission float	Mail or electronic carrier
Between the order being received and the order being processed and the goods sent	Production float	Vendor
Between the goods being sent and the invoice being sent	Invoicing float	Vendor
Between the invoice being sent and the invoice being received by the purchaser	Mail float or transmission float	Mail or electronic carrier
Between the invoice being received and the payment being due	Credit period	Vendor
Between the payment being due and the payment being sent	Payment float	Purchaser
Between the payment being sent and the payment being received by the vendor	Mail float or transmission float	Mail or electronic carrier
Between the payment being received and the payment being applied and processed	Processing float	Vendor
Between the payment being processed and deposited at the bank	Processing float	Vendor
Between the payment being deposited and funds becoming available	Availability float	Bank
Between the funds becoming available and the vendor being informed	Information float	Bank
Between the time the funds are available and when they are moved to the concentration account	Concentration float	Vendor
Between the time the payment is deposited by the vendor and the purchaser account is debited	Clearing float	Bank

### **Finality**

Finality refers to the time when funds are irrevocably credited to the beneficiary account and can no longer be withdrawn from the account without the permission of the beneficiary. For large or urgent transactions, finality is more important than availability. In the case of wire transfers, finality occurs upon confirmation of receipt by the Federal Reserve Bank, same day, real-time. With Automated Clearing House (ACH, the electronic low-value, bulk payment system) transactions, finality depends on whether it is a debit or credit transaction and occurs usually within one or two days. In the case of consumer debits, however, the debit

may be returned up to 60 days after the posting date in the case of unauthorized transactions. Finality with checks occurs after the checks have completed the clearing process and funds have been debited from the payor's account at the drawee bank. It is possible that the payee may have been granted availability, on a recourse basis, prior to final settlement.

### Opportunity Cost of Funds

Opportunity cost is the cost of an alternative use of funds that is forgone. Cash in a demand account (also known as a DDA, a demand account is a corporate checking account where funds are available *on demand*) earns zero interest. The opportunity cost of that is the lost potential investment income, or additional interest expense of a loan not paid down. Opportunity cost is relevant when evaluating alternative solutions compared with a suboptimal situation. A cash manager uses opportunity cost, for example, when comparing the cost of float without a lockbox and the savings a lockbox might bring, after all fees are considered. (A lockbox is a collection system where payments are mailed directly to a post office box for collection and processing by the lockbox operator.)

### Transaction Balances

Transaction balances, sometimes referred to as idle funds, are balances in bank accounts that earn no interest. Regulation Q is the regulation that stipulates that no interest be paid on balances in corporate demand accounts, so any balances that remain in the account at the end of the day are nonearning. There is, therefore, an opportunity cost in allowing funds to remain in a demand account.

#### **Treasury Tip: Regulation Q RIP?**

There are no fewer than four bills currently before Congress dealing with the repeal of the last vestiges of Regulation Q. In 1980 the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) removed the prohibition on paying interest on individual, government, and non-for-profit demand accounts, but left the provision for corporate accounts. It is expected that in the near future this prohibition also will be lifted.

### Time Value of Money

The time value of money refers to the assumption that cash has a higher value if received today rather than tomorrow. The underlying premise is that a dollar received today can be invested and so will be worth more tomorrow. The time value of money is an important concept for cash managers who use it for:

**Assessing discounts.** Vendors often offer discounts to encourage early payment of invoices. Is the value of the discount being offered worth more than the cost of borrowing or investing the funds for the discount period?

**Assessing investment alternatives.** When faced with a number of different investment options which one represents the best return?

**Cost-benefit analysis.** When evaluating a new bank service, will the proposed benefit from the new service result in savings that will surpass the cost of the service?

**Capital budgeting.** When making a decision whether to invest in a project that will require a cash outflow today, will the present value of projected future cash inflows exceed the cash outflows?

### Worked Example: Future Value

Future value is used to evaluate which of two investment options has the higher yield. Both the investments are compared to their future value, which is the amount that an investment will be worth at a future date if invested at compound interest. For example, a cash manager has \$250,000 to invest for four years. Investment A pays interest of 4% compounded annually. Investment B pays 4% each year with no compounding (simple interest). Which has the higher yield?

$$\begin{aligned} \text{Future value at compounded interest} \\ = \text{Principal} \times (1 + \text{Interest Rate})^{\text{Number of Periods}} \end{aligned}$$

$$\text{Investment A} = 250,000 \times (1 + .04)^4 = \$292,464.62$$

$$\begin{aligned} \text{Future value at simple interest} \\ = \text{Principal} + (\text{Principal} \times \text{Interest Rate} \times \text{Number of Periods}) \end{aligned}$$

$$\text{Investment B} = 250,000 + (250,000 \times .04125 \times 4) = \$291,250.00$$

Investment A has a higher yield.

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### Worked Example: Present Value

*Present value* is used to evaluate the value today of a future income stream. For example, what will be the present value of a project that will return \$250,000 in five years time, assuming an annual interest rate of 5%?

$$\begin{aligned} \text{Present Value} &= \frac{\text{Future Value}}{(1 + \text{Interest Rate})^{\text{Number of Periods}}} \\ &= \frac{250,000}{(1 + .05)^5} = 195,882 \end{aligned}$$

\$250,000 in five years time is the equivalent of \$195,882 invested today at 5%.

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### Worked Example: Net Present Value

*Net present value* (NPV) is used to determine whether the future income stream from a project is greater than the cost of investing in the project in present value terms. For example, if the above project, which will return \$250,000 in five years time, requires a cash outlay today of \$150,000, should the cash manager proceed?

$$\begin{aligned} \text{NPV} &= \text{Present Value of Cash Inflows} - \text{Present Value of Cash Outflows} \\ &= 195,882 - 150,000 = \$45,882 \end{aligned}$$

Because the NPV is positive, the project is profitable. Before making a decision to proceed, however, the company would have to assess this project against alternative investments. Companies do not usually have unlimited funds and so only the most profitable ones are selected.

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## Nature of Cash Flows

As mentioned previously, what matters most to the cash manager is the timing of the cash inflows and outflows. The nature of these flows, however, presents a number of challenges in managing liquidity, including:

**Timing.** Inflows and outflows are mistimed, in that the outflows very often precede the inflows, requiring interim financing to bridge the time gap.

**Matching.** The amount of the inflows will not necessarily match the amount of the outflows. The resulting excess or deficit needs to be managed.

**Regularity.** The pattern of inflows and outflows may be irregular and not spread out evenly throughout the year. Many businesses have a seasonal cycle with one or two prime periods when most of the sales are made, for example, the tourism and retail industries. Other industries experience periods of heavy investment prior to sales being possible, such as agriculture. The challenge to the cash manager is ensuring that the seasonal fluctuations are managed cost-effectively.

**Predictability.** Some cash flows can be predicted with great accuracy, such as payment of dividends and taxes. Others can be predicted within a range of accuracy, such as payroll. The cash flows that cause the greatest challenge, however, are those that are unpredictable, such as the timing of overseas collections, the outcome of legal disputes, or the cost of a strike action.

The more the cash manager understands about the nature of the cash flows in the industry in general and the company in particular, the better the forecast and the better positioned he or she will be to manage liquidity throughout the cash cycle.

## Practical Applications

Assigning timelines, describe the operating cycle in your company and the nature of the cash flows and how that affects the cash flow cycle. Describe how what you discovered affects all of the major functions that you perform.

## Summary of Key Points

- The role of the cash manager is increasingly important within a company.
- The precise nature of the role will be influenced by many factors, including the company's industry, size, geographic dispersion, and corporate culture.
- Although the perspective is more short-term and narrower than that of the treasurer, the cash manager is responsible for ensuring that the company has sufficient liquidity to remain in business.
- Sufficient liquidity is achieved through a number of means, including managing collections and disbursements, forecasting surpluses and deficits, and ensuring sufficient access to funds in the event of a temporary shortfall.
- Float takes many forms, not all of which can be managed by the cash manager.
- Cash managers also are concerned with availability, finality, opportunity cost of funds, and the time value of money.
- The key to managing liquidity is the timing of the cash inflows and outflows.



# 3

## *Optimizing Liquidity*

### Chapter Goals

This chapter covers the following topics and includes worked examples for calculating the cash conversion cycle:

- Liquidity management
  - Cash is king
  - Float in the financial supply chain
  - Sources and uses of liquidity
- Optimizing working capital
  - The cash conversion cycle
  - Calculating how much liquidity a company needs
  - Costs of too little liquidity
- Working capital gap management

### Introduction

Recall that liquidity refers to a company's ability to meet its obligations when due, and that optimizing corporate liquidity is vital to a company's financial health and reputation. Even a profitable company can go bankrupt through a lack of liquidity. At a time when Rolls Royce in the UK was, on paper, showing a profit in accounting terms, its inability to pay operating expenses precipitated the company going into bankruptcy and caused its eventual breakup and sale. In this chapter, we discuss how liquidity is managed as cash flows through the current asset and liability accounts. We also discuss sources of liquidity, how much of a liquidity reserve a company should have, and the importance of managing not just liquidity but also working capital.

### Liquidity Management

A cash manager's primary responsibility is to manage the daily cash position. By controlling a company's cash inflows and outflows, the cash manager can ensure and optimize liquidity. The cash manager should be aware of the company's cash position at all times. By managing and adjusting the collections and

disbursements systems, the cash manager is able to constantly monitor and maximize the amount of funds available to the company. Thus, if there is a shortfall or excess, the cash manager covers the shortage or invests the surplus. This is liquidity management at its simplest!

At a more strategic level, managing liquidity in the medium to longer term requires the cash manager to develop forecasts of fund flows so as to establish lines of credit and investment policy guidelines for handling anticipated shortfalls and surpluses. Failing to manage the medium range can result in liquidity problems that absorb much management time, embarrassment if checks are returned unpaid, loss of earnings if temporary excesses are inappropriately invested, or possible failure of the business.

Extending liquidity management into the longer-term realm of treasury management involves the concepts of working capital management and long-term funding. Whereas the traditional role of the cash manager continues to involve managing float in the short term, it is increasingly evolving toward managing all elements of working capital and closer liaison with the treasurer.

### Cash Is King

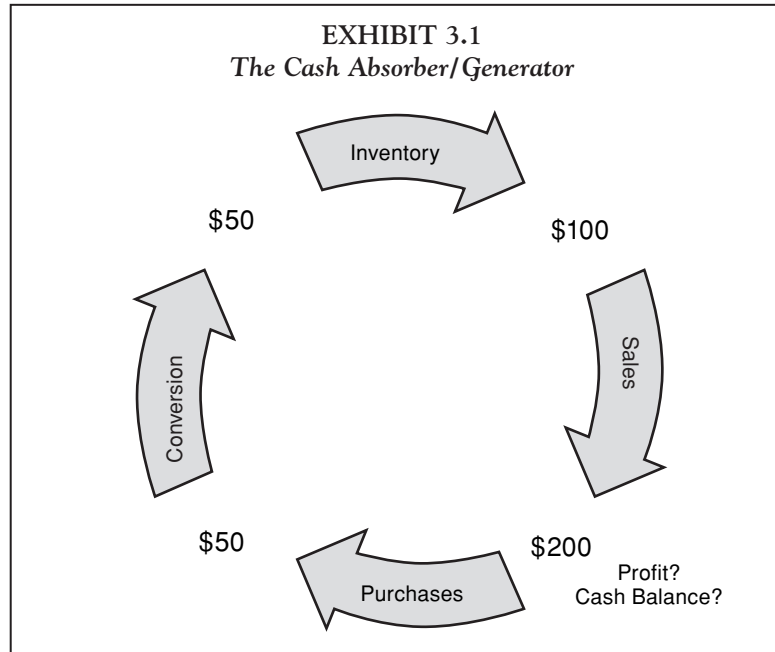
When is cash, cash? Exhibit 3.1 illustrates how the timing of cash flows affects a company's liquidity. When purchases of raw materials are made for \$50, a further \$50 is expended in converting those raw materials into products, which are now worth \$100. If the goods are sold for \$200, the first question to answer is, "What is the profit?" From an accounting perspective, as soon as the purchases and sales are recorded, the company has an asset of \$200 and a liability of \$100. The net profit is therefore \$100. But determining the cash balance is more difficult. The cash position can be anywhere from  $-\$100$  to  $+\$200$  depending on the timing of the flows.

<i>Purchases</i>	<i>Conversion</i>	<i>Sale</i>	<i>Cash Position, \$</i>
Paid	Paid	Not paid	-100
Paid	Not paid	Not paid	-50
Not paid	Paid	Not paid	-50
Not paid	Not paid	Not paid	0
Paid	Paid	Paid	+100
Paid	Not paid	Paid	+150
Not paid	Paid	Paid	+150
Not paid	Not paid	Paid	+200

The skillful cash manager attempts to collect the proceeds from the sale before making any payments. In reality that is rarely possible without jeopardizing vendor, employee, and market relationships. So the cash manager instead practices the art of compromise to extract the maximum cash as quickly as possible while remaining in business by paying obligations when they become due. For the cash manager, cash is king!

### Float in the Financial Supply Chain

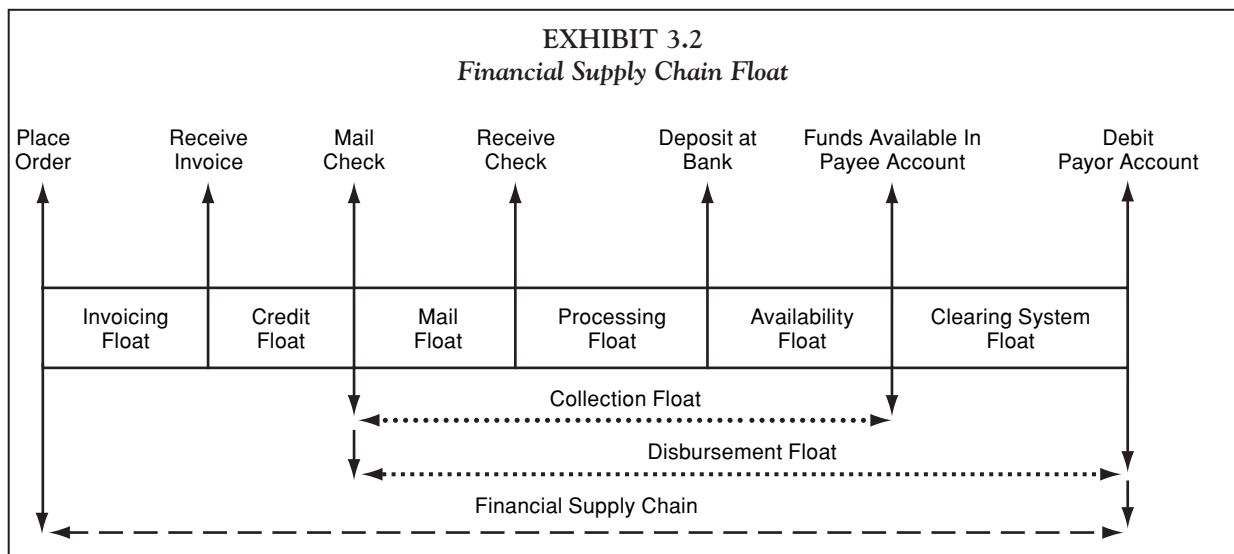
Within the business cycle there are delays that affect working capital. These inefficiencies, which we know as *float*, can both tie up or release liquidity. Although float occurs during the collection and disbursement process, it is also present throughout an entire transaction, including the management of creditors and debtors. When managed aggressively, float becomes a source of finance to a company. If poorly managed, it is a user of liquidity. With the emphasis on liquidity in today's environment, the cash manager's



role is expanding to include working capital management, which encompasses the active management of the current asset accounts (accounts receivable and inventory) as well as the current liability account (accounts payable).

Exhibit 3.2 displays the financial supply chain and all of the types of float that can affect a cash manager. (These areas are examined in more detail later in the book.) Although traditionally the cash manager has been responsible for managing disbursement and collection float, as the role expands into managing the working capital gap (see *Optimizing Working Capital*), we see cash managers becoming increasingly influential in areas such as invoicing float and credit float.

It is estimated that the companies in the Fortune 1000 have \$620 billion tied up in working capital. How that working capital is managed affects a company's liquidity, profitability, financial ratios, and credit



standing. Unlocking working capital can provide hidden value. In subsequent chapters, therefore, we examine how cash can be released from the broader financial supply chain, not just the payment cycle, reflecting the evolving role of the cash manager.

### Sources and Uses of Liquidity

Sources of liquidity can be internal and external. Liquidity can be generated from the following sources:

- Internal**
- Cash pools within the company. Sometimes these cash deposits are not always easily accessible if they are in a different location or in a different currency.
  - Managing the working capital accounts, accelerating accounts receivable, delaying accounts payable, and reducing inventory.
  - Selling the company's liquid assets.
  - Generating cash from business operations.
- External**
- Unused lines of credit.
  - The commercial paper market.
  - Offering vendor discounts for early payment.
  - Obtaining trade terms that extend payment to suppliers.

#### **Treasury Tip: What Is a Liquid Asset?**

A liquid asset is one that can be easily and rapidly converted into cash *without loss of value*. When the cash manager is investing temporary cash surpluses that are part of the liquidity reserve, particular attention should be paid to ensuring that they are invested in instruments that preserve value and are easily saleable.

Similarly, there are internal and external factors that use a company's liquidity, primarily:

- Ongoing business expenses
- The purchase of investments or assets
- Payment of dividends
- Repayment of debt

## Optimizing Working Capital

While cash is managed on a daily basis, a longer-term perspective is required when determining how much of a liquidity reserve a company should keep on hand. Working capital management is making sure that working capital (defined as current assets and current liabilities) is optimized to bring the most value and liquidity to the company. This involves decisions and strategies concerning the types of investments for current assets as well as the amounts and types of financing for current liabilities. An increase in current assets, such as making a short-term investment, or increasing accounts receivable is a use of the company's funds.

Similarly, an increase in the current liability accounts, such as taking on more short-term funding, or increasing accounts payable provides a source of funds. Net working capital (current assets – current liabilities), therefore, identifies the gap between assets and liabilities. The timing of the cash flows through these working capital accounts, however, is critical to determining *how much* liquidity is required. As we saw in Chapter 1, the usual metrics used for measuring working capital efficiency are:

- Days sales outstanding (DSO)
- Days payable outstanding (DPO)
- Days inventory outstanding (DIO)
- Cash conversion cycle (CCC)

### Cash Conversion Cycle

The cash conversion cycle (Exhibit 3.3) defines the relationship between the working capital accounts and their impact on a company's liquidity. It calculates how long it takes a company to convert its cash outflows into inflows. It can indicate problems in one or more of three areas: accounts receivable (A/R), accounts payable (A/P), or inventory. The lower the number of days in the cycle, the more efficient the company. This is also a useful tool when comparing the company's performance against that of its competitors.

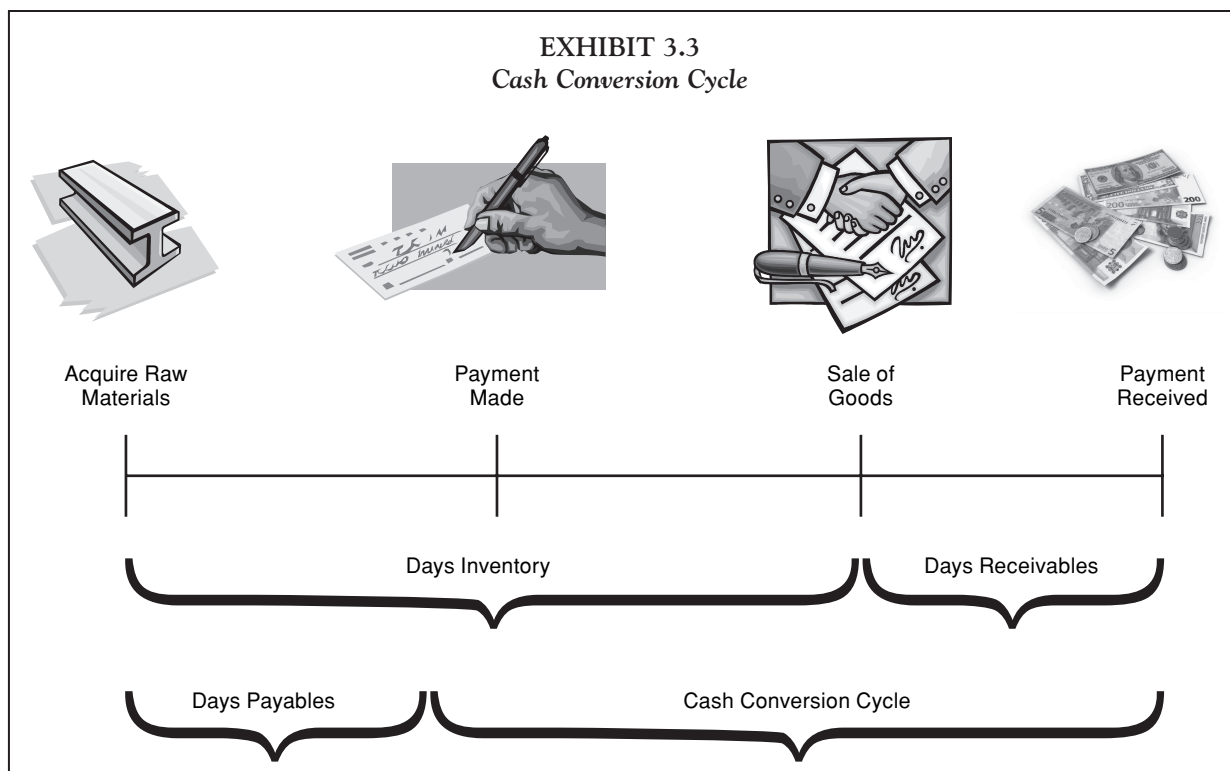
$$CCC = \text{Days Inventory (DIO)} + \text{Days Sales (DSO)} - \text{Days Payables (DPO)}$$

where:

$$DIO = \frac{\text{Inventory}}{\text{Cost of Goods Sold}} \times 365$$

$$DSO = \frac{\text{Accounts Receivable}}{\text{Annual Sales}} \times 365$$

$$DPO = \frac{\text{Accounts Payable}}{\text{Cost of Goods Sold}} \times 365$$



### Worked Example: Cash Conversion Cycle

Excerpts from financial statements:

Profit and Loss		Balance Sheet	
Annual Sales	\$50,000	Accounts Receivable	\$6,000
Cost of Goods Sold	\$25,000	Inventory	\$5,000
		Accounts Payable	\$4,800

$$\text{DIO} = \frac{\text{Inventory}}{\text{Cost of Goods Sold}} \times 365 = \frac{5,000}{25,000} \times 365 = 73 \text{ days}$$

$$\text{DSO} = \frac{\text{Accounts Receivable}}{\text{Annual Sales}} \times 365 = \frac{6,000}{50,000} \times 365 = 44 \text{ days}$$

$$\text{DPO} = \frac{\text{Accounts Payable}}{\text{Cost of Goods Sold}} \times 365 = \frac{4,800}{25,000} \times 365 = 70 \text{ days}$$

$$\text{CCC} = \text{DIO} + \text{DSO} - \text{DPO} = 73 + 44 - 70 = 47 \text{ days}$$

This means that it takes the company 47 days to convert its cash outflows into inflows; therefore it has to finance 47 days of working capital.

### Calculating How Much Liquidity a Company Needs

It is one of the cash manager's responsibilities to forecast a company's liquidity requirements and to ensure sufficient sources to meet the forecasted business needs. When assessing what that number should be, there are three elements to consider:

1. How much cash does the company need to meet the known obligations? This amount can be offset by the cash inflows. A receipts-and-disbursements cash forecast (described in Chapter 11) can determine net liquidity needs, taking into account the expected timing of the cash flows.
2. A receipts-and-disbursements cash forecast provides an estimate of the liquidity requirements within a margin of error. The liquidity calculation then has to take into account a provision for unexpected occurrences, such as a payment not being received when due, or unanticipated expenses. By comparing historical forecasts against the actual cash flows, a company should be able to assess what that margin of error is and adjust the forecast accordingly.
3. There are times when unique opportunities arise, such as a competitor going out of business and selling inventory at fire sale prices. Most companies would like to factor into their liquidity reserve an amount that would allow them to take advantage of such opportunities should they arise. This last item, however, is the most discretionary of the three components.

Although it is important to have sufficient liquidity, keeping too much means that the company is using cash inefficiently, resulting in an opportunity cost and potential loss of earnings.

### Costs of Too Little Liquidity

The consequences for a company of not maintaining sufficient liquidity, that is, being unable to meet obligations when due, can be considerable. In order of ascending magnitude they are:

- Having to use more expensive methods of effecting payments
- Paying late fees or interest costs for late payments

- Borrowing at more expensive rates
- Missing discounts
- Losing business opportunities
- Paying legal fees to defend lawsuits
- Tarnished business reputation
- Customer and supplier defections
- Bankruptcy and liquidation

Even the suspicion of financial distress can give rise to many of the above costs as employees, vendors, suppliers, and banks react to the fear of bankruptcy.

## Working Capital Gap Management

The cash conversion cycle described in Chapter 1 is also known as the *working capital gap*, or the time it takes a company to convert its cash outflows into cash inflows. Actively managing the working capital gap can not only reduce the overall amount of working capital required but can also ensure that the assets are invested in ways that optimize the company's use of funds.

Working capital gap management looks at both reducing the overall liquidity reserve needed by a company as well as releasing further liquidity from the financial supply chain. Reducing the CCC is one strategy that achieves both goals. The cash manager should look at a combination of actions designed to reduce days' inventory outstanding and days' receivables outstanding, or increase days' payable outstanding. There are, however, risks and costs associated with shortening the cycle, including lost sales due to tighter collection policies and lost trade credits due to paying more slowly. Exhibit 3.4 summarizes some of the tactics for improving the working capital gap, thereby reducing the liquidity reserve and releasing working capital.

<b>EXHIBIT 3.4</b> <b><i>Improving the Working Capital Gap</i></b>	
<i>Company Concern</i>	<i>Strategy</i>
<i>Improve liquidity</i>	<ul style="list-style-type: none"> <li>Speed up accounts receivable</li> <li>Slow down accounts payable</li> <li>Decrease short-term investment</li> <li>Increase short-term borrowing</li> <li>Improve management of corporate-wide cash position</li> </ul>
<i>Speed up receivables</i>	<ul style="list-style-type: none"> <li>Offer discounts</li> <li>Shorten sales terms</li> <li>Use factoring or A/R financing</li> <li>Use better collection tools</li> <li>Offer collection bonuses</li> </ul>
<i>Slow down payables</i>	<ul style="list-style-type: none"> <li>Pay only when due</li> <li>Renegotiate longer payment terms</li> <li>Use bank solutions that help finance accounts payable</li> </ul>

***(Continued)***

<b>EXHIBIT 3.4 (Continued)</b>	
<i>Company Concern</i>	<i>Strategy</i>
<i>Improve inventory turnover</i>	Adjust order sizes; accept smaller orders Reduce inventory by improving supply chain efficiency Improve service levels Have supplier hold inventory deliveries longer Dispose of obsolete or slow-moving inventory items

## Practical Applications

Using the information available from your company's annual report, calculate the cash conversion cycle for the past two or three years. What changes do you notice? Looking at the company's terms of sale and what you know about industry averages, what observations can you make about the company's CCC? What areas would you like to investigate further to see if you can recommend changes to improve the CCC?

## Summary of Key Points

- The role of the cash manager is to ensure that the company has the right amount of cash, in the right currency, and in the right place without being exposed to undue risk.
- Although the cash manager's role traditionally looked at cash flows from the payment cycle, today it increasingly encompasses how to enhance liquidity over the entire financial supply chain.
- Cash can be released throughout the business cycle, from purchasing raw materials to selling the finished goods, thereby improving liquidity.
- The cash conversion cycle is a measure of how effectively a company converts cash outflows into cash inflows.
- One of the key ways to improve liquidity is to ensure that working capital is optimized by speeding up receivables, slowing down payables, and improving inventory turnover.



# 4

## *The United States Banking System*

### Chapter Goals

This chapter covers the following topics:

- The structure of the U.S. banking system
  - The Federal Reserve Bank
  - A dual banking system
- Major banking legislation
- Impact of current legislation
  - Nationwide branching
  - Patriot Act
  - Sarbanes-Oxley Act
  - Check 21
- Federal Reserve regulations
- The Uniform Commercial Code

### Introduction

Without an understanding of the U.S. banking system it is difficult to appreciate why cash management techniques are important and how to use them effectively. Historically, legislation is responsible for the evolution of cash management. Regulations determined the growth and expansion of the banking system, and created a legacy that persists to this day. The U.S. banking structure is in the midst of a sea change. The most recent legislation has had a great impact and as a result is reshaping the way in which cash will be managed in the future. This chapter describes the banking system and regulations and acts that affect cash management the most.

### Structure of the United States Banking System

The foundation of the current U.S. banking system was laid in 1913 when the central bank was established by the Federal Reserve Act. The passing of the act was preceded by a tumultuous time of bank failures and fiscal crises, and it was necessary to bring a stabilizing influence to the banking structure.

## Federal Reserve Bank

The Federal Reserve Bank (the Fed), as the new central bank was called, was given a broad charter and responsibilities for:

- Formulation and implementation of monetary policy to maintain the stability of the financial system
- Regulatory and supervisory responsibilities over banks that are members of the Federal Reserve System, bank holding companies, international banking facilities in the United States, Edge Act<sup>1</sup> corporations, foreign activities of member banks, and the U.S. activities of foreign-owned banks
- Ensuring the smooth functioning and continued development of the nation's payments system
- The implementation and administration of regulations mandated by federal laws to protect the consumer
- Providing financial services to the U.S. government and financial institutions, such as issuing and redeeming treasury securities and acting as banker to the government

The Fed comprises:

**Board of Governors.** The seven members of the Board of Governors of the Federal Reserve System are nominated by the president of the United States and confirmed by the Senate for a full term of 14 years. Their primary function is the formulation of monetary policy. The board also sets reserve requirements and shares responsibility with the Reserve Banks for discount rate policy. The chairman of the Board of Governors is appointed by the president for a term of four years (renewable). As head of the central bank of the United States, the chairman is one of the more important decision makers on American economic policies. The chairman reports twice a year to Congress on the Federal Reserve's monetary policy objectives, testifies before Congress on numerous other issues, and meets periodically with the secretary of the treasury.

**Federal Open Market Committee (FOMC).** In addition to the seven board members, the FOMC also includes five Reserve Bank presidents, one of whom is the president of the Federal Reserve Bank of New York. The FOMC makes the key decisions affecting the cost and availability of money and credit in the economy.

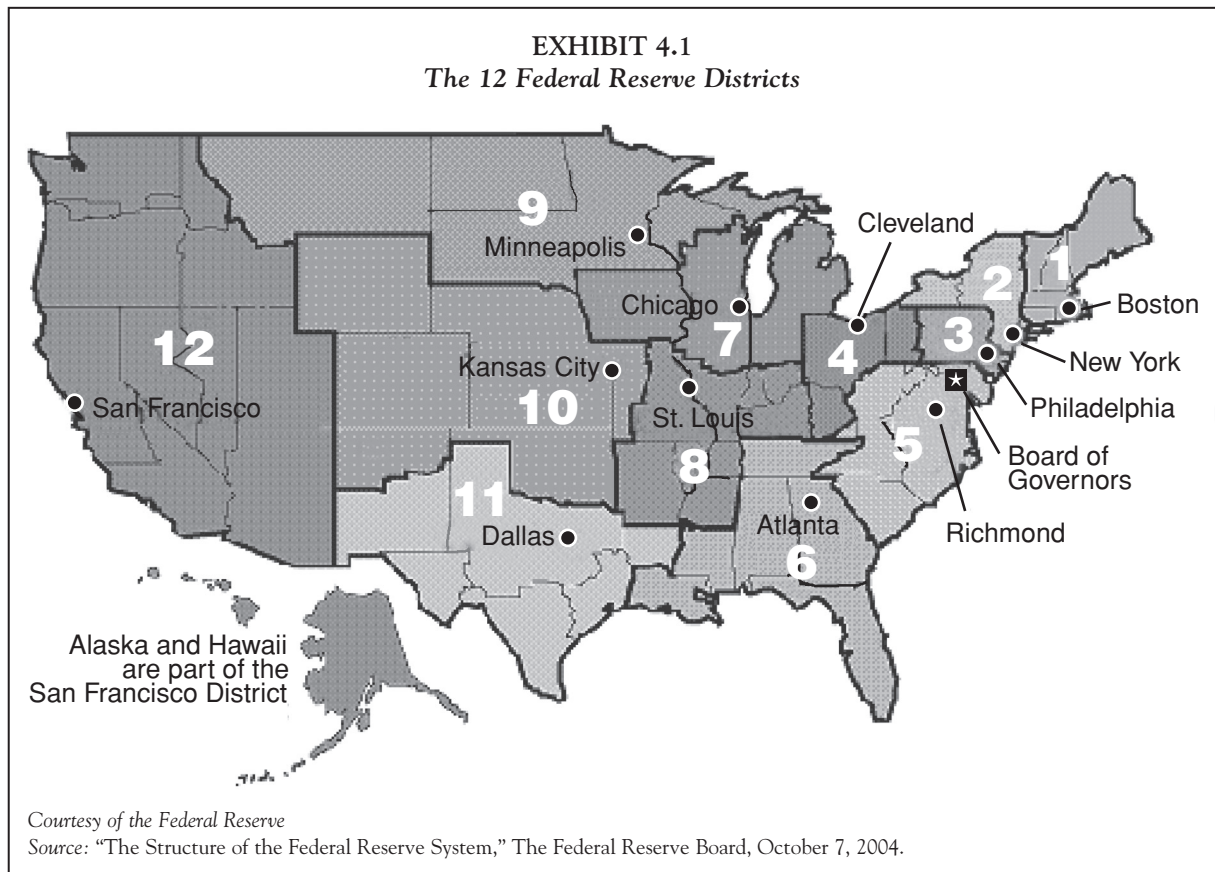
**Federal Reserve Bank.** The Fed conducts business through a nationwide network of 12 Federal Reserve Banks and their branches. Exhibit 4.1 shows a map of the Federal Reserve Bank districts. In addition to serving on the FOMC on a rotating basis, the Federal Reserve Banks play a regulatory role and perform services for the U.S. Treasury and other government and international agencies, such as issuing and redeeming public debt and managing and providing depository services for financial institutions including cash and coin, check processing, wire transfers, and automated clearinghouses.

## A Dual Banking System

For historical reasons, the United States operates a dual banking system, meaning that banks can be either federally chartered or state chartered. The major difference is one of regulation. Federal banks are regulated and supervised by the Board of Governors of the Federal Reserve System (usually delegated to the Federal Reserve Banks), the Federal Deposit Insurance Corporation (FDIC), and the Office of the Comptroller (OCC). State-chartered banks, on the other hand, are regulated and supervised by state banking boards and commissions. In reality, the difference between federal and state-chartered banks is diminishing. Over 95 percent of all commercial banks are members of the FDIC and they are also, therefore, subject to FDIC

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<sup>1</sup>An Edge Act corporation is allowed to transact international business only and may not compete for domestic business. The act was introduced to allow banks that would otherwise be prohibited from having a presence in New York access to this important market for international activities only.



supervision. Furthermore, all depository institutions are subject to oversight and reserve requirements imposed by the Fed.

## Major Banking Legislation

There are many laws that have influenced the development of banking and, as a result, have given rise to the need for cash management services. Originally enacted to handle a contemporary crisis (such as the 1913 Federal Reserve Act, which created a central bank in 1913 after the banking panic of 1907), many of the laws have lingered on the statute books long after the cessation of conditions that necessitated their creation. Subsequent amendments have often been introduced to repeal all or part of these regulations, and modern-day cash management still bears the imprint of this patchwork quilt of legislation. The appendix at the end of this chapter describes some of the most significant laws that have shaped banking today.

## Impact of Current Legislation

### Nationwide Branching

Unlike most other countries of the world with sophisticated banking systems, the United States is unusual by not having a nationwide system of branch banking. The original banking structure was designed to protect the nascent banking industry in each state. Each state was allowed to dictate how banking would develop within its boundaries, safe from outside competition. Some states, such as California, allowed banks to

develop across the entire state, which in turn allowed the Bank of America to quickly establish itself as one of the largest banks in the United States. Texas, on the other hand, favored *unit banking*, allowing only one branch per bank and resulting in a proliferation of small local banks. Although subsequent amendments relaxed the state boundary limitations and were finally removed in 1994 by the Interstate Banking and Branching Efficiency Act (IBBEA, which became effective in 1997), the banking structure was by then firmly established.

Because of this highly fragmented banking structure, cash management techniques evolved, in part, as a way to manage cash flows more efficiently across a geographically dispersed, multibank system. To collect more efficiently, local banking accounts needed to be opened. Unfortunately, because of the banking structure, it was likely that these accounts would have to be with different banks. Having put in place a system to collect funds quickly, it was then necessary to take a second step to concentrate funds from the different accounts in order to optimize liquidity. This two-step collection process is almost unknown in other parts of the world, where nationwide branch banking renders concentration unnecessary. However, the banking structure doesn't just affect collections. Because of the complex and historically lengthy process of collecting checks, float advantages are created for the disburser, which has encouraged the continued use of checks as a payment method.

Things are beginning to change. Many of the larger banks had already started taking advantage of the earlier amendments to the regulations (see the Douglas Amendment and Garn-St. Germain Act in the appendix) by expanding initially into neighboring states, and then more widely after the enactment of the IBBEA. Nevertheless, nationwide branching through acquisition creates many challenges, such as integrating multiple legacy operating systems, dealing with differing individual state laws, and the increasing cost of buying high-quality banks. Nationwide branching requires more than changes in the legislation. To this day, even the largest banks in the United States cover only parts of the country. Bank of America currently has the broadest representation with branches in 29 states. It is unlikely in the short term that the United States will see true nationwide banking similar to the systems in Canada or Europe.

The implication is that even though new legislation is aimed at making check collection and disbursement more efficient and automated, day-to-day U.S. cash management will remain more complex than in most other developed countries.

### **Patriot Act**

The Patriot Act was introduced in response to the events of September 11, 2001, when terrorists attacked several U.S. targets, including the World Trade Center in New York and the Pentagon in Washington. Its far-reaching provisions are designed to provide the FBI and Department of Justice greater facility and transparency in information gathering. Specifically, the Patriot Act was intended to make it easier to prevent, detect, and prosecute international money laundering and the financing of terrorism. In terms of impact on the banking world, it quickly became apparent that the existing anti-money-laundering legislation, designed to trace drug flows, was unequal to the task of finding and tracking legitimate money supporting terrorist activities. One consequence of the Patriot Act is that many countries around the world have adopted similar legislation.

The impact on cash managers is that it is now increasingly difficult to open up new bank accounts overseas, the source, destination, and purpose of money flows has to be documented, and any cross-border flows involve added bureaucracy and paperwork. As the regulations change from country to country, cash managers should be aware of the laws in each country in which they operate to avoid delays in money transfers.

### **Sarbanes-Oxley Act**

The corporate scandals and excesses of the early 2000s gave rise to the Sarbanes-Oxley Act (SOX), which has resulted in many changes to SEC rules and regulations. The basic intent is to impose a code of conduct

and personal accountability upon a company's board of directors and auditors. There are significant penalties to corporations and individuals, including board members, officers, and employees, for noncompliance with SOX. For the cash manager, this means that the demand for information and reporting has increased.

SOX affects not only U.S. companies but also foreign public companies doing business or raising funds in the United States. The important topic of corporate governance and control is discussed in more detail in Chapter 18.

### Check 21

Check 21 removes the legal barriers to check truncation. A bank may now either clear an electronic image of a check or replace it with a substitute check. All checks except foreign checks are eligible to be cleared electronically.

The impact on cash management is that checks can be deposited and cleared much faster than with the physical presentment method. This means that disbursement accounts should be funded sooner because collections can occur faster across the country. As Check 21 gains acceptance and is used by an increasingly larger number of banks, the disbursement benefits of checks will all but disappear, which will effectively accelerate the current trend of moving to more automated, electronic methods of disbursement.

## Federal Reserve Regulations

Once laws are passed by Congress, the Federal Reserve implements the provisions by issuing a series of regulations. Exhibit 4.2 shows the regulations that most affect cash and treasury managers.

<b>EXHIBIT 4.2</b> <i>Acts Affecting Cash Management</i>	
<i>Regulation</i>	<i>Provisions</i>
<i>Regulation D</i> <i>Reserve requirements of depository institutions</i>	Sets uniform requirements for all depository institutions to maintain reserve balances with the Federal Reserve or as cash in their vaults (cash balances in ATM machines count toward reserves). By setting different reserve levels the Fed can use this as a mechanism for controlling the money supply. From a practical perspective it affects how much of a company's collected cash balance can be used to offset bank charges.
<i>Regulation E</i> <i>Electronic funds transfers</i>	Establishes the rights, liabilities, and responsibilities of parties in electronic funds transfers (EFT) and protects consumers when they use such systems. In 2001, an amendment required that banks disclose fees for using ATM machines. Revisions in 2002 addressed electronic check conversion transactions and mandated electronic authorization of recurring debits.
<i>Regulation J</i> <i>Collection of checks and other items by Federal Reserve Banks and funds transfers through Fedwire</i>	(Fedwire is the electronic high-value transfer system operated by the Federal Reserve.) This regulation establishes procedures, duties, and responsibilities between (a) Federal Reserve Banks, (b) the senders and payors of checks, or certain other items, such as cash, and (c) the senders and recipients of wire transfers.

*(Continued)*

<b>EXHIBIT 4.2 (Continued)</b>	
<i>Regulation</i>	<i>Provisions</i>
<i>Regulation Q Prohibition against payment of interest on demand deposits</i>	Prohibits member banks from paying interest on demand deposits. The Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980 lifted this restriction from all parties except corporate demand accounts. It is expected that this final limitation will be repealed in the near future.
<i>Regulation CC Availability of funds and collection of checks</i>	Establishes availability schedules, as provided in the Expedited Funds Availability Act (EFAA), under which depository institutions must make funds deposited into transaction accounts available for withdrawal. The regulation also provides that depository institutions must disclose their funds availability policies to their customers. This regulation additionally establishes rules designed to speed the collection and return of checks, imposing a responsibility on banks to return unpaid checks promptly. Regulation CC covers all checks, not just those clearing through the Fed. (Chapter 5 describes the different ways in which a check can clear.)

## Uniform Commercial Code

The Uniform Commercial Code (UCC) is a federal code that comprises a set of regulations covering commercial transactions and has been gradually accepted into state laws. (The provisions have not always been adopted uniformly and thus differences exist from state to state in the actual form UCC takes in the local legislation.) Drafted in 1953, the UCC was originally intended to cover paper-based payments but has expanded to address large-dollar electronic transfers as well. The UCC defines the rights and duties of all the parties in a commercial transaction and provides a statutory definition of commonly used business practices. The articles most relevant to cash managers are shown in Exhibit 4.3.

<b>EXHIBIT 4.3</b> <i>Articles of the Uniform Commercial Code</i>	
<i>Article</i>	<i>Provisions</i>
<i>Article 3 Negotiable instruments</i>	<ul style="list-style-type: none"> <li>• Covers paper instruments and checks</li> <li>• Defines the liabilities of the parties in the event of unauthorized signatures</li> <li>• Requires account holders to exercise ordinary care (exercising <i>ordinary care</i> refers to taking steps and procedures that a person of ordinary prudence would exercise under similar circumstances—it is the standard for determining legal duty) in preventing fraud, following reasonable commercial standards</li> <li>• Defines what constitutes payment in full</li> </ul>

*(Continued)*



<b>EXHIBIT 4.3 (Continued)</b>	
<i>Article</i>	<i>Provisions</i>
<i>Article 4</i> <i>Bank deposits and collections</i>	<ul style="list-style-type: none"> <li>• Defines the roles and responsibilities of the parties involved in the deposit and collection process</li> <li>• Determines the obligations of both the bank and the company in conducting business</li> <li>• Stipulates the need for companies to inform their banks immediately of unauthorized signatures</li> <li>• States that customers are obligated to examine their bank statements and inform the bank of any discrepancies within 30 days of a statement being sent</li> </ul>
<i>Article 4A</i> <i>Funds transfers</i>	<ul style="list-style-type: none"> <li>• Outlines the responsibilities and duties of the parties involved in electronic funds transfers, including Fedwire, Clearing House Interbank Payment System (CHIPS, the second electronic clearing system in the United States, described in Chapter 5), and Automated Clearing House (ACH)</li> <li>• Addresses the security procedures that should be available to customers when making electronic transfers</li> <li>• Deals with the issue of bank and customer liability in funds transfers</li> <li>• Protects banks from consequential damages for losses incurred as a result of bank error</li> </ul>
<i>Article 5</i> <i>Letters of credit</i>	<ul style="list-style-type: none"> <li>• Defines the roles, responsibilities, and obligations of parties involved in commercial letters of credit requiring documentary drafts</li> <li>• Does not cover standby letters of credit</li> </ul>

## Practical Applications

Look at your treasury department and identify what changes have been made to comply with:

- The Sarbanes-Oxley Act
- The Patriot Act
- Check 21

Determine whether further adjustments and changes should be made as a result of this legislation.

## Summary of Key Points

- The Federal Reserve Bank is the central bank of the United States. It formulates and implements monetary policy, regulates the banking industry, and operates many of the nation's payment systems.

- Although largely repealed, historical legislation continues to leave its legacy in the way in which cash managers structure their banking relationships so as to collect and disburse efficiently.
- The United States still has no nationwide branching structure and thus companies continue to use multiple banks to cover their footprint.
- There is evidence, however, that the banking structure is slowly changing although it is unlikely that the United States will have true nationwide branching in the near future.
- The Sarbanes-Oxley Act has had a considerable impact on the demands for corporate governance and control on both United States and foreign companies.
- Developments in electronic check presentment and imaging are changing the way in which companies pay and receive.



**APPENDIX**  
**Banking Regulations Affecting Cash Management**

**Regulation of the Banking Industry**

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<i>Federal Reserve Act, 1913</i>	<ul style="list-style-type: none"><li>• Established the Federal Reserve System</li><li>• Created the first central bank for the United States</li></ul>
<i>McFadden Act, 1927</i>	<ul style="list-style-type: none"><li>• Prohibited banks from branching and accepting deposits across state lines</li></ul>
<i>Glass-Steagall, 1933</i>	<ul style="list-style-type: none"><li>• Separated commercial banking from investment banking, establishing them as separate lines of business in separate entities</li><li>• Created the FDIC as a temporary agency to guarantee deposits</li><li>• Established interest rate ceilings and prohibited commercial banks from paying interest on demand deposits</li></ul>
<i>Securities Laws, 1933, 1934, 1940</i>	<ul style="list-style-type: none"><li>• Established the SEC to supervise and regulate the securities industry (including investment banking)</li></ul>
<i>Banking Act, 1935</i>	<ul style="list-style-type: none"><li>• Established the FDIC as a permanent government agency</li></ul>
<i>Bank Secrecy Act (BSA), 1970</i>	<ul style="list-style-type: none"><li>• Required all financial institutions to report any suspicious financial transactions</li><li>• Requires that banks establish effective “know your customer” (KYC) guidelines</li></ul>
<i>Financial Institutions Regulatory and Interest Rate Control Act (FIRIRCA), 1978</i>	<ul style="list-style-type: none"><li>• Created the Federal Financial Institutions Examination Council to standardize supervisory and examination policies for FDIC-insured institutions</li><li>• Introduced a uniform system for rating banks</li><li>• Established limits and reporting requirements for bank insider transaction</li></ul>
<i>Money Laundering Control Act (MLCA), 1986</i>	<ul style="list-style-type: none"><li>• Required banks to monitor and report any activity by a customer that is:<ul style="list-style-type: none"><li>– Inconsistent with the customer’s business</li><li>– Attempting to avoid recordkeeping</li><li>– Unusual in terms of funds transfer activities</li><li>– Accompanied by insufficient or suspicious information</li></ul></li></ul>
<i>Financial Institutions Reform, Recovery and Enforcement Act (FIRREA), 1989</i>	<ul style="list-style-type: none"><li>• Gave the FDIC responsibility for insuring deposits of thrift institutions</li><li>• Expanded prohibitions against insider activities</li><li>• Created Truth in Savings provisions</li><li>• Allowed the FDIC flexibility to raise insurance premiums to banks and thrifts</li></ul>
<i>Federal Deposit Insurance Corporation Improvement Act (FDICIA), 1991</i>	<ul style="list-style-type: none"><li>• Established higher standards of safety for financial institutions</li><li>• Required the FDIC to declare insolvent any bank that fails to maintain equity capital to 2 percent of assets</li></ul>

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**International Banking**

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<i>Edge Act, 1919</i>	<ul style="list-style-type: none"><li>• Permitted banks to conduct international business across state lines</li><li>• Allowed access to international financial centers and money centers by out-of-state banks</li></ul>
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*(Continued)*

**APPENDIX (Continued)**

*International Banking Act, 1978*

- Brought foreign banks into the federal regulatory framework
- Required branches of foreign banks engaged in retail deposit taking in the United States to have deposit insurance

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**Toward Nationwide Banking**

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*Douglas Amendment (Bank Holding Company Act), 1956*

- Allowed banks to merge across state lines if approved by the individual states

*Garn-St. Germain Act (Depository Institutions Act), 1982*

- Allowed the FDIC to arrange cross-state bank mergers for troubled banks if a suitable in-state partner could not be found

*Riegle-Neal Interstate Banking and Branching Efficiency Act (IBBEA), 1994*

- Effective 1997, permitted banks to merge across state lines provided they were adequately capitalized and managed

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**Deregulation**

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*Depository Institutions Deregulation and Monetary Control Act (DIDMCA), 1980*

- Established Negotiable Orders of Withdrawal (NOW) accounts
- Abolished interest rate ceilings for all but corporate demand accounts
- Raised FDIC insurance to \$100,000
- Required all depository institutions to maintain reserves
- Allowed all depository institutions access to Fed services
- Priced Fed services at market rates
- Mandated a reduction in payment system float

*Gramm-Leach-Bliley Act (GLB), 1999*

- Repealed last vestiges of Glass-Steagall's restrictions on banking activities
- Allowed the creation of new financial holding companies to engage in underwriting, selling insurance and securities, commercial and merchant banking, developing real estate, and other "complementary" activities
- Introduced significant consumer protection provisions, preventing unauthorized disclosure of nonpublic information to unaffiliated third parties

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**Consumer Protection**

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*Electronic Funds Transfer Act (EFTA), 1978*

- Limited consumer liability for fraudulent transactions at automated teller machines (ATMs) and point-of-sale (POS) terminals
- Limited liability on fraudulent credit card transactions as long as cards are reported lost or stolen

*Expedited Funds Availability Act (EFAA), 1988*

- Defined procedures and time limits for the return of checks
- Established the maximum periods before deposited checks become available for withdrawal

*(Continued)*

**APPENDIX (Continued)**

*Debt Collection Improvement Act (DCIA), 1996*

- Required that most federal payments, except tax refunds, be made by electronic funds transfer

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**Addressing Contemporary Issues**

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*Electronic Signatures in Global and National Commerce Act, 2000*

- Made electronic or digital signatures in e-commerce transactions legal

*USA Patriot Act, 2001*

- Extended the provisions of the Bank Secrecy Act to all nonbank financial institutions
- Made all foreign banks with accounts in the United States subject to U.S. jurisdiction, including limitations on disclosure of customer information
- Prohibited U.S. banks from doing business with “shell” banks, that is, banks without a physical presence
- Prohibited U.S. credit cards from being issued or accepted by foreign banks without taking steps to ensure they are not being used for terrorist activities

*Sarbanes-Oxley Act (SOX), 2002*

- Required companies to:
  - Disclose the code of ethics applicable to senior management
  - Disclose whether the audit committee includes a financial expert
  - Have their audit committee hire and pre-approve all services provided by the external auditor
  - Issue earnings releases on Form 8-K
  - Include all material off-balance sheet arrangements in the management’s discussion and analysis section of the annual report

*Check Clearing for the 21st Century (Check 21), 2003*

- Facilitated check *truncation* (converting the information on a paper check to an electronic format or an image and avoiding the need to present the physical item for settlement)
- Required financial institutions to accept electronic images or *substitute checks* (paper reproductions that have the legal equivalence to the originals) also known as image replacement documents (IRDs)

*American Jobs Creation Act, 2004 (encompassing the Homeland Reinvestment Act)*

- Granted a one-year window to allow companies to repatriate profits from foreign subsidiaries at a reduced rate of 5.25 percent (rather than the usual 35 percent)
- Specified how this repatriated cash must be used



# 5

## *Types of Payment Instruments*

### Chapter Goals

This chapter covers the following topics and provides comparisons between the different payment types:

- Important terminology
  - Clearing
  - Settlement
  - Real-time gross settlement
  - Net settlement systems
  - Settlement risk
  - Hybrid settlement
  - Transaction types
- Payment practices in the United States
- Check payments
  - Characteristics of a check
  - The real cost of paying by check
  - The truth about disbursement float
  - Check terminology
  - The check clearing process
  - Advantages and disadvantages of using checks
  - Electronic checks and the role of imaging and truncation
- Electronic payments
  - The Fedwire process
  - The Clearing House Interbank Payment System (CHIPS)
  - The Automated Clearing House (ACH)
- Other payment types
  - Cash
  - Plastic

## Introduction

The United States has a culture of paying by check, and many cash management techniques are aimed at making that process more efficient. A combination of factors, however, is bringing about some fundamental changes in the way payments are made:

- A low-interest-rate environment, together with electronic clearing, has greatly reduced the benefits of disbursement float on checks.
- The high cost of fraud is adding to the cost of using checks.
- Improvements in Internet security and Automated Clearing House (ACH) services have further diminished the appeal of checks.
- Check 21 legislation allows checks to be cleared electronically, accelerating the collection cycle.

In this chapter we explain the various instruments used for making payments, together with the advantages and disadvantages of each. In subsequent chapters we discuss the management of inflows and outflows in greater detail, along with the changes occurring in the cash management industry.

## Important Terminology

To understand the nature and implications of different financial instruments, it is necessary to first define certain important terms.

### Clearing

Clearing is the process of recording transactions between members of a clearing channel. Very often, when a clearing house is involved, settlement occurs on a net basis. ACH is an example of a clearing house, where transactions are recorded between members of the National Automated Clearing House Association (NACHA) and then settlement occurs on a net basis between the members' accounts at the Federal Reserve Bank.

### Settlement

Settlement refers to the actual transfer of value from one clearing account to another account. By definition, settlement can occur only through a bank or between banks. The Federal Reserve Bank acts as the primary settlement agent for the payment systems in the United States, although banks can also settle bilaterally through mutual correspondent accounts. Clearing and settlement are two different processes that do not always occur at the same time or place. Settlement can be on a gross basis or on a net basis.

### Real-Time Gross Settlement

Payment systems settle either immediately on a gross basis or on a net basis after a period of time. The Fedwire system, operated by the Fed, is an example of a real-time gross settlement (RTGS) system. Transactions settle singly or bilaterally with a simultaneous debit and credit between the accounts at the Federal Reserve Bank, providing same-day finality of funds. RTGS systems tend to be used for high-value, urgent payments because they eliminate many of the timing and participant settlement risks associated with delayed, or net settlement.

### Net Settlement Systems

Net settlement systems (NSSs) are usually operated through a clearing house that accumulates numerous transactions between its members and then settles at the end of the cycle with a single net transaction to

each of the member accounts. These systems are efficient in terms of using member liquidity since members fund the settlement accounts on a net basis only, but because of the time delay they are considered to be riskier. Net settlement systems are, therefore, more suited to low-value payments, such as checks and ACH payments.

### Settlement Risk

The further final settlement is removed from origination, the greater the *settlement risk*—the risk that settlement will not occur. Most net settlement systems have in place a system of collateralization, bilateral debit caps<sup>1</sup> or a reserve pool, to protect the members (and the system) from settlement failure by any one member. Because of their lower cost and efficient use of liquidity, these systems are drawing increasingly larger-sized transactions and so the trend has evolved toward hybrid systems.

### Hybrid Settlement

To reduce the risk inherent in net or delayed-settlement systems, many clearing systems have shortened the cycle in order to effect final settlement closer to the time of origination. This has given rise to a number of *hybrid settlement* systems, such as the Clearing House Interbank Payment System (CHIPS). CHIPS now settles on a real-time net basis. The foreign exchange clearing and settlement system, Continuous Linked Settlement (CLS), also settles on a real-time, net basis.

### Transaction Types

There are two primary types of transaction:

**Credit transactions.** This type of transaction is an instruction by the payor to debit his account and credit a beneficiary account. This is the usual type of transfer where the payor initiates the transaction and pushes the money to the beneficiary account. Examples are initiating a wire transfer or writing a check.

**Debit transactions.** This is an instruction originated by a beneficiary to debit the payor's account and credit the beneficiary account. In the United States allowing a beneficiary to pull funds from a payor's account is less acceptable and has only relatively recently gained acceptance with consumers for paying routine utility bills, mortgage payments, and insurance premiums. Not all payment systems accommodate debit transactions, and most require the prior approval of the payor to accept such instructions. The ACH is a system that accepts debit transactions.

## Payment Practices in the United States

U.S. payment practices are changing. As can be seen in Exhibits 5.1 and 5.2, in terms of volume, checks are still the preferred method of payment by both consumers and business, although the latest Federal Reserve estimates show a decline of over 4 percent per year for the last three years. Companies are turning increasingly to electronic methods such as ACH, and consumers are using credit and debit cards more frequently. Debit cards, one of the more recent entrants into the payments arena, are one of the areas that is growing rapidly with both consumers and companies and already accounts for 19 percent of the volume. 2003 was a watershed year, when for the first time in history, the total volume of electronic payments (including debit and credit cards) exceeded that of checks. Obviously, as Exhibit 5.3 illustrates, the ranking is very different if looked at from the perspective of value, with Fedwire and CHIPS accounting for 93 percent of the value of all payments.

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<sup>1</sup>Bilateral debit caps are limits on the amount of exposure members of a settlement or clearing system may have with each other. Usually caps are calculated on a net basis.

**EXHIBIT 5.1**  
**Comparison of Payment Systems**

<i>Payment Type</i>	<i>Volume (millions)</i>	<i>Value (\$ billions)</i>	<i>Average Transaction Value (\$)</i>
Checks <sup>1</sup>	34,830	38,418	1,103
Credit Card <sup>1</sup>	19,390	1,849	95
Debit Card <sup>1</sup>	22,230	1,010	45
ACH <sup>2</sup>	13,957	31,000	2,221
Fedwire <sup>3</sup>	132.4	518,547	3,916,518
CHIPS <sup>4</sup>	71.5	349,871	4,894,000

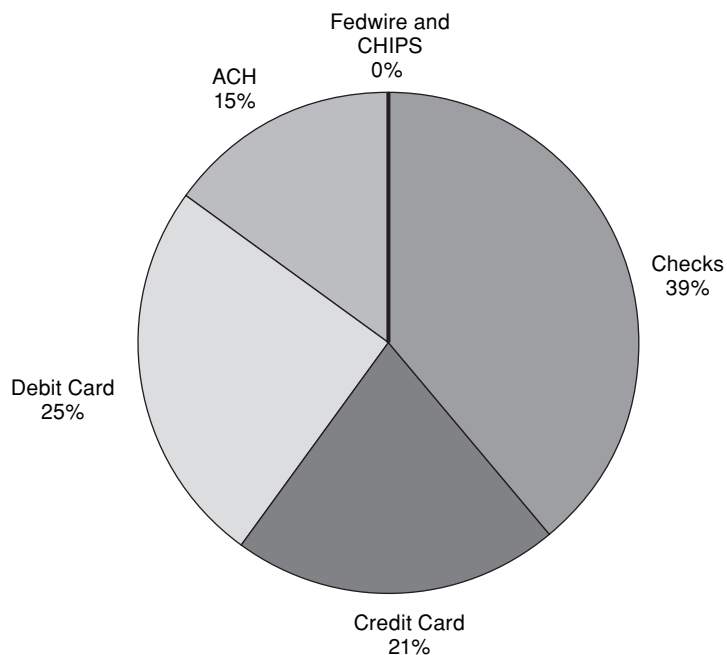
<sup>1</sup>Source: Bank for International Settlements—CPSS Red Book, December 2005.

<sup>2</sup>Source: NACHA 2005.

<sup>3</sup>Source: Federal Reserve 2005.

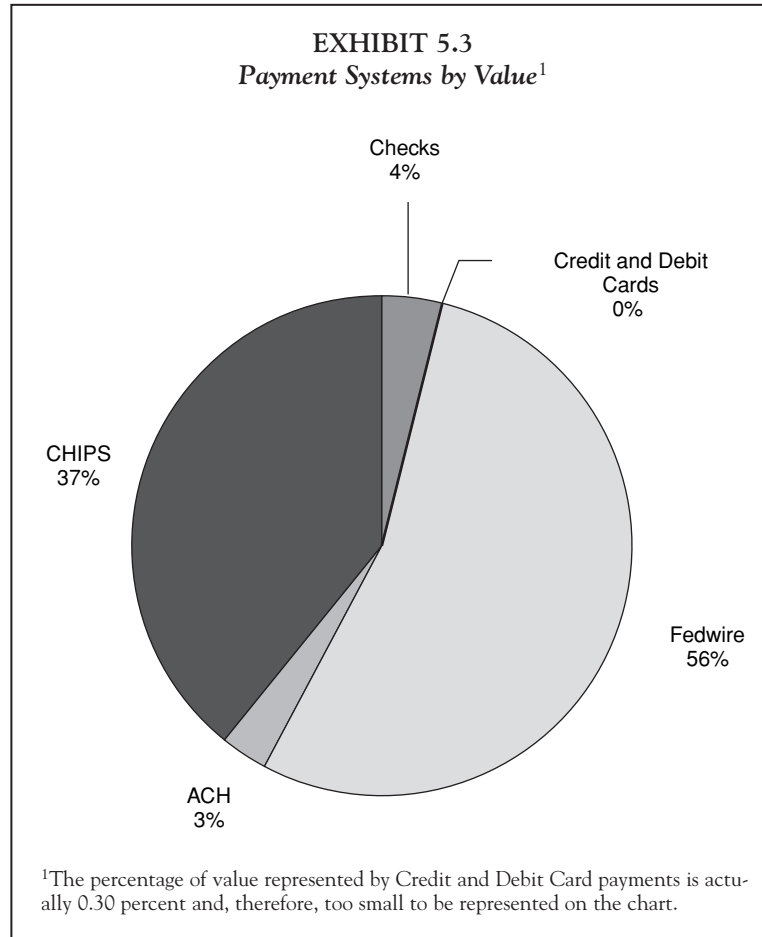
<sup>4</sup>Source: CHIPS 2005.

**EXHIBIT 5.2**  
**Payment Systems by Volume<sup>1</sup>**



<sup>1</sup>The percentage of volume represented by Fedwire and CHIPS payments is actually 0.22 percent and, therefore, too small to be represented on the chart.





## Check Payments

Although recent years have seen a substantial decline in their use, checks still account for almost 35 billion payments a year and remain a major payment type, especially for smaller-sized payments. The following section defines some check terminology.

### Check Terminology

**Payee.** The person or company to whom a check is made payable.

**Payor.** The originator of a check.

**Bank of (first) deposit.** Financial institution where a check is deposited by the payee, for credit to his account.

**Drawee bank.** The bank on which a check is drawn, that is, the payor's bank or the paying bank.

**Cash letter.** A bundle of checks, with a deposit slip attached, that is sent to a bank for clearing.

**Correspondent bank.** An arrangement whereby one bank provides payment services for another. Settlement is usually through reciprocal accounts. Correspondent banks also facilitate foreign exchange and international transfers.

**Endpoint.** Location of the paying bank where final settlement occurs.

**MICR line.** Magnetic ink character recognition line—the line at the bottom of a check that carries information about the check and allows it to be read by machine.

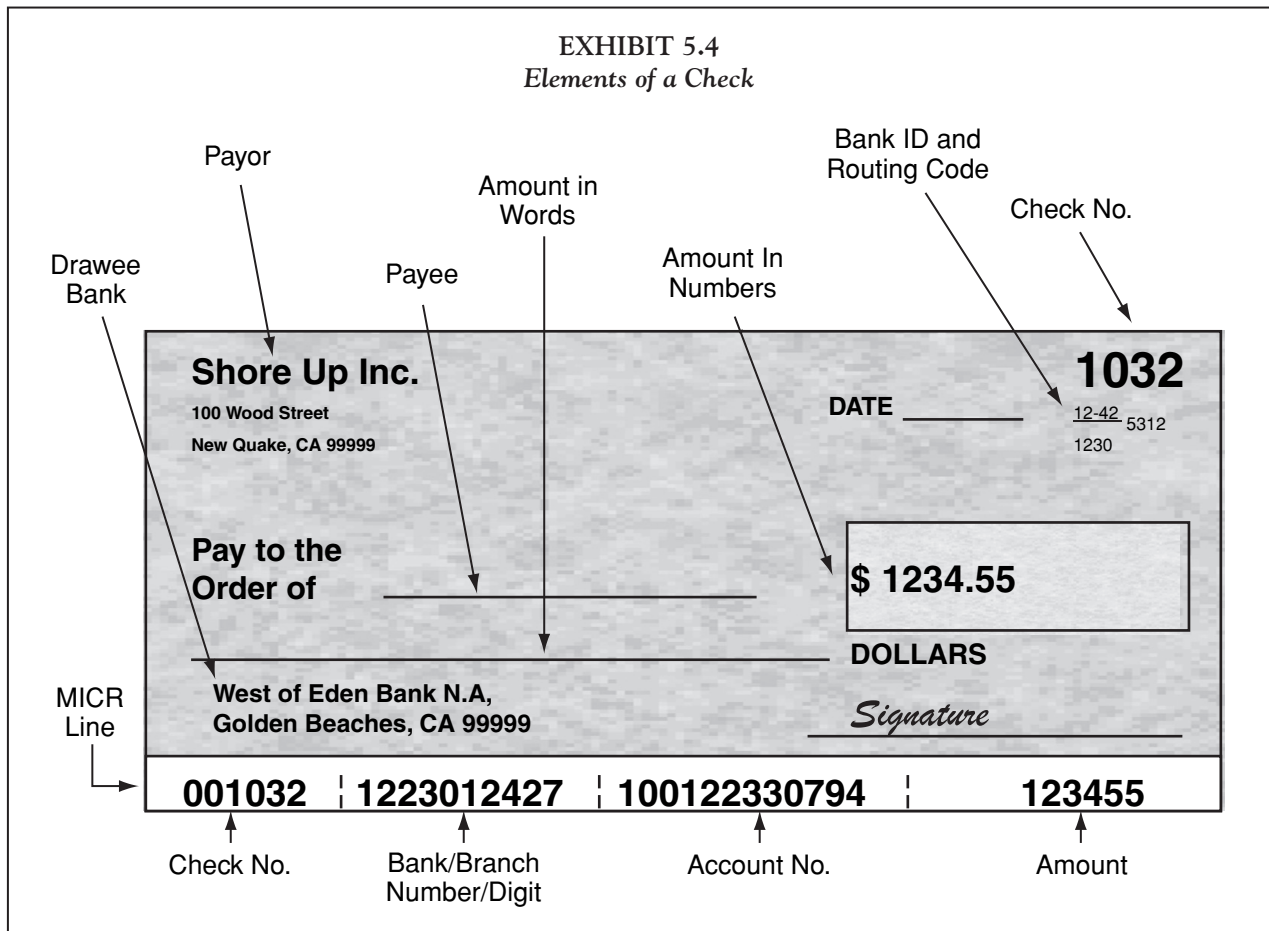
**Characteristics of a Check**

There are many elements on a check that are important to note (see Exhibit 5.4). Firstly, the amount has to be written both in numbers and in words. If there is a discrepancy between the numbers and the words, in the United States the numbers take precedence (this is not true in other parts of the world). This is in deference to the automation of the check clearing process. As a practical matter, most businesses now print numbers in both locations.

Secondly, the MICR line allows the check to be cleared in an automated fashion. Check readers pick up the information and can route the check back to the drawee bank for processing. The amount of the check is also encoded in the MICR line. This is most often done by the bank of first deposit, although many companies encode their own checks since this allows them to make deposits later in the day and often reduces the per-item cost of processing the check.

Why would the United States continue to use checks in spite of the fact that many of the more developed countries have long since adopted electronic means for all types of payment, consumer and commercial? Here are some of the reasons:

- The fragmented banking structure means that checks are a convenient way to make payments when the beneficiary’s bank account details are not immediately available.



- Until recently, there was a significant float advantage to the payor. A payment is considered to be timely by the payee if the date stamp on the envelope shows the due date, allowing the disburser to pay on time and continue to benefit from processing and clearing float.
- The illusion that checks are a cheap method of disbursement.
- Those without bank accounts (estimated at 10 million workers in the United States) can negotiate and cash checks at stores and check cashing facilities.
- Checks are an accepted method of payment for almost any transaction.
- Moving to electronic payments requires the maintenance of dual payment systems for those vendors who cannot accept electronic payments.
- The banking industry subsidizes the cost of processing checks in its fee structure.

***Treasury Tip: Who Will Not Accept a Check?***

Although checks are a generally acceptable form of payment throughout the corporate world in the United States, there are some entities that refuse payment by check. These include the federal and many state governments. Since the 1980s, tax payments from all but the smallest companies are mandated to be paid electronically. Government benefits to their employees are also paid electronically within the United States. Also, some of the world's largest companies, including those with the greatest leverage, require all vendors and suppliers to make and accept electronic payments. General Motors was one of the first multinationals to embrace the then-nascent ACH system in the 1980s, recognizing the cost benefit that electronic payments could provide. Since then many of the world's major corporations have followed suit.

### **The Real Cost of Paying by Check**

When cash managers say that checks are a relatively cheap method of payment, many of them are referring purely to the per item bank fee for processing them. In reality, to get to the true cost of disbursing by check, a company should include the following items:

- Cost of printing checks, either through a third-party vendor or through check printing equipment
- Storing and securing unused check stock
- Printing the checks
- Signing the checks
- Mailing the payments
- Bank fees:
  - Per-item charges
  - Reporting costs
  - Stop-payment fees
  - Fraud prevention, such as *positive pay* (a bank service that matches up a company's file of issued items against checks that are being presented—see Chapter 10 for more information)
  - Controlled disbursement fees
  - Check copies
- Costs of actual fraud
- Administrative costs in ordering and issuing checks as well as reconciling bank accounts

When all costs are considered, it is very unlikely that checks are a cheaper mode of payment compared with alternatives such as ACH.

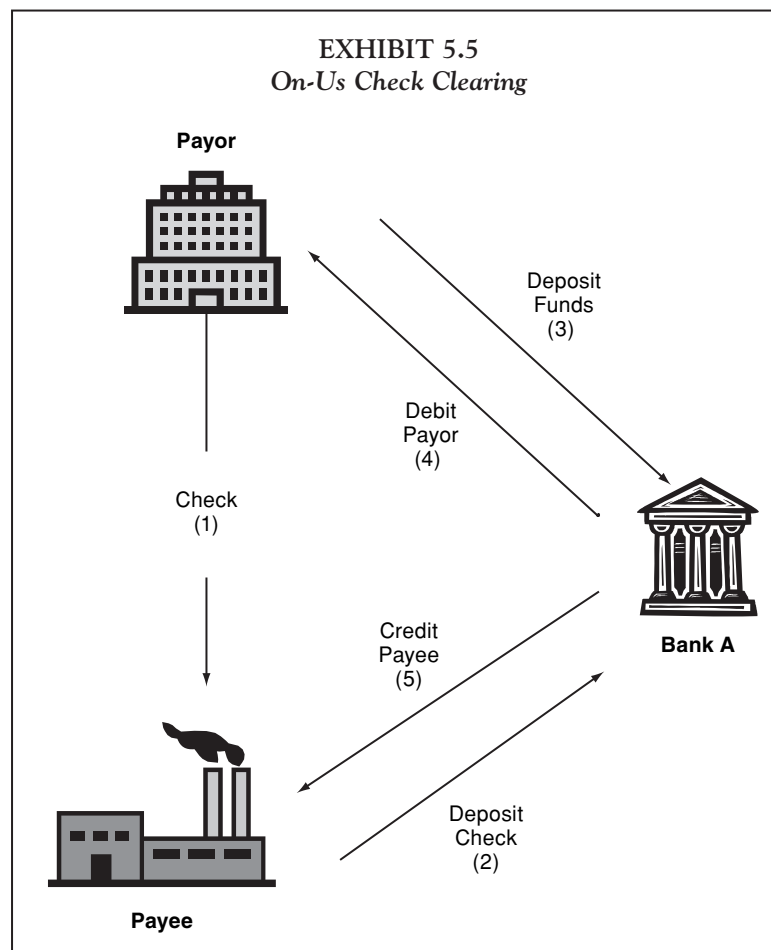
### The Truth About Disbursement Float

Gaining float from check disbursements became popular at a time when interest rates were high, check clearing was inefficient, and sophisticated check collection vehicles had not yet been developed. In today's environment, and especially since the enactment of Check 21, it is unlikely that a company can gain sufficient value from float to cover the bank charges associated with check disbursements. Because of the very high risk of fraud, many banks will not even offer disbursement services without bundling the product with positive pay. Judging by the increased use of electronic payments in recent years, it is evident that many cash managers have already come to this conclusion.

### The Check Clearing Process

Although most countries have developed a single, nationwide check clearing process, in the United States there are many ways for a check to clear. Starting with the simplest, we address each option.

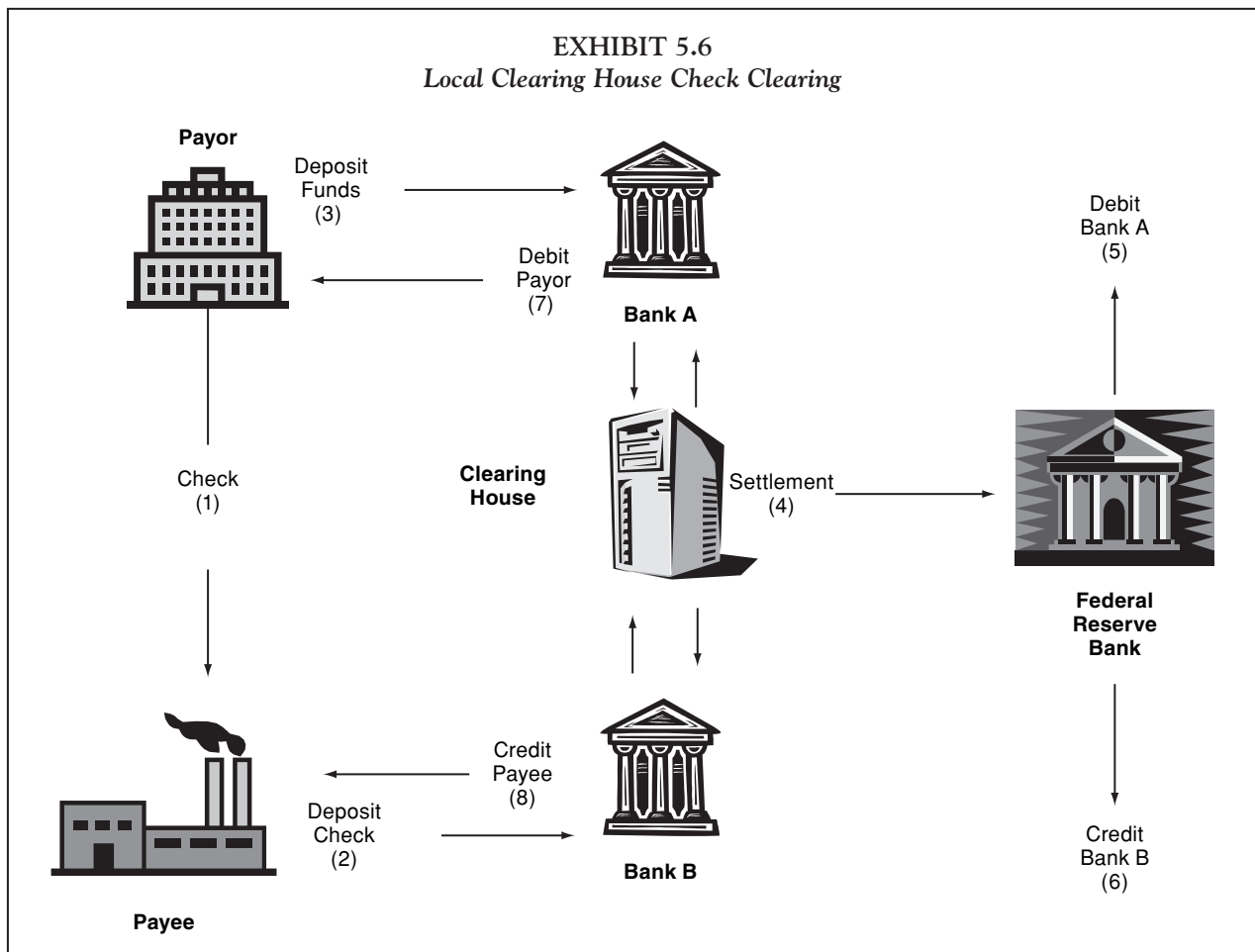
**On-Us Check Clearing.** On-us clearing (see Exhibit 5.5) occurs when the payor and payee bank are the same institution (the bank of deposit is also the drawee bank). On-us items normally clear the same day if deposit deadlines are met. The process is as follows:



1. The payor sends a check to the payee (beneficiary).
2. The payee deposits the check at his or her bank, which also happens to be the drawee bank, that is, the payor's bank.
3. The payor deposits funds into his or her account at Bank A to cover the check.
4. The bank debits the payor's account.
5. The bank credits the payee's account.

**Clearing House Check Clearing.** In major cities, such as New York, clearing houses facilitate the exchange of checks between member banks (see Exhibit 5.6). Settlement is on a net basis at the end of the day between the members' accounts at the Federal Reserve Bank. The process is as follows:

1. The payor sends a check to the payee (beneficiary), drawn on Bank A.
2. The payee deposits the check at his or her bank, Bank B.
3. The payor deposits funds into his or her account at Bank A to cover the check.
4. Bank B puts the check into the clearing house for settlement at the Federal Reserve Bank.
5. The Federal Reserve Bank debits the drawee bank, Bank A.
6. The Federal Reserve Bank credits the depositing bank, Bank B.



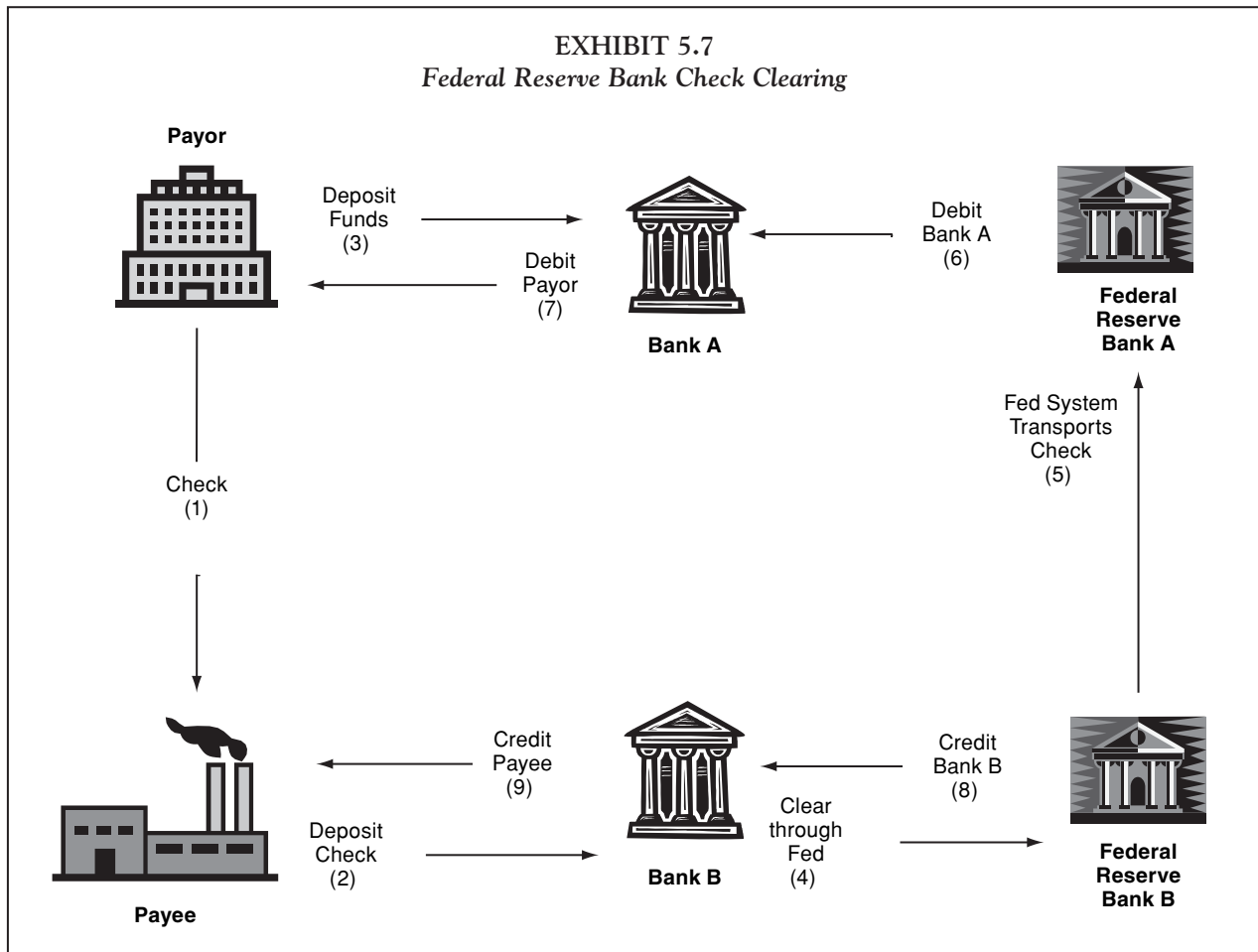
7. Bank A debits the payor's account.
8. Bank B credits the beneficiary's account.

**Federal Reserve Bank Check Clearing.** About 50 percent of checks clear through the Federal Reserve System for one of a number of reasons:

- The drawee bank and bank of deposit are not members of the same clearing house.
- There is no clearing house in a particular city.
- The banks are geographically distant.

As Exhibit 5.7 indicates, the checks are deposited with the local Federal Reserve Bank branch or regional check processing center (RCPC) and cleared physically or electronically through the Fed branch at the endpoint location. The process has the following steps:

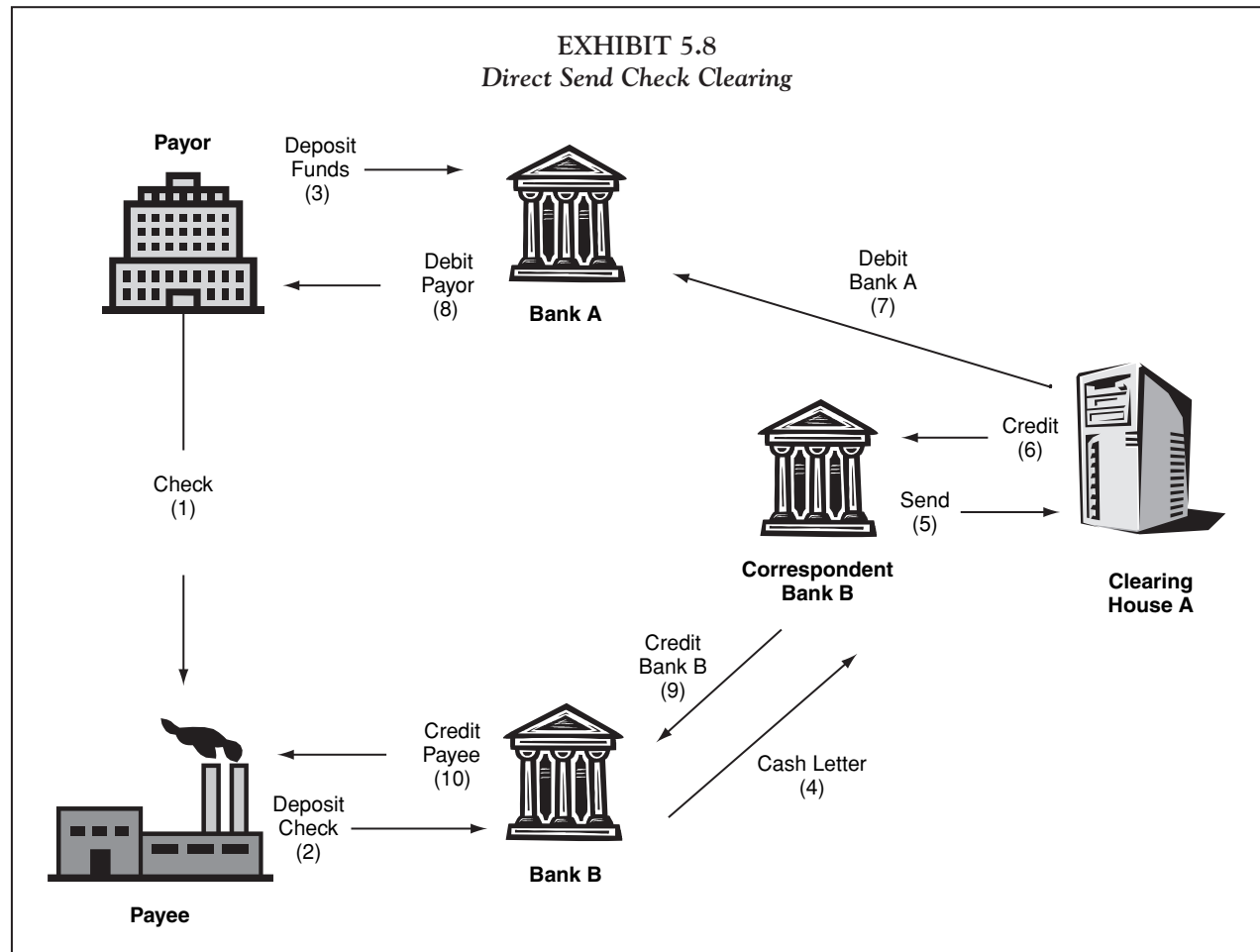
1. The payor sends a check to the payee (beneficiary), drawn on Bank A.
2. The payee deposits the check at his or her bank, Bank B.
3. The payor deposits funds into his or her account at Bank A to cover the check.
4. Bank B sends the check to the local Federal Reserve Bank for clearing and settlement.



5. Federal Reserve Bank B transports the check to the Federal Reserve Bank in the drawee bank location.
6. Federal Reserve Bank A debits the drawee bank, Bank A.
7. Bank A debits the payor's account.
8. Federal Reserve Bank B credits Bank B's account.
9. Bank B credits the beneficiary's account.

When Bank A and Bank B are in the same Federal Reserve district, only one Federal Reserve branch is used. The debit to Bank A and the credit to Bank B occur across the settlement accounts these banks maintain with the Federal Reserve. When the drawee bank and the bank of deposit are in different Federal Reserve districts, the Fed undertakes transportation to the endpoint district for final settlement. Because the Fed charges market rates for its services, banks will often use a cheaper alternative method (described later) for clearing, if they have the option.

**Direct Clearing.** There are also a number of ways to clear checks directly through a correspondent bank, as shown in Exhibit 5.8. If a check is drawn on a bank where the bank of deposit has a correspondent account, one option is to send the check directly to the drawee bank for credit to the bank of deposit's account. Alternatively, if the bank of deposit has a number of items drawn on a particular city where there



is a clearing house, the bank can also send a cash letter to its correspondent bank in that city to clear through the local clearing house. These methods can be cheaper and faster than clearing through the Fed system. The process has the following steps:

1. The payor sends a check to the payee (beneficiary), drawn on bank A.
2. The payee deposits the check at his or her bank, Bank B.
3. The payor deposits funds into his or her account at Bank A to cover the check.
4. Bank B prepares a cash letter, sending the check to its correspondent bank in the location of the drawee bank.
5. Correspondent bank B places the check into the local clearing house.
6. Clearing House A arranges for settlement and credits Correspondent bank B.
7. Clearing House A debits drawee bank, bank A.
8. Bank A debits the payor's account.
9. Correspondent bank B credits bank B's accounts on its books.
10. Bank B credits the beneficiary's account.

### **Advantages and Disadvantages of Using Checks**

The following is a list of the advantages and disadvantages of paying by check. We describe other types of paper payment instruments in Chapter 9 on cash outflows.

#### ***Advantages***

- Pay anyone, anywhere; no need to know depositing bank account details.
- Low per-item bank charges.
- Some disbursement float accrues to the payor, although this is eroding in many cases when checks are cleared electronically, or payees use lockboxes to speed up collections.
- Information can accompany the payment.
- No need for expensive systems.
- Easy to use, good for last-minute disbursements.

#### ***Disadvantages***

- Not acceptable in some industries and most countries internationally.
- High all-in cost.
- Bank collection products and Check 21 have greatly reduced disbursement float.
- Information cannot always be processed electronically with a check.
- High risk of fraud and cost of fraud prevention.
- Finality is an issue as checks can be returned for insufficient funds, a closed account, stop payment, and so forth.

### **Electronic Checks and the Role of Imaging and Truncation**

Imaging, which is the process of capturing an image of a check and storing it electronically in digital form, has been available since the late 1970s. The technology was originally used by lockbox processors who performed the data entry function from an image of the item, while the original was sent through the clearing



process. In the early days, however, the image quality was sometimes poor and the Department of Justice (DoJ) required the original item to be presented as proof of payment.

In the 1980s the technology of image capture improved enormously and the quality of digitized images became far superior to photocopies. The digitized images could be stored on computer disks and made available on demand. As the DoJ revised its position and began to accept images instead of physical checks, banks were able to exit the check storage business altogether and retain only the check images. This also paved the way for truncation, the process of replacing a physical check with a digitized image. Initially banks used truncation to clear items faster, although the physical items had to follow later. Since Check 21 was enacted, however, the physical item no longer has to be presented at the endpoint location and banks can now clear an image or a substitute check that has been created from the image. This has the potential to speed up the collection process and reduce clearing and availability float, which will have a significant impact on the cash management process once more banks take advantage of the electronic clearing potential.

Even before the passing of Check 21 there existed a number of applications in which a check was converted into an electronic vehicle. For years retailers have been using point-of-sale check conversion, in which a check is converted into an ACH debit at the checkout counter, and the original check is returned to the customer for destruction. Lockboxes have also been employing similar technology to convert consumer checks to electronic images for faster collection. Check 21 legitimized and extended the use of images to include the electronic clearing of commercial payments as well.

## Electronic Payments

### The Fedwire Process

The Federal Reserve Bank operates a real-time *gross* settlement wire transfer system; that is, transactions settle individually. Although handling only a small percentage of all payments, it is principally used for high-value and urgent transactions, approximately 56 percent of the value of U.S. dollar payments. Over 9,500 financial institutions access the Fedwire computer, which processes over 500,000 payments with a total value of over \$2 trillion a day. Payments that are effected through the Fedwire system are immediate, irrevocable, and final once processed by the system. To ensure an operating window that overlaps with overseas systems such as Continuous Linked Settlement (CLS), the Fed opens for business at 9 PM ET the previous evening and closes at 6.30 PM ET on the next day. The Fedwire process is illustrated in Exhibit 5.9.

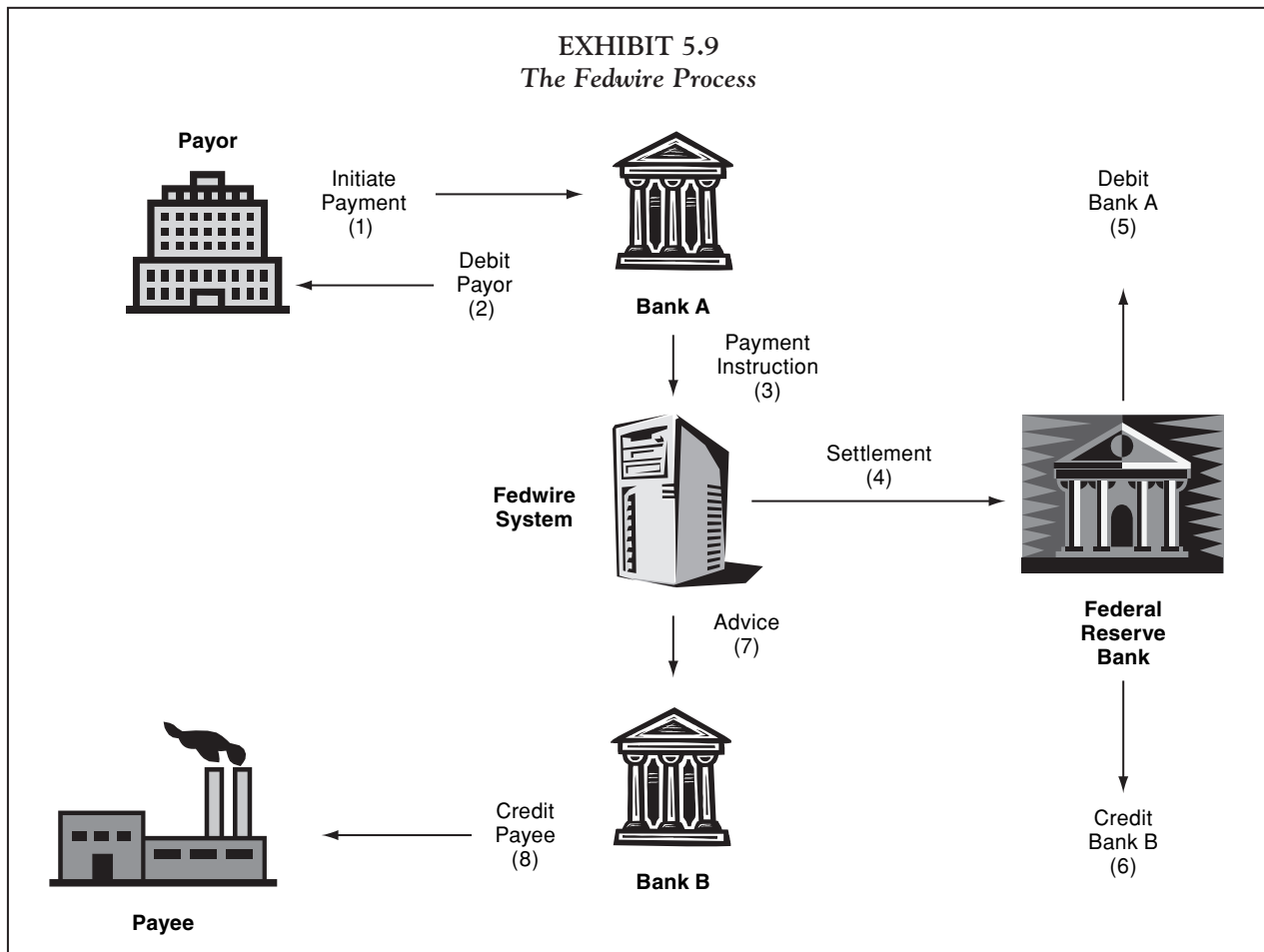
The steps involved in the process are as follows:

1. The payor sends a wire transfer instruction to Bank A to credit the beneficiary's account at Bank B.
2. Bank A debits the payor's account immediately.
3. Bank A releases the payment instruction into the Fedwire system.
4. The Fedwire system sends the instruction for settlement at the Federal Reserve Bank.
5. The Federal Reserve Bank debits the paying bank, Bank A.
6. The Federal Reserve Bank credits the receiving bank, Bank B.
7. Bank B is informed of the credit to its account.
8. Bank B credits the beneficiary's account.

As with all payment options, the Fedwire has advantages and disadvantages, which are as follows:

#### *Advantages*

- Funds can be sent same day.
- Funds are irrevocable and final once processed by the system.



- The Federal Reserve guarantees payments in case of a failure of the originating bank.
- The Fedwire system is the most secure payment method.
- Extended operating hours.

#### *Disadvantages*

- More expensive than checks or ACH.
- Credit transfers only.
- Limited information accompanies payment.
- Not all banks are members of the Fedwire system.
- Federal Reserve sender net debit caps can slow down a payment if the originating bank has reached its cap at the Fed.

#### **The Clearing House Interbank Payment System**

The high-value electronic clearing house in New York City is called the Clearing House Interbank Payment System (CHIPS). Like the Fedwire, volumes are small but the dollar values passing through the system are high. Unlike the Fedwire, however, CHIPS is not a money transfer system but a multilateral netting system that settles through the members' accounts at the New York Federal Reserve Bank. CHIPS handles approx-

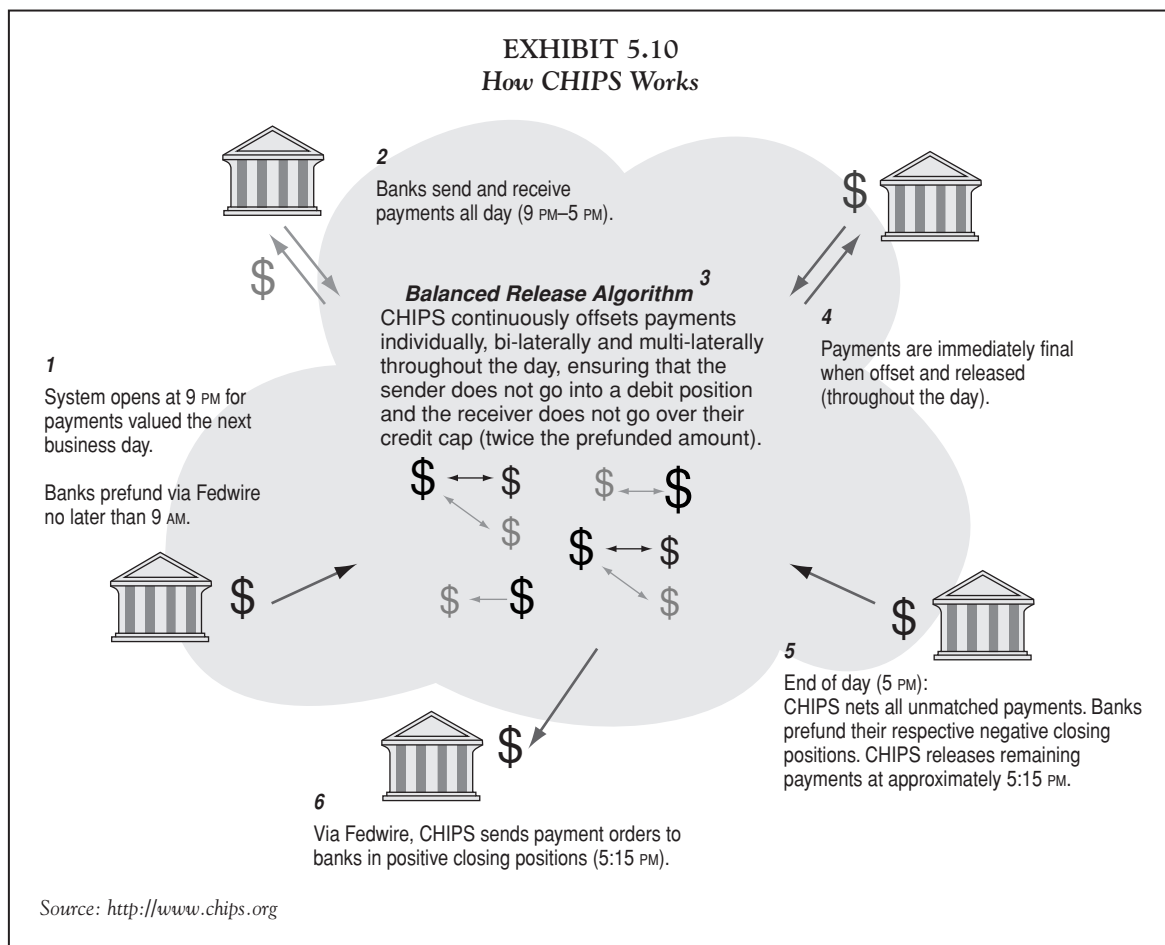
imately 37 percent of the value of all payments. On an average day, CHIPS processes almost 300,000 payments, with a value of \$1.4 trillion. CHIPS is a real-time *net* settlement system that can carry extensive remittance information for commercial payments. CHIPS processes over 95 percent of all U.S. dollar cross-border payments and is linked to the Society for Worldwide Interbank Financial Telecommunications (SWIFT) for very high straight-through processing rates. CHIPS starts processing from 9 PM ET the previous day and closes at 5 PM ET on the next day. Exhibit 5.10 shows the workings of CHIPS. The following is a list of its advantages and disadvantages:

#### Advantages

- Real-time, same-day value
- Settles on a multilateral net basis, so is more efficient from a bank's liquidity perspective
- Carries up to 9,000 additional characters of information with the payment message

#### Disadvantages

- More expensive than checks or ACH
- Credit transfers only
- More limited membership (45 direct members in 2006) than Fedwire

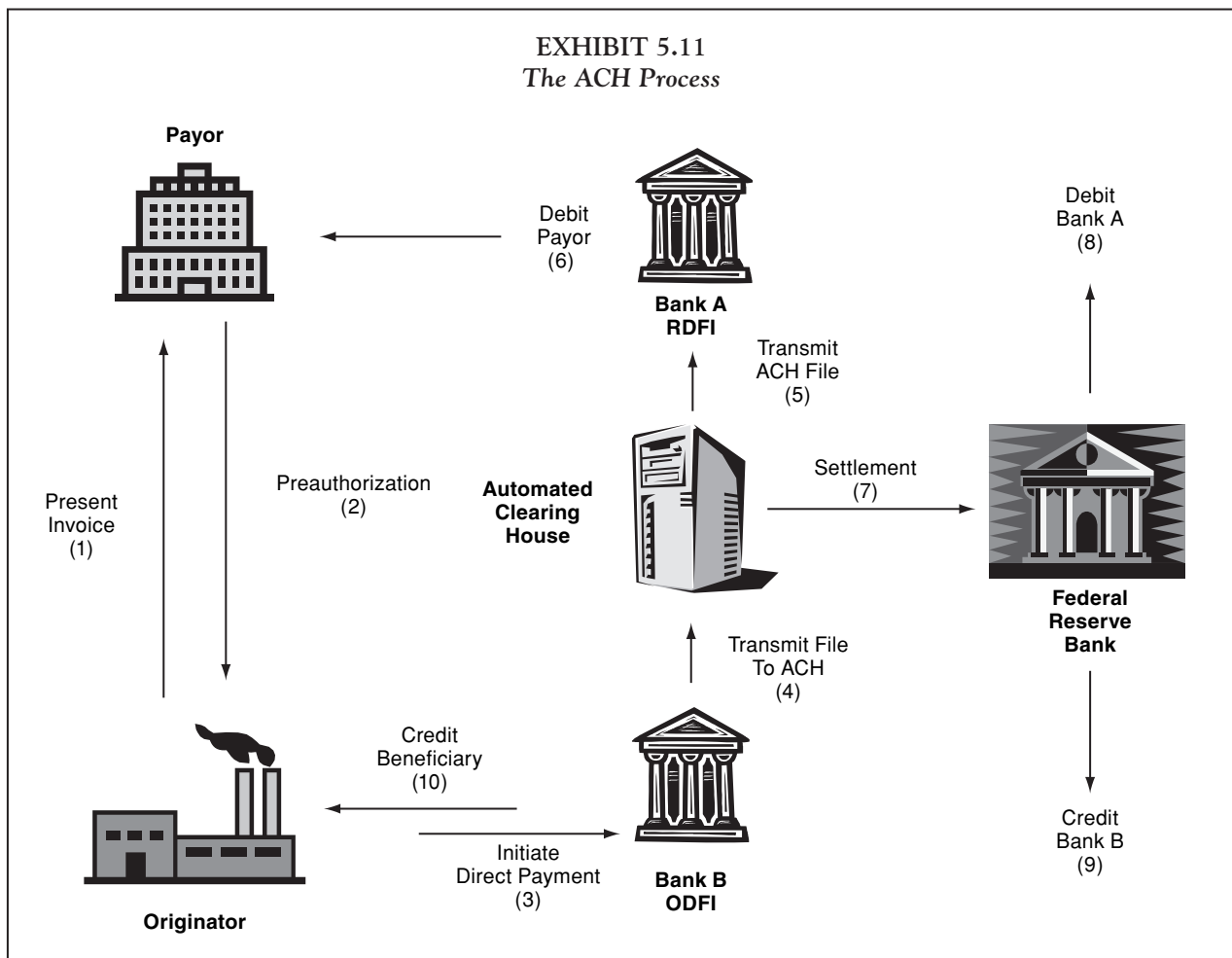


### The Automated Clearing House

The Automated Clearing House (ACH) was formed in 1974 to provide the United States with a low-value electronic payment system. Today, ACH is the highest-volume electronic *commercial* payment method, but accounts for only 3 percent of the value of all payments. It is also the fastest growing sector for commercial payments. The National Automated Clearing House Association (NACHA) links the many inter-regional ACHs to provide a nationwide electronic payment and collection system. Although it was designed to handle low-value transactions cheaply and efficiently, the system is capable of accepting transactions up to \$99,999,999.99. Because origination occurs one or two days prior to settlement, and because the originating bank is committed to complete the transaction once released into the system, some payor banks require a credit line or prefunding at the time of origination for higher-value transactions.

The ACH is ideal for handling high-volume, repetitive batch transfers, such as payrolls, and can process debit as well as credit transactions. Credit transfers usually settle two business days after origination and are final at 8:20 AM ET on settlement day. Debit transactions usually settle one business day after origination, but unauthorized consumer debits can be returned up to 60 days later. Most payments from the federal government are now effected via ACH and many state and federal tax payments are required to be made this way.

Exhibit 5.11 illustrates the process for a direct debit transaction through the ACH. The steps are as follows:



1. The originator presents an invoice to the payor.
2. The payor preauthorizes the payment through a direct debit.
3. The originator creates a tape of ACH instructions and transmits it to his bank, Bank B, the originating depository financial institution (ODFI).
4. Bank B transmits the file to the ACH.
5. The ACH transmits the request for payment to Bank A, the receiving depository financial institution (RDFI).
6. Bank A debits the payor.
7. The ACH sends the instruction for settlement to the Federal Reserve Bank.
8. The Federal Reserve Bank debits the RDFI, Bank A.
9. The Federal Reserve Bank credits the ODFI, Bank B.
10. Bank B credits the beneficiary's account.

Exhibit 5.12 outlines the major ACH formats used by cash managers. Many of them are purpose specific, such as the CCD message, which is used purely for cash concentration. The newest message formats, such as accounts receivable (ARC), designed to enable and facilitate electronic clearing and e-commerce, have been growing the most rapidly.

<b>EXHIBIT 5.12</b> <b>Major ACH Formats</b>			
<i>Format</i>	<i>Description</i>	<i>2005 Volume,<sup>1</sup></i> <i>millions</i>	<i>Percentage</i> <i>change from</i> <i>2003</i>
ARC	Accounts receivable—converts lockbox receipts into e-checks (electronic checks) processed through ACH	1,613	71.28%
CCD <i>Credits</i>	Cash concentration and disbursements—used for credit transactions to move funds between company accounts	1,045	13.22%
CCD <i>Debits</i>	Cash concentration and disbursement—used for debit transactions to move funds between company accounts	464	10.79%
CCD +	Cash concentration and disbursement with additional 80 characters of freeform information	161	21.85%
CIE	Customer initiated preauthorized payments for telephone bill paying services	122	40.30%
CTX and CTX <i>Addenda</i>	Corporate trade exchange—a FED1 payment with significant additional information accompanying remittances	588	20.02%

*(Continued)*

<b>EXHIBIT 5.12 (Continued)</b>			
<i>Format</i>	<i>Description</i>	<i>2005 Volume,<sup>1</sup> millions</i>	<i>Percentage change from 2003</i>
POP	Point of purchase—initiates an ACH transfer of funds from a consumer account at the point of purchase	168	3.52%
PPD Credits	Prearranged deposit—used for low value payments to consumers such as payroll	3,556	5.93%
PPD Debits	Prearranged payment—used for low value consumer payments such as mortgages	2,332	6.65%
RCK	Re-presented check—returned checks under \$2500 can be re-presented through ACH	21	-11.39%
TEL	Telephone-initiated transactions that are not preauthorized	239	27.40%
WEB	Internet-initiated transactions	1,006	40.69%

<sup>1</sup>Volume for major SEC codes. Does not include on-us volume.  
Source: NACHA

ACH has many advantages over both checks and Fedwire. If the United States follows other developed countries, ACH will be the medium that eventually replaces checks completely. The advantages and disadvantages of using ACH for payments are as follows:

#### **Advantages**

- Cheaper than using Fedwire and less expensive than the fully loaded cost of issuing checks.
- Payment timing is done by value date so value can be precise.
- Large amounts of remittance information can accompany the payment.
- Allows the collection and disbursement processes to be automated, promoting straight-through processing (STP).
- No bank float, as debit to payor and credit to beneficiary occur on the same day.
- Improved forecasting due to predictable flows.
- Flexible system that handles batch transfers and debit and credit transactions.
- Electronic environment is more secure than paper.

#### **Disadvantages**

- More expensive to set up initially and requires ongoing maintenance.
- More difficult to accommodate last-minute changes since one or two days notice must be given.
- Some banks are not able to handle the accompanying information and need to use a value-added network (VAN) or manually rekey information.
- Not all vendors and suppliers are able to handle ACH transactions.
- Credit implications may require a credit line or prefunding.

- Finality for consumer debit transactions may be delayed up to 60 days.
- Payor loses advantage of disbursement float.
- Less secure than Fedwire and therefore riskier to use for high-value transfers.

## Other Payment Types

### Cash

Cash is a predominant payment form in certain industries, such as the retail industry, fast food, and petroleum, for low-value consumer payments. Accepting cash carries certain risks in terms of safekeeping and transportation. Companies that receive cash should maintain vaults and will almost certainly require a local banking structure. Since the 1970s, cash businesses have been under scrutiny in an attempt to track down illegal money laundering activities. Banks have had to adhere to stringent know-your-customer policies and procedures and report any cash transactions in excess of \$10,000. The events of September 11, 2001, have put even more pressure on financial institutions to be vigilant and to file a Suspicious Activity Report (SAR) for any transactions considered to be outside the realm of ordinary business.

### Plastic: Charge, Credit, Debit, and P-Cards

Primarily used for low-dollar-value transactions, plastic cards are a highly efficient, electronic form of payment and are the overall fastest-growing payment mechanism, mainly due to their heavy use in the consumer market. In the corporate market the procurement card is the largest, fastest-growing vehicle.

There are many forms of plastic cards. The major types are summarized below:

- |                     |   |
|---------------------|---|
| <b>Charge cards</b> | <ul style="list-style-type: none"> <li>• Mainly used for consumer transactions, although corporate charge cards were popular in the 1980s.</li> <li>• Generally charge the user an annual fee.</li> <li>• Usually no preset spending limit.</li> <li>• The entire balance is due each month.</li> </ul>   |
| <b>Credit cards</b> | <ul style="list-style-type: none"> <li>• Mainly used for consumer transactions.</li> <li>• Preset spending limit.</li> <li>• Minimum payment due each month.</li> <li>• No annual fee for basic card.</li> <li>• Expensive interest rates on unpaid balances.</li> </ul>  |
| <b>P-cards</b>      | <ul style="list-style-type: none"> <li>• Also referred to as <i>procurement cards</i>, <i>purchasing cards</i>, or <i>payment cards</i>.</li> <li>• Credit card used by businesses for authorized purchases.</li> <li>• Cards can be limited to certain vendors.</li> <li>• Limits can be placed on individual employee cards.</li> <li>• By centralizing and automating the accounts payable function, P-cards can realize significant savings for companies.</li> <li>• The greatest concern with P-cards is fraudulent or improper use; therefore, they require active monitoring for adherence to policies and procedures.</li> </ul> |
| <b>Debit cards</b>  | <ul style="list-style-type: none"> <li>• Most rapidly growing sector of payment vehicles.</li> <li>• Settle by direct debit from the payor's bank account.</li> </ul>   |

- Most debit cards require a personal identification number (PIN) when entering a transaction.
- Transactions clear and settle on the same day.

**Smart cards**

- Cards contain an embedded microchip processor.
- Require a special reader.
- Capable of performing multiple functions, such as storing information, storing value, providing access to specified locations, and acting as an identity card.
- Can be used by anyone in possession of the card.
- Security features can include PIN, private keys (a system for creating authentication codes), and digital signatures.

**Stored value cards**

- A simple version of the smart card that carries only a stored value.
- Often limited to a single purpose, such as phone cards and metro cards.
- The more sophisticated cards can be used for multiple purposes and at different outlets; thus they are sometimes also called *electronic wallets*.

## Selection and Comparison of Payment Types

The preference for checks notwithstanding, certain payment types are more appropriate for some industries than others. This in turn dictates the types of collection and disbursement systems a company will use. Exhibit 5.13 illustrates the payment mechanisms principally used for various industries.

<b>EXHIBIT 5.13</b> <b>Payment Type by Industry</b>	
<i>Cash</i>	Consumer-to-retail
<i>Check</i>	Consumer-to-retail Consumer-to-corporate Corporate-to-corporate
<i>Plastic</i>	Consumer-to-retail Consumer-to-corporate Corporate-to-corporate (P-card)
<i>ACH</i>	Consumer-to-retail (POP, ARC) Consumer-to-corporate (ACH debits) Corporate-to-corporate Corporate-to-government Government-to-corporate Corporate-to-employees
<i>EDI</i>	Multinational corporations, mega-industries such as petroleum, chemical, healthcare services, and automotive
<i>Wires</i>	Corporate-to-corporate



<b>EXHIBIT 5.14</b> <b>Comparison of Major Payment Types</b>				
	<i>Credit and Debit Cards</i>	<i>Checks</i>	<i>ACH</i>	<i>Wires (Fedwire and CHIPS)</i>
<i>Average \$ payment</i>	68	1103	2221	4,259,039
<i>Per item cost<sup>1</sup></i>	Varies—usually a percentage of value	\$0.19	\$0.12	\$ 8.50–29.09
<i>Finality</i>	On transaction date if prior authorization obtained	0–4 days	2 days on debits (60 days on con- sumer debits); value date for credits	Same-day value
<i>Speed of payment</i>	0–2 days	0–4 days exclud- ing mail, pro- cessing float	1–2 days	Immediate
<i>Security</i>	Medium	Low	Medium to high	High
<i>Other features</i>	Widely accepted internationally	Unlimited amounts of information	Batch transfers, large amounts of remittance information; handles debit and credit transactions	Fedwire guaran- teed by Federal Reserve Bank; CHIPS is a multi- lateral netting system

<sup>1</sup>Source: Phoenix-Hecht 2005–2006 Blue Book of Bank Prices.

Exhibit 5.14 summarizes the characteristics of the major payment types used in the United States.

## Practical Applications

Determine the payment types used by your company and their relative proportion by volume and value. Are they still appropriate for the industry and types of services? If not, what changes would you recommend?

## Summary of Key Points

- Although checks continue to be the main method of payment used in the United States, over the last few years the volumes have been dropping at the rate of 4 percent a year.
- This can be attributed to the decreasing value of any disbursement float, the acceleration of the collection process, and the increased cost of fraud and fraud prevention.

- Very few companies recognize the true cost of using checks.
- There are very many ways in which a check can be collected.
- The Fedwire system is expensive to use, but it is fast, secure, and final.
- The ACH system can be very inexpensive to use once the investment has been made in the systems. It is not as universally acceptable, however, as a check.
- A great advantage of the both ACH and the CHIPS systems is that they can accommodate large amounts of information accompanying a payment.
- Although the ACH has been gaining ground, the fastest-growing segment is debit cards.
- In the corporate world, the P-card has been the most interesting development in the card area, bringing great efficiencies to the accounts payable process.

# 6

## *Optimizing Cash Inflows— Part 1: Accounts Receivable*

### **Chapter Goals**

This chapter covers the following topics along with worked examples of evaluating discount terms and accounts receivable metrics:

- Cash inflow float
- Establishing a credit policy
  - The five C's of credit evaluation
  - Sources of credit information
  - The credit scoring model
- Terms of sale
  - Discount terms
- Invoicing
- The accounts receivable process
  - How to improve the accounts receivable process

### **Introduction**

Managing the working capital gap begins with accelerating and optimizing cash inflows. The first step is to ensure that both the credit evaluation and accounts receivable processes are managed efficiently. Applying inappropriate credit terms can result in either lost sales or sales that turn into bad debts, both of which adversely affect cash flow. The longer an account receivable remains outstanding, the higher the chance that it will turn into a bad debt. In this chapter, we look at optimizing cash flows prior to payments being initiated, as well as strategies that can be applied to both the credit and the accounts receivable processes to encourage and ultimately ensure more timely payment.

### **Cash Inflow Float**

Recall that float is loosely defined as any delay that postpones the cash inflow, and it begins long before the payment process is initiated. It starts with the credit-issuing company's credit evaluation process of

customers. A poor credit decision may result in collection delays and possibly nonpayment. This may influence the payment terms, affecting financing for both the buyer and the seller. Holdups in processing invoices will delay payment, as will an inefficient accounts receivable process. There are many ways in which the process, prior to the payment being effected, can be made more efficient.

Exhibit 6.1 illustrates where float can occur in the entire trade cycle, starting with the placing of the order to the point where funds are available in the payee's account.

## Establishing a Credit Policy

The first step for a company is to establish a credit policy that will allow it to evaluate and select customers, to minimize the risk of nonpayment to the firm but at the same time maximizing the opportunity for sales and profit.

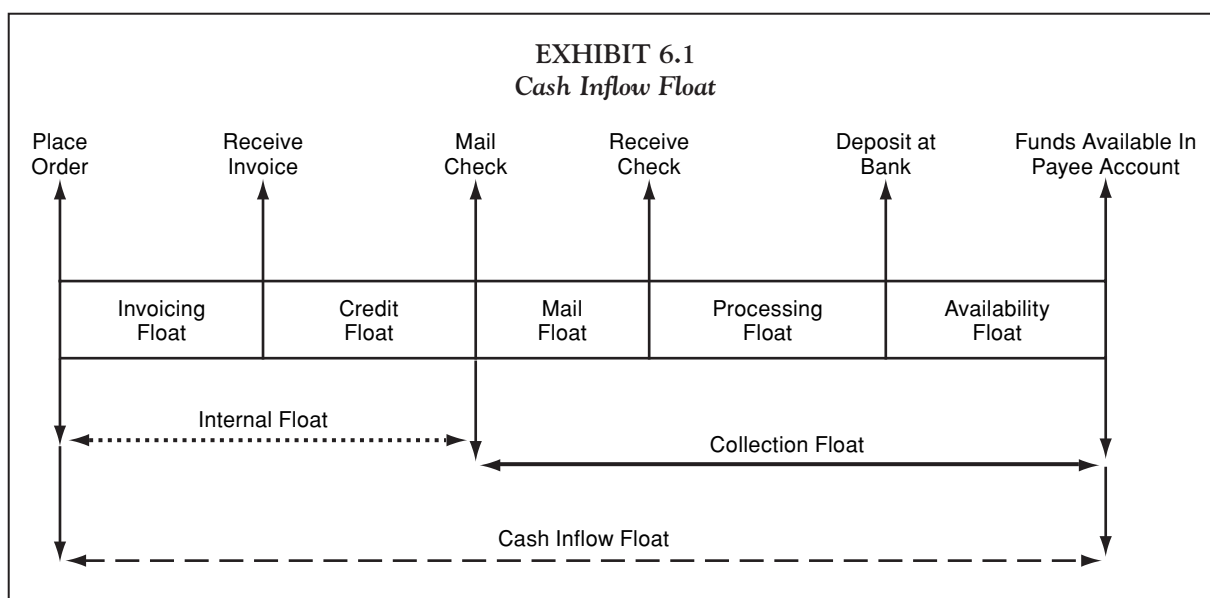
There are three common failures with credit policies:

1. A policy that is so restrictive that the company rejects a good credit risk, thereby losing sales and profits.
2. A policy that is so lax that the company accepts a bad credit risk, resulting in administrative and collection costs and at worst, a bad debt writeoff.
3. A policy that fails to capture an *evergreen account*, which is when a weak customer continuously buys and pays but the payments when made are always past due. Although there is a current revenue stream from the customer, in the long run this could result in a loss.

In establishing a credit policy, a company should look at four elements:

1. The financial strength of the customer
2. The customer's own cash flow cycle
3. The length of acceptable credit terms
4. Industry norms

The longer the credit period, the greater the risk of nonpayment, even with large companies with top credit ratings.



## The Five C's of Credit Evaluation

The traditional approach to evaluating credit is to analyze the five C's, namely:

**Character.** The perceived integrity of the customer and intent (or willingness) to pay.

**Capacity.** The likelihood that the customer will have the resources to pay the obligations when they are due.

**Capital.** Long-term resources that could be liquidated should the working capital be insufficient when the obligations are due.

**Collateral.** Other assets or guarantees that are available as security if the obligation is not paid.

**Conditions.** The economic environment, which may affect the customer's ability to pay.

## Sources of Credit Information

Analyzing the five C's requires reliable information about the customer. It is not an easy process to gather sufficient information to be able to make a good credit decision, especially because the decision is also usually time-sensitive. Most companies find they face a cost-benefit tradeoff when making credit decisions between waiting for completeness of information to minimize risk and wanting to make a speedy decision to accelerate the revenue stream.

The following are sources of credit information available to any company:

- Internal**
- Customer's previous history and record of on-time payments to the company.
  - New customer credit application providing bank and trade references
- External**
- Trade references, that is, other vendors and suppliers who have credit experience with the prospective customer
  - Local and nationwide credit reporting agencies, such as Dun & Bradstreet
  - The customer's bank (for insights into the company's financial condition)
  - Financial statements and other publicly available information

## The Credit Scoring Model

Once the data has been gathered, it then should be converted into a credit scoring model that can be consistently and reliably applied. The reporting agencies use complex computer models, but a company can develop a more simplified version. The first step is to determine what factors are most relevant and important to the company in evaluating risk and then to assign a weight and a range of scores to every element. Each potential customer will then be scored according to these criteria as objectively as possible. Exhibit 6.2 provides a sample of elements that might be included in a credit scoring model.

The next step is to assign a cut-off score below which a prospective customer should not be accepted; for example, a credit score below 40 might prove to be an unacceptable risk to the company. The company should also establish an acceptance threshold, for instance, any customer scoring 45 or above is granted credit. Customers falling between 40 and 45 undergo further analysis to confirm the credit decision.

In the example in Exhibit 6.2, Company ABC appears to be going through a tough competitive environment with poor cash flows. The evaluating company, however, may consider a proven track record and length of time in the business to be important factors. So in spite of the current poor financial results and cash flows, the fact that both the internal experience and external references attest to Company ABC's integrity and good business practices might lead the credit-issuing company to decide that Company ABC meets the threshold.

<b>EXHIBIT 6.2</b>				
<b>Sample Credit Scoring Model</b>				
<i>Factor</i>	<i>Weight</i>	<i>Range</i>	<i>Company ABC</i>	
			<i>Raw score</i>	<i>Weighted score</i>
<i>Length of time in business</i>	6	Less than 1 year = -5 One year to 5 years = +1 More than 5 years = +5	2	12
<i>Financial ratios</i>	8	Below industry average = -5 Industry average = +1 Above industry average = +5	-2	-16
<i>Cash flow</i>	7	< 1% sales = -5 > 2% sales = +1 > 5% sales = +5	-3	-21
<i>Credit history with company</i>	10	Poor = -5 Average = +1 Excellent = +5	2	20
<i>Management experience</i>	4	Less than 1 year = -5 One year to 5 years = +1 More than 5 years = +5	4	16
<i>Bank references</i>	8	Poor = -5 Average = +1 Excellent = +5	3	24
<i>Trade references</i>	5	Poor = -5 Average = +1 Excellent = +5	2	10
<i>Credit agency reports</i>	6	Poor = -5 Average = +1 Excellent = +5	2	12
<i>Volatility of market</i>	4	Unstable = -5 Stable = +1 High growth = +5	-3	-12
		Total weighted score		45

## Terms of Sale

The next area to determine, once the customers have been accepted, is the terms of sale. They need to be appropriate for both the industry and competitive considerations because they will affect actual cash flows. If a company is trying to shorten the cash conversion cycle, this is one area where adjustments might be made to speed up payments, such as offering discount terms or shortening the net term period. Below, we describe

some of the most common terms and conditions of sale, specified in the sales agreement, invoices, or other legal documents.

## Terms of Sales

**Bill-to-bill.** Payment for the previous delivery is due when the new delivery arrives. This is typically used for regular, weekly shipments.

**Cash in advance (CIA).** Payment is made prior to the shipment of the goods. This is sometimes referred to as cash before delivery and is used when:

- The buyer is either unknown or thought to be a credit risk
- The seller has a very strong competitive position
- The buyer is prepared to finance manufacturing of the goods

**Cash on delivery (COD).** Payment is due upon delivery of the goods. COD is used to reduce the seller's risk.

**Cash terms.** The buyer has a week to 10 days to make the payment. Cash terms are used for the sale of highly perishable goods.

**Consignment.** The seller ships the goods to the buyer or agent with no obligation to pay until the goods have been sold. The seller retains title to the goods until they are sold.

**Discount terms.** The seller offers a discount if the buyer pays by a specified date in advance of the due date.

**Documentary collections.** Often used for international trade, a bank holds title documents and releases them to the importer upon payment or acceptance.

**Installment terms.** The buyer is allowed to pay for the item in periodic payments over several months or years. This is typically used for big-ticket sales.

**Letter of credit.** Another instrument often used in international trade, whereby a bank issues a guarantee of payment provided the terms and conditions of the letter of credit are met. The exporter converts importer risk to bank risk. Payment can be on sight, that is, when the draft is presented, or on acceptance with payment at a specified date in the future.

**Monthly billing.** A statement is issued for all invoices issued prior to the cutoff date. Payment is usually due by a specific date the following month.

**Open account.** Credit is granted by the seller to the buyer and an invoice is issued stating the credit terms and amount due. The credit terms could be any of the following, stated in order of stringency: cash terms, net terms, monthly billing, seasonal billing, or consignment.

**Net terms (ordinary terms).** The seller specifies the date at which the full amount is due, either upon receipt of goods (ROG) or arrival of goods (AOG).

**Revolving credit.** To keep an account in good standing, the overall credit limit must not be exceeded and regular payments, usually a percentage of the amount outstanding, must be made. There is usually a minimum monthly payment. These terms are more frequently used for consumer transactions.

**Seasonal billing.** The due dates for payment are based on the seller's seasonal sales, usually at the end of the selling season. Seasonal billing is often applied to items such as toys, textbooks, sporting goods, and garden supplies.

## Discount Terms

Offering early payment discounts is a powerful incentive to a customer but an expensive proposition for the seller. In deciding whether to take the discount, the customer determines whether the value of the discount

is higher or lower than the alternative use for the funds. The value of the sales discount rate is usually compared with the cost of borrowing.

The discount is typically expressed as “2/10 net 30” where 2 represents the percentage discount, 10 is the numbers of days in which the payment must be made in order to take the discount, and net 30 refers to when full payment is due. The expression “2/10 net 30” therefore means that a 2 percent discount can be taken within 10 days or the full amount is due in 30 days. The formula used for determining the cost of a sales discount is:

$$\text{Annualized Cost of Discount} = \frac{\text{Early Payment Discount}}{(100 - \text{Early Payment Discount})} \times \frac{365}{(\text{Net} - \text{Discount Days})}$$

#### Worked Example: The Value of a Discount

A customer is offered terms of 1.5/10 net 40. The cost of borrowing funds is 12%. Should the customer take the discount?

$$\begin{aligned} \text{Annualized Cost of Discount} &= \frac{\text{Early Payment Discount}}{(100 - \text{Early Payment Discount})} \times \frac{365}{(\text{Net} - \text{Discount Days})} \\ &= \frac{1.5}{(100 - 1.5)} \times \frac{365}{(40 - 10)} \\ &= .1853 = 18.53\% \end{aligned}$$

Assuming the cost to borrow is less than 18.53% per annum, it is worth paying within 10 days and taking the 1.5% discount.

Alternatively, if the parameters fall between .5 and 4 percent for the discount and the early payment period is between five and 40 days, the chart in Exhibit 6.3 can be used.

## Invoicing

When managing the working capital gap, the next area to address is rendering the invoice. Normal trade practices call for a statement or invoice to be rendered promptly after shipment. A customer will not pay before receiving an invoice and so all delays should be eliminated. The growing trend with companies is to implement electronic invoice presentment and payment (EIPP) for business-to-business (B2B) payments and electronic bill presentment and payment (EBPP) for consumer payments. These systems are mostly Web-based and allow invoices and bills to be sent and paid electronically. They are, therefore, accessible to anyone who uses the Internet. Improved security has encouraged many vendors and suppliers to migrate to Internet payment vehicles.

The following are suggestions for ensuring that invoicing float is minimized:

- Ensure that the invoicing function is closely coordinated with the sales and shipping departments so that statements can be sent out promptly.
- Regularly review that statements are sent to the correct person or department at the correct address.
- Make sure that the terms and payment details are clear and unambiguously stated on the invoice.



<i>Discount Offered</i>	<i>Number of Days Paid Early</i>							
	5	10	15	20	25	30	35	40
<b>0.50%</b>	36.68%	18.34%	12.23%	9.17%	7.34%	6.11%	5.24%	4.59%
<b>1.00%</b>	73.74%	36.87%	24.58%	18.43%	14.75%	12.29%	10.53%	9.22%
<b>1.50%</b>	111.17%	55.58%	37.06%	27.79%	22.23%	18.53%	15.88%	13.90%
<b>2.00%</b>	148.98%	74.49%	49.66%	37.24%	29.80%	24.83%	21.28%	18.62%
<b>2.50%</b>	187.18%	93.59%	62.39%	46.79%	37.44%	31.20%	26.74%	23.40%
<b>3.00%</b>	225.77%	112.89%	75.26%	56.44%	45.15%	37.63%	32.25%	28.22%
<b>3.50%</b>	264.77%	132.38%	88.26%	66.19%	52.95%	44.13%	37.82%	33.10%
<b>4.00%</b>	304.17%	152.08%	101.39%	76.04%	60.83%	50.69%	43.45%	38.02%

- Include a telephone number so any discrepancies or disagreements can be quickly resolved. Have the phone answered by the department with the most to lose from a delay in the payment. This could be the sales department if commissions are paid on a collected basis, or the area with the greatest inconvenience from having to collect a late payment, usually the accounts receivable (A/R) or collections department.
- Try to determine immediately the undisputed amount and arrange for that to be paid while the disputed amount is resolved.

## The Accounts Receivable Process

Once an invoice has been issued, the accounts receivable department takes over. The increased use of electronic commerce, electronic invoicing and billing, and outsourcing receivables means that, increasingly, companies are seeking to automate and even outsource this function. The objectives in automating the A/R function are to:

- Receive value for the funds as quickly as possible
- Reduce the time in applying the payments received
- Increase the accuracy of the application of the payment to the correct invoice
- Provide better, faster information to the collections department
- Automate the accounts receivable process (see the following checklist)

## Checklist for Automating Accounts Receivables Processing

- |   |  |
|---|--|
| <i>Determine the appropriate banking structure.</i> | <ul style="list-style-type: none"> <li>• Determine business units' needs.</li> <li>• What is the character of the funds flow, paper or electronic?</li> <li>• What lockbox structure is required? How many, where, and what type?</li> <li>• Which banks will be used for collections?</li> </ul>  |
| <i>Prepare a cost analysis.</i>                     | <ul style="list-style-type: none"> <li>• External costs             <ul style="list-style-type: none"> <li>– Bank pricing</li> <li>– Consultants</li> <li>– Hardware and software</li> </ul> </li> <li>• Internal             <ul style="list-style-type: none"> <li>– Technology support</li> <li>– Other support</li> <li>– Ongoing maintenance</li> </ul> </li> </ul>               |
| <i>Obtain approval to automate.</i>                 | <ul style="list-style-type: none"> <li>• Get stakeholder buy-in for project.</li> <li>• Obtain senior management approval.</li> <li>• Allocate budget.</li> </ul>  |
| <i>Get banks on board.</i>                          | <ul style="list-style-type: none"> <li>• Prepare presentation of requirements and timing to give to the various banks.</li> <li>• Confirm pricing.</li> <li>• Get the banks' commitment to timing and implementation support.</li> </ul>   |
| <i>Plan the project.</i>                            | <ul style="list-style-type: none"> <li>• Assemble project team.</li> <li>• Identify the:             <ul style="list-style-type: none"> <li>– Sponsors</li> <li>– Stakeholders</li> <li>– IT team</li> <li>– Banks</li> <li>– Consultants</li> </ul> </li> <li>• Develop the project plan.</li> <li>• Get sign-off from team members.</li> <li>• Get sign-off from sponsor.</li> </ul> |
| <i>Implement changes to bank structure.</i>         | <ul style="list-style-type: none"> <li>• Complete the paperwork.</li> <li>• Implement new products, services, and locations.</li> <li>• Inform customers of any changes to payment instructions.</li> <li>• Make visible announcements of changes on customer mailings for next 90 days.</li> </ul>  |

**Begin parallel testing in a non-production environment.**

- After 90 days close the old lockbox locations and arrange for forwarding.
- Contact customers who are still using the old payment instructions.
- Start receiving live transmissions as soon as possible to populate database.
- Follow up on error log and perform program or file adjustments.
- Compare correct application rate with production environment.
- Determine go-live date.

**Conduct training.**

- Train all relevant parties one to two weeks before go-live date.

**Go live.**

- Start using the system in a live environment.

**Monitor the new process.**

- Review accuracy rate for applying receipts to invoices.
- Address or resolve new, ongoing, or open issues.

**Monitoring Accounts Receivable**

Accounts receivable should be monitored on two levels. The first level is the overall dollar value of A/R using turnover statistics, such as days' sales outstanding (DSO).

**Worked Example: Days Sales Outstanding**

In a 90-day period a company has the following sales:

January	\$250,000
February	\$105,000
March	\$155,000
<u>Total Sales</u>	<u>\$510,000</u>

Outstanding receivables    \$350,000

$$\text{DSO} = \frac{\text{Outstanding Receivables}}{\text{Total Sales}} \times 90 = \frac{350,000}{510,000} \times 90 = 61.76 \text{ days}$$

If the credit terms are net 30,

$$\text{Average Past Due} = \text{DSO} - \text{Net Terms} = 61.67 - 30 = 31.67 \text{ days}$$

The company is financing purchases for almost 32 days by allowing clients to pay in 61.76 days.

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Turnover statistics, however, may mask or be affected by one or two chronically late payers, and so a company should also review individual accounts using an aging schedule. Problems surfacing from the individual account analysis will ultimately be handled by the collections department.

### Worked Example: Aging Schedule

The company has identified the following pattern:

<i>Age of Accounts</i>	<i>Accounts Receivable</i>	<i>Percentage of Accounts Receivable</i>
0–30 days	\$200,000	57
31–60 days	75,000	22
61–90 days	50,000	14
91 + days	25,000	7
<b>Total</b>	<b>\$350,000</b>	<b>100</b>

If the net terms are 30 days, the company can now focus attention on the accounts whose receivables are aged 31 days and over.

The Credit Research Foundation ([www.crfonline.org](http://www.crfonline.org)) and the National Association of Credit Management ([www.nacm.org](http://www.nacm.org)) provide DSO benchmarks by industry for credit management research, surveys, and techniques.

### How to Improve Accounts Receivable

The following are suggestions for improving the accounts receivable process:

- Conduct periodic customer credit and payment history reviews.
- Do not ignore partial past-dues; investigate them as if they were completely past due.
- Ensure that all invoices clearly contain the correct payment information and that it is clearly visible on the statement or invoice.
- Enclose a preaddressed envelope for remittances.
- Consider automating and outsourcing for A/R processing.
- Re-examine payment terms and decide if shorter terms could be applied.
- Make sure that only allowable discounts are taken and that unauthorized discounts are billed back to the customer.
- Do not honor discounts for payments that are consistently misdirected, either to the office instead of the lockbox or to the wrong lockbox.
- Analyze the company's aging schedule and identify customers who frequently do not pay on time.
- Develop and enforce a collection policy for delinquent payments.
  - Place a phone call reminder 10 days later for first-time offenders.
  - Offer discounts to pay early.
  - Institute interest penalties for late payment.
  - Increase cost to late payers to include cost of financing.
  - Use local agents to collect.

### Practical Applications

What is the DSO for your company? How does this compare with industry averages? What recommendations might you make to improve the accounts receivable process at your company?

## Summary of Key Points

- Managing the working capital gap starts long before the payment process begins. There are a number of steps a company should take:
  - Select the right customers by using an appropriate credit evaluation process.
  - Determine appropriate terms of sale.
  - Ensure invoices are correct and contain clear and accurate payment instructions.
  - Send invoices promptly.
  - Investigate steps to manage and accelerate accounts receivable.
- A company can then begin to optimize the cash inflows.



# 7

## *Optimizing Cash Inflows— Part 2: Collections*

### **Chapter Goals**

This chapter covers the following topics, including worked examples for calculating the cost of float and a cost-benefit analysis for a lockbox:

- Collection float
- Objectives of a collection system
- Explaining funds availability
- Managing collection float
  - Types of lockboxes
  - Lockbox networks
  - How to perform the cost-benefit analysis of a lockbox
  - Elements of lockbox pricing
- Cost comparison of collection methods
- Recent trends and changes in collections
  - Expansion of bank networks
  - Impact of Check 21
  - Rise of Automated Clearing Houses (ACHs)
  - Improvements in imaging
  - Use of the Internet
  - Integrated receivables
- Cash management tips for more efficient collections

### **Introduction**

The recent movement toward electronic banking notwithstanding, 39 percent of the volume of payments made in the United States continues to be made by check. Because the banking structure is so fragmented, managing check collections efficiently requires a two-step process—an initial collection followed by

concentration of the funds. There are a number of emerging trends, however, that are radically changing the way in which collections are effected. These include:

- Integrating electronic and paper collections
- Clearing checks electronically
- Converting checks to ACH transactions
- Consolidation in the banking world, resulting in greater regional, if not nationwide, coverage and services

This chapter examines the vehicles and techniques for optimizing collections.

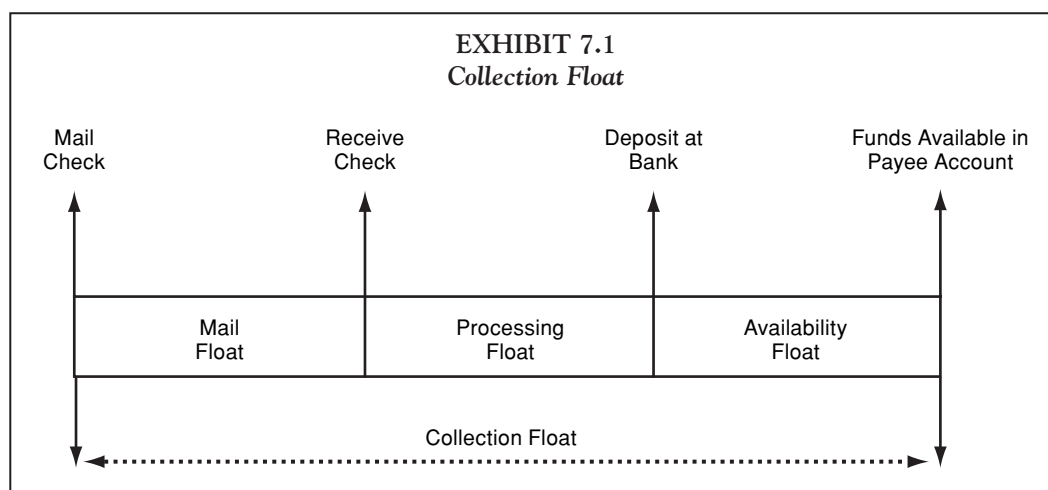
## Collection Float

Collection float refers to the delay that occurs between the time a payment has been initiated and the time the company receives available funds. More specifically, it refers to the float associated with collecting checks. In the United States a payment is deemed to be timely if mailed by the due date, evidenced by the date stamp on the postmark. Until those funds become available and usable, however, there can be additional delays, as illustrated in Exhibit 7.1. The types of float shown are detailed as follows:

**Mail float.** Refers to the delay between a check being mailed and being received either at the beneficiary's offices, at the lockbox, or at the processing center. Mail float is usually between one to five days in the continental United States.

**Processing float.** Refers to the delay between a check being received and being deposited at the bank for clearing and settlement. This delay is caused by internal inefficiencies in routing and processing the check during the cash application process. Although it can take longer, processing float is usually between one and three days.

**Availability float.** Refers to the delay between depositing a check and the funds becoming available and usable by the beneficiary. This can vary from zero days for on-us items to two days for distant endpoint items.





Every day that a company waits for available funds results in working capital that is not available and an amount that may have to be borrowed. The cost of float is calculated by determining the average daily float and multiplying it by the cost of funds.

### Worked Example: Opportunity Cost of Float

If a company has monthly collections of \$1.2 million, an average of five days of float, and a cost of borrowing of 5 percent, the annual opportunity cost of float is:

$$\text{Opportunity Cost of Float} = \text{Average Daily Float} \times \text{Cost of Funds}$$

$$\text{Average Daily Float} = \frac{(1,200,000 \times 5)}{30} = \$200,000$$

$$\text{Opportunity Cost of Float} = \$200,000 \times .05 = \$10,000$$

Float is costing the company \$10,000.

## Objectives of a Collection System

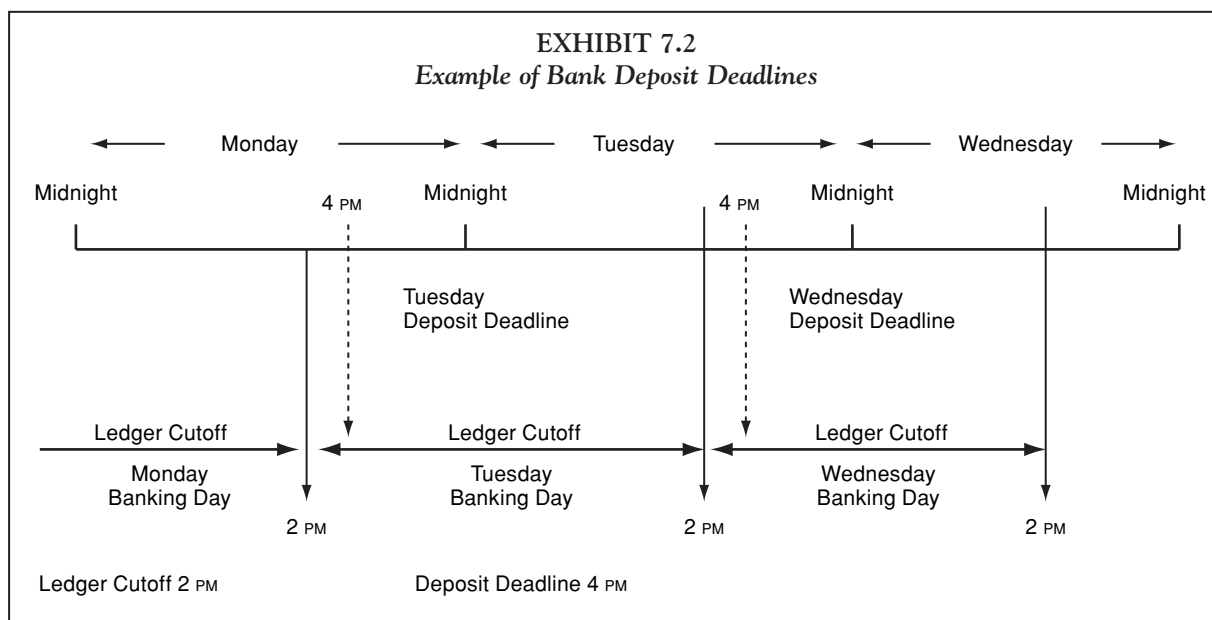
The primary objectives of a collection system are:

- |                                       |  |
|---------------------------------------|--|
| <b>Minimizing collection risk</b>     | <ul style="list-style-type: none"> <li>• Recognizing that delay in finality of funds increases the risk that funds will not be collected</li> <li>• Safeguarding and transporting cash and coin</li> </ul> |
| <b>Minimizing collection float</b>    | <ul style="list-style-type: none"> <li>• Processing payments as quickly as possible into the company's banking system</li> </ul>   |
| <b>Accelerating information flows</b> | <ul style="list-style-type: none"> <li>• Receiving accurate and timely information about receipts</li> </ul>   |
| <b>Applying cash</b>                  | <ul style="list-style-type: none"> <li>• Ensuring that the accounts receivable files are updated in a timely and accurate way</li> </ul>   |
| <b>Providing audit trails</b>         | <ul style="list-style-type: none"> <li>• Providing appropriate controls and data for internal and external auditors</li> </ul>   |

## Explaining Funds Availability

When a check is deposited, the bank assigns availability to the item based on the drawee bank endpoint. Banks publish their availability schedules, which vary from zero days for an item drawn on themselves to two days for items drawn at more geographically distant points in the United States. To qualify for availability, however, the check must meet two other deadlines. The first is the deposit deadline. This is the time by which checks must be deposited to qualify for processing within the bank's operating day. The second is the ledger cutoff. This is the time at which a bank stops processing for one day and starts processing for the following banking day. (This is to give the bank time to complete processing a day's work.)

Exhibit 7.2 illustrates the way in which bank deposit deadlines work and how to calculate the cutoff time for a same-day deposit. In the exhibit, a check deposited at 2:45 PM on Tuesday is not eligible to be processed as a Tuesday item because the bank has cut off the ledger for Tuesday at 2 PM. It will be processed as an item deposited on Wednesday.



***Treasury Tip: Get the Best Availability from Your Bank***

The following are strategies for ensuring the best availability from the bank:

- Always negotiate availability with the bank and ask the following questions:
  - Does the bank’s availability schedule reflect the company’s actual availability, or a schedule on which clearing float will be charged? Request actual availability.
  - Does the bank publish more than one availability schedule? If so, request the one with the best timing.
  - Does the bank clear checks electronically and has it revised its availability schedule to reflect this? If not, why not?
  - How often is the schedule revised and published? The more frequently the better because clearing times are continually improving.
- Compare the date on the deposit slip with the bank ledger credit and investigate any discrepancies to make sure the bank is giving same-day credit.
- Determine if the deposit schedule needs to be revised, for example, making deposits earlier in the day to make the cutoff for same-day credit.
- Deposit checks before the deposit and ledger cutoff times.

## Managing Collection Float

For the past 60+ years, the primary tool for managing collection float on checks has been the *lockbox*. A lockbox is a designated post office box to which a company’s remittances are sent for collection, processing, and clearing either by a bank or a third-party vendor. A lockbox addresses all three elements of collection float. By placing the lockbox strategically close to customers, mail float is reduced. By having a third

party collect the remittances several times a day from the lockbox, processing float is reduced because the items are delivered directly to the processing center. Because the lockbox is located in geographical proximity to customers, the chances are high that the checks will be drawn on local banks, thereby reducing availability float. Although lockboxes have evolved considerably since the 1940s, when they were first introduced, the basic principles continue to be valid.

### Types of Lockboxes

Different types of lockboxes meet the needs of diverse industries and types of cash flow.

**Retail Lockbox.** The principal objective of a retail lockbox is to process high volumes of small-value items at a low per-item cost. The remittances are usually accompanied by standardized remittance documents that contain information about the payment amount and the payor. These documents are scanned and the information about the payment is transmitted to the collecting company. The entire process is automated. A retail lockbox is used for consumer-to-business remittances, such as utility bills and magazine subscriptions, and is generally located in close proximity to a high number of customers.

**Wholesale Lockbox.** The principal objectives of a wholesale lockbox, on the other hand, are to minimize the float and information delays for high-value payments. These payments are usually low in volume and are processed manually (because they are not accompanied by standardized remittance documents, or a single payment covers multiple invoices). Used for business-to-business payments, wholesale lockboxes are located very close to the customer (or the bank from which the customer makes payments).

**Electronic Lockbox.** Although electronic payments do not experience the same float issues as checks, many companies find that the information flows from a lockbox can also benefit them for ACH and wire payments. These tend to be used for business-to-business payments and are located wherever the company has a good lockbox processor.

**Integrated Lockbox.** The most recent trend is to outsource collections and use integrated lockboxes to receive and manage all company receivables.

#### *Treasury Tip: Who Offers Lockbox Services?*

A list of banks offering retail and wholesale lockboxes is included in the Appendix.

### Lockbox Networks

As can be imagined, with the fragmented state of the nation's banks, it might be difficult for a company to find a single processor able to provide geographically dispersed lockboxes. In the 1980s lockbox providers began to offer services through networks to reduce the number of banks with which a company had to deal. They also introduced services to automatically concentrate funds in the collection and lockbox accounts. Operating through a network provided the additional benefit of consolidating remittance information and data transmission. These networks were originally established either through alliances with banks in other states, which would process on behalf of the lockbox bank, or through third-party processors. More recently the larger banks are offering networks through their own branches (see "Recent Trends and Changes in Collections"). Major lockbox networks are these:

- Bank of America
- Citibank
- JPMorgan Chase
- Mellon
- PNC Bank
- Wachovia
- Wells Fargo

Source: Phoenix-Hecht: *Treasury Resources* 2005.

(Note: Some of the banks may use a third party to operate the lockbox service.)

#### ***Treasury Tip: Lockbox Provider Survey Results***

The survey results of participating lockbox processors can be obtained from Phoenix-Hecht at [http://www.phoenixhecht.com/treasuryresources/Products/Retail\\_Request.aspx](http://www.phoenixhecht.com/treasuryresources/Products/Retail_Request.aspx). Phoenix-Hecht surveys retail, wholesale, and network lockbox providers. Note that Phoenix-Hecht is authorized to release this information only to requestors in treasury management positions at companies considered to be potential prospects for lockbox services.

### **How to Perform the Cost-Benefit Analysis of a Lockbox**

There are many benefits to a lockbox, both quantitative and qualitative. When performing the cost-benefit analysis to determine whether a company should use a lockbox, the nonquantifiable benefits also should be taken into consideration.

The quantitative analysis should include:

- The opportunity cost of float (without using a lockbox).
- The internal costs of processing checks: staff, equipment, training, supervision, mailing, and making deposits.
- Cost savings provided by a lockbox. These include reduced mail times, fewer delays in processing, and faster clearing.
- The cost of a lockbox: maintenance charges and per-item fees.

The qualitative benefits that should be considered are:

- Service assurance. Lockbox processing is the core business for the provider and there is, therefore, a presumption that it will continue to stay in the business. (This has not always been the case—many banks withdrew from the lockbox business in the 1980s.)
- Continued investment. As the technology improves and advances, the lockbox processor will continue to make the necessary investment to ensure that it remains competitive.
- Reliability. A lockbox processor has a team of trained staff to handle processing and is able to provide coverage for sickness and vacations.
- Scalability. As the business expands or contracts, a lockbox processor can more easily adjust to changes in volume than can an in-house processing capability.
- Reduced fraud. Items received at a post office box are more secure than items delivered to company offices.

- **Data capture.** Lockbox processors are equipped with modern imaging and communications technology to capture information or images and transmit them on a regular basis to the company. Many of these systems now interface directly with corporate A/R systems so the application of cash is automated. The A/R department need only handle discrepancies and exceptions.

### Worked Example: Lockbox Net Benefit Analysis

A company has \$45,000,000 in annual sales, with an average of six days of float and a financing cost of 5.5 percent. The annual volume of checks is 10,250. Management assumes that a lockbox would save the company four days of float and internal processing costs of \$0.45 per item. The charges for a lockbox include a fixed charge of \$1,000 per month, monthly reporting charges of \$100, and a fee of \$0.25 per item.

#### Cost of float without a lockbox

$$(\$45,000,000 \times 6) \times \frac{.055}{365^*} = \$40,685$$

#### Savings with a lockbox

$$\begin{aligned} \text{Savings on float} &= (\$45,000,000 \times 4) \times \frac{.055}{365^*} &&= \$27,123 \\ \text{Internal savings} &= 10,250 \times \$0.45 &&= \underline{4,613} \\ \text{Total savings} &&&= \$31,736 \end{aligned}$$

#### Cost of lockbox

$$\begin{aligned} \text{Fixed charge} &= \$1,000 \times 12 &&= \$12,000 \\ \text{Variable per item cost} &= 10,250 \times \$0.25 &&= \underline{2,563} \\ \text{Monthly reporting charges} &= \$100 \times 12 &&= \underline{1,200} \\ \text{Total fees} &&&= \$15,763 \end{aligned}$$

#### Net benefit

$$\text{Net Benefit of Lockbox} = \$31,736 - \$15,763 = \$15,973$$

By establishing a lockbox the company will save \$15,973.

\*Some cash managers use 360 days. This does not greatly change the overall outcome.

## Elements of Lockbox Pricing

Lockbox pricing can be quite complex and comprises numerous elements. When calculating the cost and benefit of a lockbox, care must be taken to include all the costs, including maintenance costs for any new accounts to be opened. These are in addition to the bank's charges for check deposit and collection. Some companies also make an assessment of the internal costs required to monitor and manage the lockbox system. Some of the basic services for which a bank might charge in connection with a lockbox are as follows:

- One-time set-up fee
- Lockbox rental fee
- Monthly maintenance charge
- Per-item processing charge
- Lockbox deposit preparation

- Deposit ticket
- Daily transmission notification to customer
- Concentration (based on method, ACH or wires)
- Items deposited—on-us
- Items deposited—district
- Items deposited—out of district
- Returned items
- Data consolidation
- Uncollected funds charges
- Image services per item

### Cost Comparison of Collection Methods

In Chapter 5 we noted the beginning of a shift away from checks toward electronic payment methods (and the reasons for this change). Corporate-to-corporate payments are increasingly being made by ACH, whereas consumers favor using debit and credit cards. Electronic payments offer more security, earlier finality and predictability, and, in the case of ACH, may be cheaper than the all-in cost of using checks, especially in light of the cost of fraud and fraud prevention. The disadvantages to a company of collecting payments electronically are that any changes of bank accounts must be communicated to customers, and customers sometimes do not change their payment procedures, so payments get delayed when they are returned or rerouted. One of the ways companies can get around this problem is to use brightly colored stickers with the new payment instruments, or charge penalties for payments delayed because instructions were not followed. Exhibit 7.3 provides a cost comparison of the various collection methods using the average prices from the Phoenix-Hecht *Blue Book of Bank Prices*.

<b>EXHIBIT 7.3</b>	
<i>Average Cost for Collection Services</i>	
<i>Service</i>	<i>Average Cost per Item, \$</i>
Credit posting	1.11
Deposit	1.41
Check deposited—on-us	0.09
Check deposited—transit	0.15
Returned item	6.17
Wholesale lockbox	
• Maintenance	126.18*
• Per item	0.47
• Image maintenance	78.18
• Photocopy	0.11
	<i>(Continued)</i>

<b>EXHIBIT 7.3 (Continued)</b>	
<i>Service</i>	<i>Average Cost per Item, \$</i>
Retail lockbox	
• Maintenance	195.83*
• Per item	0.21
Lockbox	
• Data capture	0.06
• Keying	0.01
• Photocopy	0.11
• Check image processing	0.05
• Document image processing	0.11
• Deposit	1.68
• Transmission maintenance	153.15*
• Per transmission	11.80
• Per item	0.05
ACH	
• Maintenance	61.00*
• Internet maintenance	40.45*
• Debit	0.12
• Internet debit	0.24
• Credit received	0.21
• Return item	4.19
EDI receiving	0.37
Incoming wire	
• Domestic	9.19
• International	14.43
<b>Note:</b> For the most up-to-date average cost information see the latest edition of the Phoenix-Hecht <i>Blue Book of Bank Prices</i> .	
*Monthly charges	

## Recent Trends and Changes in Collections

### Expansion of Bank Networks

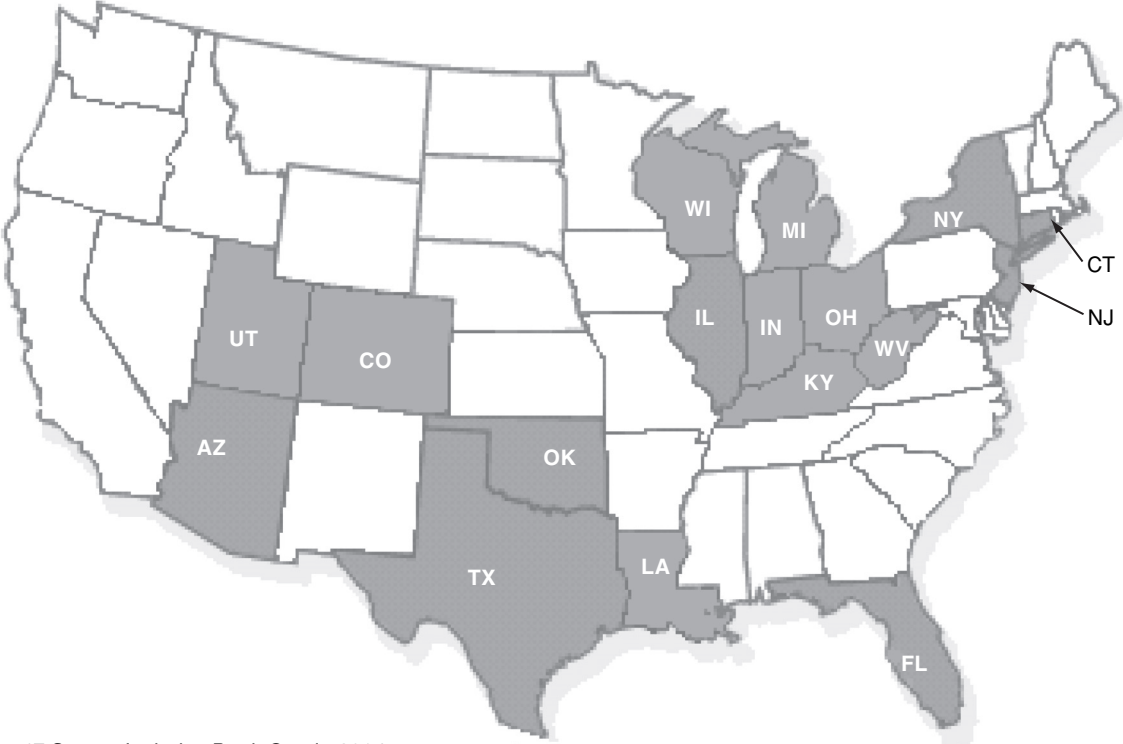
The impact of the IBBEA (Interstate Bank Branching Efficiency Act) has been that some of the large regional banks have acquired a branch network across increasingly large territories. Processing nationwide items through their own branches, rather than relying on alliances or third-party processors, can result in a more efficient and cost-effective service for their customers. This affects not just lockbox providers, but also any customers collecting on a multistate basis. To the extent that they can collect through a single bank network, they eliminate the need to concentrate funds as a separate function.

Exhibit 7.4 shows the retail branch coverage of some of the largest banks. Although this was accurate at the time of going to press, many banks continue to pursue an aggressive acquisition strategy to fill in the gaps in their footprints.





JP Morgan Chase



17 States Includes Bank One in 2004

Wachovia



15 States + DC

## Impact of Check 21

Although bank networks may be making nationwide collection more efficient, Check 21 is paving the way for an even more effective process. Even if the drawee bank is not able to clear checks electronically (and so far there is no obligation to do so), by having a substitute check produced and presented locally (and there is a legal requirement to accept a substitute check in lieu of the original item) availability float is reduced even further.

### *Treasury Tip: Negotiate Availability Float*

Banks expect to realize faster clearing times as a result of Check 21. Companies should expect a commensurate benefit in the availability schedules from banks that clear electronically.

## Remote Deposit Capture

Many of the larger banks now allow their customers to deposit checks by scanning them, creating an image-based deposit that can be transmitted to the bank for posting, clearing, and availability assignment. The benefits to customers include making deposits from their offices at any time or place, from any location that can access the network, and faster availability from getting them into the banking system in time for same-day processing. Some banks convert these deposits into ACH items. There are costs for the capture device and software, which will require treasury staffs to go through a cost-benefit analysis. The risk is that if the image quality causes the numbers to be misread, the depositing company bears the loss.

## Rise of the Automated Clearing House

As we have seen from the statistics, ACH is the fastest-growing corporate payment vehicle, while the usage of checks has declined for the sixth year in a row. Check payments are being converted into ACH transactions at both lockbox sites and company offices, effectively truncating the clearing cycle. At point of sale the POP format is used to convert consumer payments into direct debits, and the messaging format ARC is used for smaller-value consumer payments received at lockbox processing sites.

## Improvements in Imaging

Imaging affects the areas of check storage, retrieval, and fraud prevention. Although imaging cannot be considered a new technology (having been used for at least 25 years in lockbox operations), the most recent improvements in both the quality and dissemination of images mean that the Department of Justice now considers check images sufficient proof of payment, and many banks are making images of checks available to companies and consumers on demand.

## Use of the Internet

Invoices are increasingly being presented via the Internet. Companies are offering their customers incentives to sign up for electronic presentment—or disincentives if they continue to require paper invoices. Electronic invoice presentment and payment (EIPP) for corporations and electronic bill presentment and payment (EBPP) for consumers are some of the faster-growing collection vehicles.

## Integrated Receivables

As companies continue to focus on automating internal core competencies, there has been a growing trend to outsource collections and concentrate them with a single provider.

## Cash Management Tips for More Efficient Collections

The following strategies can aid in accelerating collections:

### ***Reduce mail float***

- Use a lockbox.
- Collect from the main post office rather than from a suburban location because delivery time at the main office can be up to several hours before mail reaches a suburban office.

### ***Reduce processing float***

- Use a lockbox.
- Deposit items immediately, and use copies of checks rather than the original checks to update records.
- Ensure there are no internal delays in delivering the mail to the appropriate department. Use specially marked preaddressed envelopes.
- Deposit the checks before investigating discrepancies.
- Make sure the cash application process is not holding up the deposit (by comparing the date received with the date deposited).
- Use couriers to collect checks earlier in the day.

### ***Reduce availability float***

- Use a lockbox.
- Deposit cash separately from checks—checks can then be processed without having to wait for the cash to be counted.
- Request electronic payment from customers.
- Negotiate *float-neutral* terms, in which the due date for an electronic payment is the same as the date on which a payor would have lost value if disbursing by check.
- Renegotiate availability with the bank in light of Check 21.

### ***Make the lockbox more efficient***

- Have banks deposit any items within \$5 of the invoice amount. The discrepancy can be resolved later.
- Accept any name on the “Pay to the Order of” line.
- Review the deposit schedule: make sure the processor deposits items in order to obtain soonest possible availability, rather than holding checks over.
- Require only as many deposits as needed to capture most of the daily activity.
- Re-examine the current collection process to make sure it is as efficient as it can be. Examine items that cause exception processing and endeavor to eliminate those exceptions. Review the invoice format to make sure the company address is not being confused with the remittance address. Better yet, remove any reference to the company address from the invoice.
- If electronic and cash payments are consolidated, have one daily transmission for application of cash.
- Determine whether the current lockbox configuration is the most efficient and cost effective in light of new lockbox networks.

**Reduce collection costs**

- Pre-encode checks. When a company does the encoding, the bank often charges a lower per-item fee, and because the bank has less processing to do after deposit, it may also allow a later deposit cutoff time.
- Do a cost-benefit analysis of a lockbox versus internal processing.
- Evaluate the lockbox network frequently to ensure optimal locations—customers change and so do their banks.
- Ensure you pay only for the lockbox services you need.

**Practical Applications**

Compute the opportunity cost of float at your company. Identify the last time that the company's collection system was reviewed and updated. Which of the current developments in collections do you think might apply to and benefit your company?

**Summary of Key Points**

- The current U.S. system, rendered inherently inefficient by the extensive use of checks and a geographically fragmented banking structure, is slowly moving into the twenty-first century.
- To the extent that checks are still used, regulation and technology are making it possible to collect more efficiently by truncation and conversion to image and electronic collection.
- The larger, underlying trend is the move to electronic payments, making the collection, concentration, and forecasting processes far more cost effective and easier for the treasury manager.

# 8

## *Optimizing Cash Inflows— Part 3: Concentration*

### **Chapter Goals**

This chapter covers the following topics, including worked examples of how to calculate the most effective method for concentrating funds:

- Concentration float
- Objectives of a concentration system
- Optimizing liquidity
  - Information float
  - Transfer float
- Making concentration more efficient
  - When to use an electronic depository transfer (EDT), and when to use a wire
  - Using appropriate formats
  - Frequency of transfers
  - Target balances
  - Anticipating deposits and availability
- Costs of concentration

### **Introduction**

Collecting efficiently is only the first step in the process of effective liquidity management. Cash, once collected, should be consolidated into a concentration account for effective deployment or investment. The comment by Walter Wriston, the highly influential chairman of Citibank in the 1970s and 1980s, “Information about money has become almost as important as money itself,” remains true. His words could not have been more insightful, and they are now inscribed in the lobby of New York’s Library of Science, Industry and Business. Except in the case of totally certain cash flows (of which there are few), there is no guarantee of arrival for most receipts (especially if they are in the form of checks arriving in the mail or payments from overseas) until they are physically received. Without an accompanying flow of information the funds may sit idle until the cash manager becomes aware that they are in the account. Information, therefore, becomes critical to effective liquidity management.

## Concentration Float

Concentration float occurs after the collection process and comprises two major elements:

1. *Information float.* The delay between an item being deposited and the concentration agent being informed of the deposit. This may be at any time between when a check is deposited and when the funds become available.
2. *Transfer float.* The delay between the initiation of the transfer of funds and their receipt in the concentration account. This is usually a function of both timing and the transfer method selected.

As illustrated in Exhibit 8.1, however, the trigger point for concentration starts with the deposit of the item in the bank. Deposits cannot be concentrated until they have become available, but to the extent that availability is predictable, concentration of the items can be planned as soon as the deposit is made.

## Objectives of a Concentration System

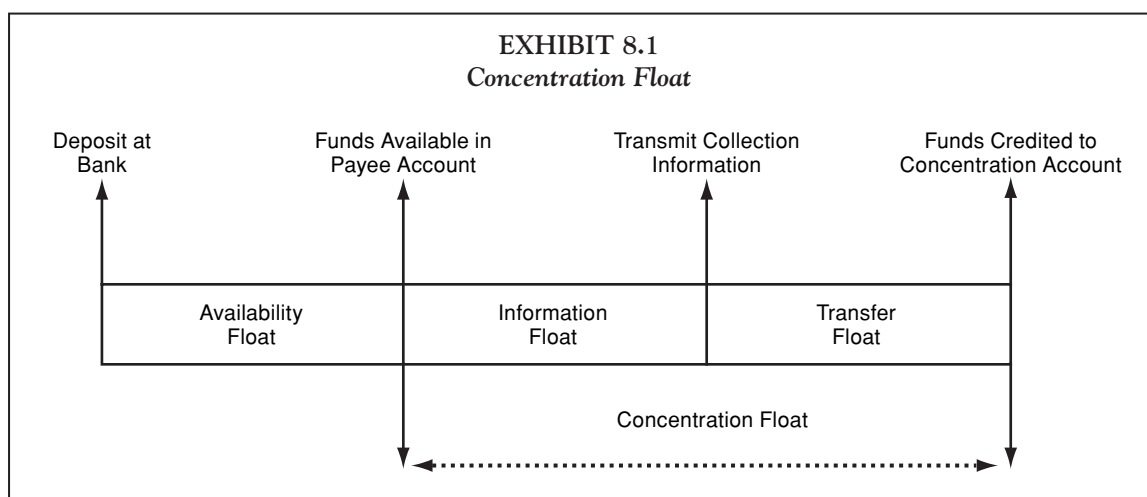
The objectives of a cash concentration system are to:

- Optimize liquidity, ensuring that funds are in the concentration account in order to fund disbursements, pay down loans, or be invested
- Reduce concentration float by minimizing information and transfer float
- Minimize idle balances in collection accounts
- Ensure that the costs of concentration are commensurate with the benefit received

The optimal concentration system for a company is determined by the nature of the cash flows and the company's organization.

## Optimizing Liquidity

If a company already uses a bank network for its collections, then it is very likely that it will already be using a service that automates information flows and concentrates funds in the collection accounts to the concentration account. Many companies, however, may still need to collect through many separate local



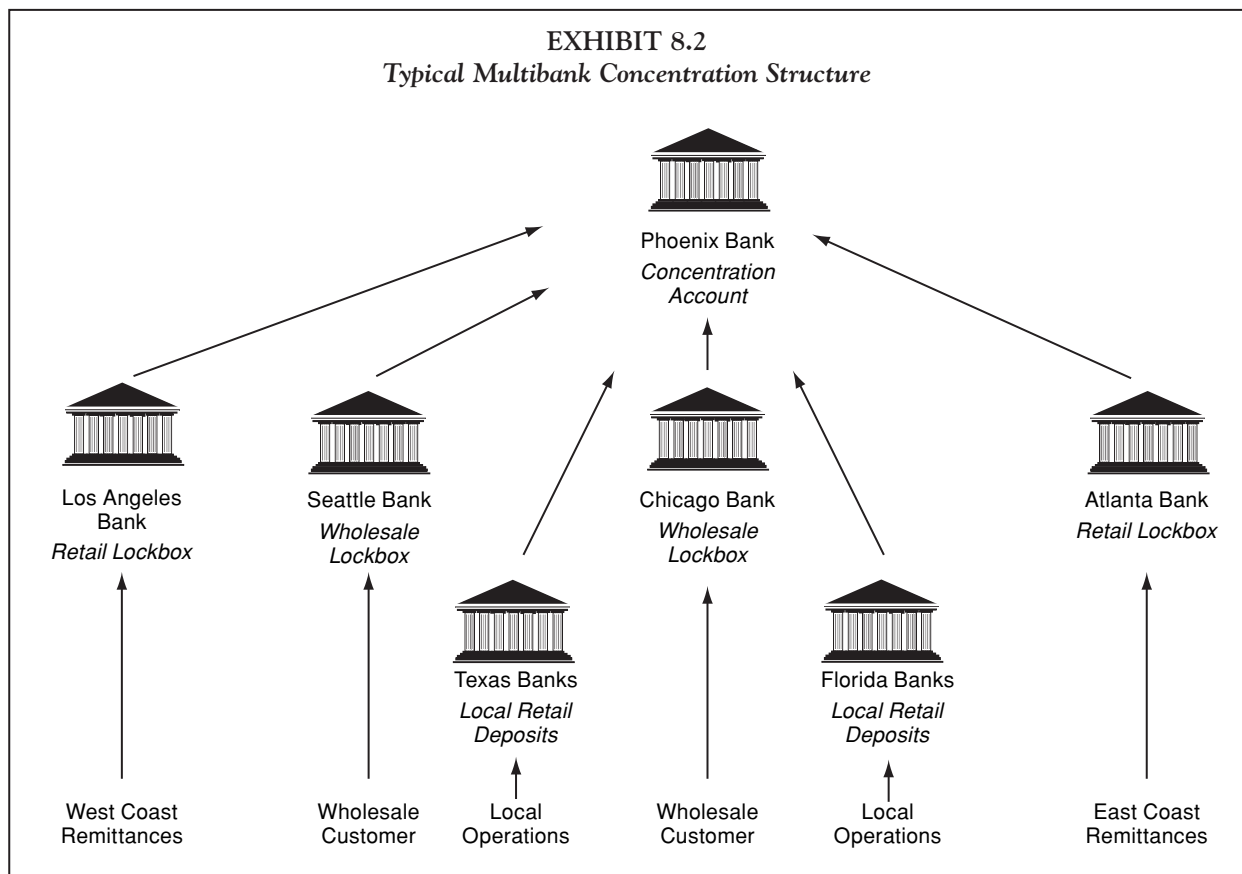
collection accounts with different banks (due to their geographic location and on-the-ground needs of local operations). Optimizing liquidity with a multibank structure can be more complex. Exhibit 8.2 illustrates such a structure for a retail operation with both retail and wholesale customers.

Notice that the company has a concentration account in Phoenix. Due to the nature of the business, there are extensive retail operations on the West and East coasts, so the company has put in place retail lockboxes to capture those deposits in Los Angeles and Atlanta. In addition, a couple of large distributors located in Chicago and Seattle make frequent large payments to the company. This has warranted the opening of two wholesale lockboxes in Seattle and Chicago. Finally, the company has local retailing operations in Texas and Florida, requiring local bank accounts for efficient collections but not justifying the expense of a separate lockbox. All of these accounts need to be tied into the concentration system so that surpluses are moved to the concentration account as quickly as possible.

### Information Float

The first question to address is: Who should be responsible for initiating the transfer to the concentration account? This could be one of a number of parties:

- The local field office might be made responsible for effecting transfers once funds that have been deposited become available.
- The centralized cash management group might initiate the transfers from the local accounts as soon as they estimate the funds to be available.
- The local banks might be given standing instructions to transfer funds once they are available.



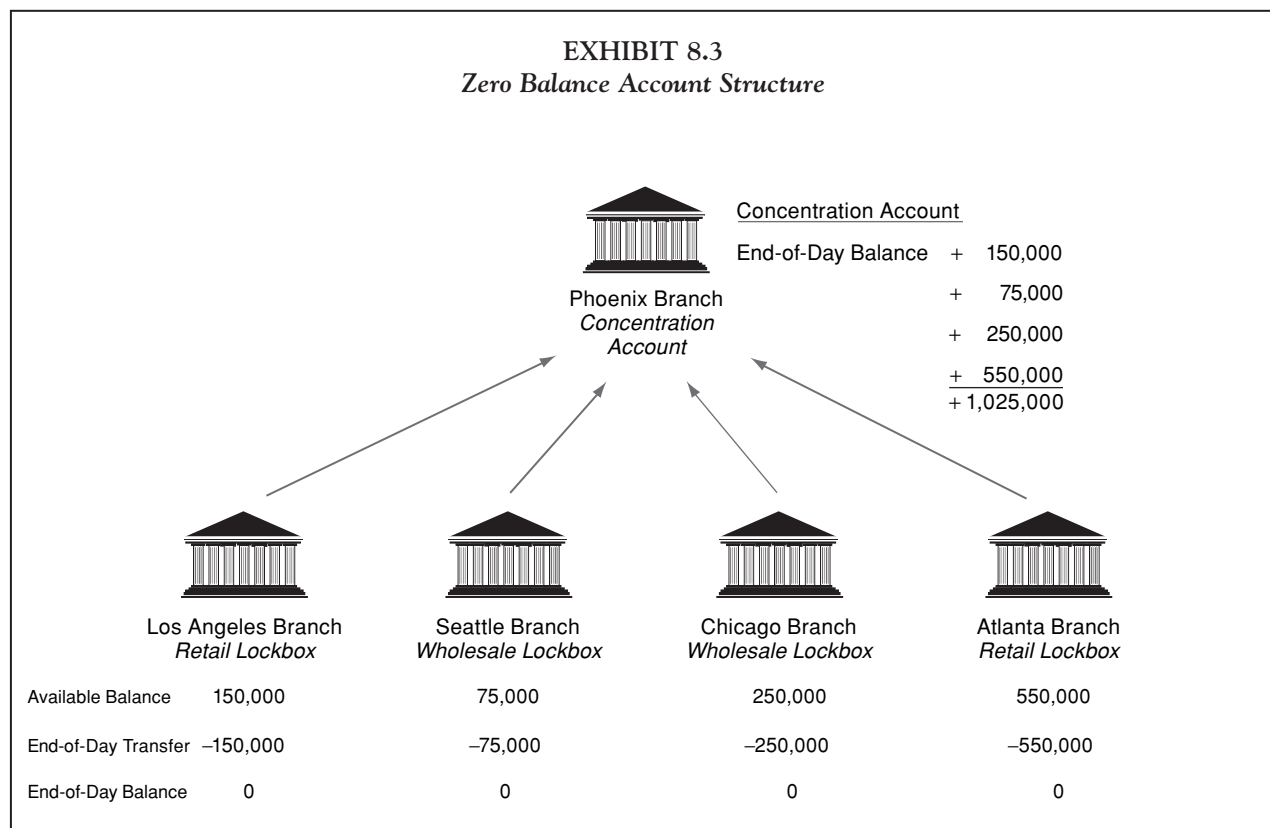
- The concentration bank might be responsible for polling the local banks and initiating transfers once balances become available.
- A third-party provider, known as deposit reporting services (DRS), might poll the local banks and initiate the transfers to the concentration account. There are many companies that offer this service. Some of the larger ones are ADP, First Data, and National Data Corp (NDC).

The transfer initiating party should select the most cost-effective method to obtain the information reliably, quickly, and accurately.

### Transfer Float

Once the amount of the balances is known, the transferring agent should determine the most cost-effective way to concentrate the funds. In the case of single-bank lockbox networks, this is usually an automated process using zero balance accounts (ZBAs). A zero balance account is a local operating account, linked to a concentration account, where available balances are transferred automatically via an internal book transfer at the end of the day, leaving the local balance at zero. A ZBA structure usually encompasses many local accounts, linked to a single concentration account. Traditionally, all of the ZBAs had to be with the same banks. Increasingly, however, even lockbox networks that use agent banks rather than their own branches can arrange for automatic transfers from agent banks, often on a next-day basis.

In Exhibit 8.3, the company has four lockboxes. Each lockbox has a balance in the account representing items collected and available that day (\$150,000, \$75,000, \$250,000, and \$550,000). The lockboxes have been set up as a ZBA, which means that at the end of the day the lockbox bank sends the entire amount in the account to the concentration bank, bringing the lockbox balance to zero. The concentration account





has at the end of the day a balance that represents the entire amount collected through the lockboxes that day, a total of \$1,025,000.

***Treasury Tip: Reconciling Deposits at the Local Level***

Lockbox network banks usually offer additional services that help companies reconcile deposits by field location, using a high-order prefix on the deposit tickets. The deposit ticket contains a special MICR encoding to identify the depositing location and the bank can then produce deposit reports by location.

In a multibank structure, however, the balances in the collection accounts have to be transferred physically to the concentration account. Today, most treasurers use either electronic depository transfers (EDTs) that use ACH CCD (cash concentration) format or a wire transfer, although a few companies continue to use depository transfer checks (DTCs). The major tradeoff is one of timing versus cost. An EDT is inexpensive and available one business day after origination. A wire transfer, on the other hand, is effected same day, provided cutoff deadlines are met, but costs considerably more.

## Making Concentration More Efficient

### When to Use an Electronic Depository Transfer or a Wire

One of the ways to make a concentration system more efficient is to look at the method being used to transfer funds. Although an EDT transaction is considerably cheaper than a wire transfer, there is, however, an associated loss of time value. The cash manager, therefore, should make a determination of which method to use based on the value of the funds being transferred and the opportunity cost of funds. A company can determine the breakeven point at which it becomes worthwhile to use a wire to concentrate with the following formula:

$$\begin{aligned} \text{Breakeven \$ amount} &= \frac{\text{Incremental Cost of the Wire Transfer}}{\text{Value of the Accelerated Funds}} \\ &= \frac{\text{Cost of Wire} - \text{Cost of EDT}}{\text{Float Saved} \times \text{Opportunity Cost of Funds}/365} \end{aligned}$$

#### Worked Example: Calculating the Breakeven Point

A company pays \$12 for a domestic wire transfer and \$0.20 for an EDT. The opportunity cost of funds is 5.5 percent. A wire accelerates the funds by one business day during the week, and three business days over the weekend. The formula for determining the breakeven point is:

$$\text{Breakeven \$ amount} = \frac{\text{Incremental Cost of the Wire Transfer}}{\text{Value of the Accelerated Funds}}$$

On a normal business day:

$$\frac{\$12 - 0.20}{1 \times .055/365} = \frac{\$11.80}{.0001506} = \$78,353$$

(Continued)

**Worked Example (continued)**

Over a weekend:

$$\frac{\$12 - 0.20}{3 \times .055/365} = \frac{\$11.80}{.0004518} = \$26,118$$

During a normal business day, any collected balances over \$78,353 should be concentrated by wire. Over a weekend, a wire should be used for any balances over \$26,118.

**Using Appropriate Formats**

Whether using a wire or an EDT, certain formats are more efficient than others. A wire transfer using a repetitive wire (only the date and the amount can be changed) will cost less than using a freeform format (all the fields can be changed) or a semirepetitive wire (amount, date, and description can be changed). A small percentage of companies use drawdown wires, in which the beneficiary party initiates the transfer. These may be attractively priced and easier to use if personnel is limited. Some banks charge less for an ACH debit transaction (in which the beneficiary pulls the funds into the concentration account) as opposed to an ACH credit, in which the paying party initiates the transfer.

**Frequency of Transfers**

When looking at the costs of a concentration system, in addition to considering the type of transfer and the format used, a company should also look into the frequency of transfers. It may not be cost effective to concentrate funds on a daily basis. One technique used to determine how frequently transfers should be made is called *threshold concentration*. Using a breakeven analysis, as illustrated above, the company can determine at what level of balances it should make a transfer, leaving the balances in the local accounts until that cost-effective threshold is reached. This reduces the number of wire transfers or EDTs made from accounts containing little or seasonal activity.

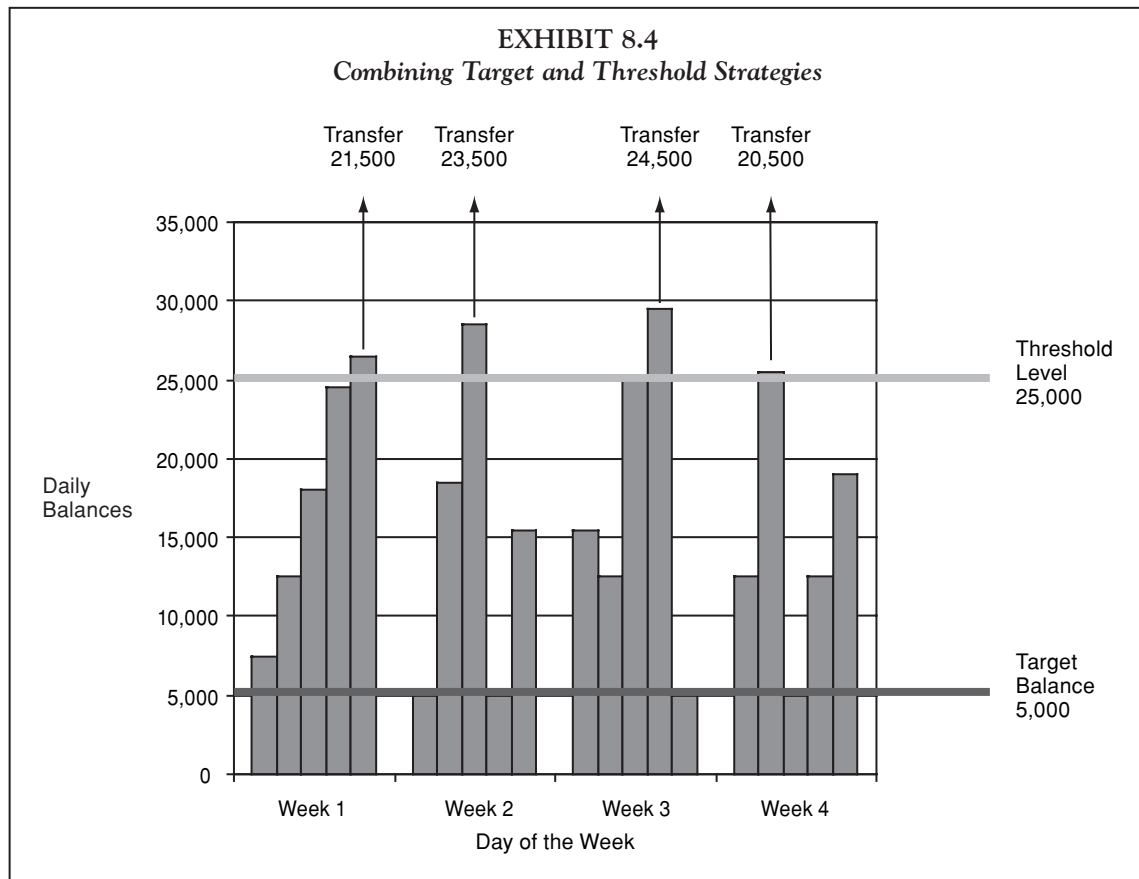
**Target Balances**

Leaving balances to reach predetermined thresholds means that balances may be left in the local accounts for quite a while. The company can arrange to pay for local bank services by leaving a target balance, that is, a level of deposits that is deemed sufficient to compensate the bank for its services. This might be a cost-efficient use of below-threshold balances. In practice companies use the two techniques, target and threshold, in combination (see Exhibit 8.4).

Exhibit 8.4 illustrates the level of balances a company has on a daily basis. The bank requires that a minimum balance of \$5,000 be left in the account. The company has determined that it is cost effective to concentrate funds of \$20,000 or more. The threshold level has, therefore, been established at \$25,000. Standing instructions are left with the bank to automatically transfer funds to the concentration account any time the balances in the account exceed \$25,000, but leaving the target balance of \$5,000 in the account. During week 1 the balances grow every day, until they pass the threshold amount of \$25,000 on day 5, at which point the bank transfers the entire balance minus \$5,000 to the concentration account. On the following business day, day 1 of week 2, the balance starts at \$5,000 and builds up until on day 3 the threshold is passed and another transfer is effected, leaving the target balance of \$5,000 in the account on day 4.

**Anticipating Deposits and Availability**

Once a deposit has been made, knowing where the items have been drawn, it is possible to determine fairly accurately when that deposit will become available. With anything other than local checks, therefore, it



is possible to initiate an EDT the day before the funds are expected to become available. This is fairly standard practice.

A somewhat riskier strategy, used by retailers, is to anticipate deposits over a weekend and initiate transfers before deposits have been received from customers, based on historical trends and forecasts. This can cause ledger overdrafts and is considered to be an aggressive cash management technique. It should be undertaken only with the knowledge and agreement of the depository bank and management.

## Costs of Concentration

The Phoenix-Hecht *Blue Book of Bank Prices* lists the average list prices for concentration accounts in Exhibit 8.5.

## Optimizing Concentration

A cash manager can optimize cash concentration by taking the following steps:

### *Reduce information float*

- Use automated bank reporting services.
- Have automated interfaces into cash application or accounts receivable systems.

<b>EXHIBIT 8.5</b>	
<b>Average Bank Price List for Concentration Services</b>	
<i>Service</i>	<i>Average List Price, \$</i>
Zero balance account (ZBA)	
• Master account	41.62*
• Subaccount	25.75*
• ZBA transfer	0.78
ACH	
• Concentration maintenance	62.86*
• Concentration item	0.23
Wire transfers	
• Automated repetitive	8.13
• Internal automated	5.29
<p><b>Note:</b> For the most up-to-date average list price see the latest edition of the Phoenix-Hecht <i>Blue Book of Bank Prices</i>.</p> <p>*Monthly charge</p>	

- Use a bank's integrated receivables product to eliminate multiple cash and data flows.
- Establish cutoff times for field locations to report their balances to the concentration agent and enforce adherence to these times.

***Reduce transfer float***

- Anticipate availability and initiate EDTs sooner.
- Anticipate deposits, if permitted, or if the forecasting system is adequately reliable.
- Use wires instead of EDTs.

***Reduce concentration costs***

- Use EDTs instead of wires.
- Use drawdown wires or repetitive wires for larger dollar transfers.
- Use a network rather than individual lockbox sites.
- Establish a threshold amount for transfers.
- Time transfers to match known receipts.

***Reduce idle balances***

- Use zero balance accounts.
- Implement a good information collection system to initiate transfers.
- Review accounts frequently and close unnecessary accounts.
- Use centralized check issuance to reduce the need for local accounts.

**Improve returns on concentration account balances**

- Pay down debt before investing.
- Make sure the concentration account is linked to a sweep account (a bank service that automatically moves balances from the account into an overnight investment vehicle).
- Review the return on sweep accounts and ensure that, after fees, the return is higher than leaving balances to pay for services.

It is totally conceivable that the cash manager of the future will not have to physically concentrate funds to manage and optimize corporate liquidity. The major reasons are:

- Check payments are being converted into electronic items at point of sale or at the corporate office.
- Banks can now clear checks electronically, eliminating many of the benefits of remote lockboxes.
- Integrated collection products consolidate the process and provide immediate data transmission.
- The shift to electronic payments means that remittances can be consolidated at the outset.

## Practical Applications

Determine which concentration techniques your company is using. Will any of the more recent developments affect the way in which you concentrate funds?

## Summary of Key Points

- In the United States managing cash inflow effectively requires a two-step process: efficient collection and then a second step to concentrate the balances for liquidity management.
- Concentration float comprises information float and transfer float.
- Information float can be addressed by ensuring that deposits are reported promptly either manually or using an automated service.
- Transfer float is managed using zero balance accounts wherever possible.
- If the transfers to the concentration account need to be handled manually, they can be effected by wire or EDT; wires will be more expensive but they take a day less (three days over a weekend).
- Most companies use a combination of target balances (to compensate the local bank) and threshold amounts to make sure that concentration is performed on a cost-effective basis.
- There are many steps the cash manager can take to optimize cash concentration, including:
  - Reduce information float
  - Reduce transfer float
  - Reduce the cost of concentration
  - Reduce idle, nonearning balances
  - Improve returns on concentration account balances



# 9

## *Optimizing Cash Outflows*

### Chapter Goals

This chapter covers the following topics:

- Cash outflow float
- Objectives of a disbursement system
- Considerations when designing a disbursement system
- Specialized disbursement vehicles
  - Zero balance accounts (ZBAs)
  - Controlled disbursement
  - Payable through drafts
  - Multiple drawee checks
  - Sight and time drafts
  - Direct deposit
  - Payroll cards
  - Internet payments
- Comparison of payment costs
- Considerations in converting paper to electronic payments
  - Factors driving migration
  - Barriers to electronic payments
- Outsourcing disbursements
- Cash management tips for more efficient disbursement
  - Managing accounts payable float and costs
  - Managing disbursement float
  - Managing vendor relationships
  - Minimizing disbursement costs
  - Reducing internal labor costs
- Trends in payment practices

## Introduction

Payment patterns are changing and the corporate world is gradually but surely moving into the electronic environment. There are, nevertheless, over 34 billion checks being written a year. This chapter reviews the specialized disbursement vehicles and the impact on cash management of the changing environment. In addition, we provide some guidelines on migrating from paper to electronic payment methods.

## Cash Outflow Float

Although the benefits of payables float accrue to the disburser, much of it is outside the disburser's control. Exhibit 9.1 outlines where float can arise in the payables float cycle. Inefficiencies at the supplier can increase invoicing float; credit float is part of the negotiated terms and conditions of the sale; and disbursement float is to a large extent being erased by the switch to electronic payments and by the implementation of new collection vehicles and processes such as electronic clearing and truncation.

Traditionally, the cash manager's responsibilities have focused on disbursement float, comprising:

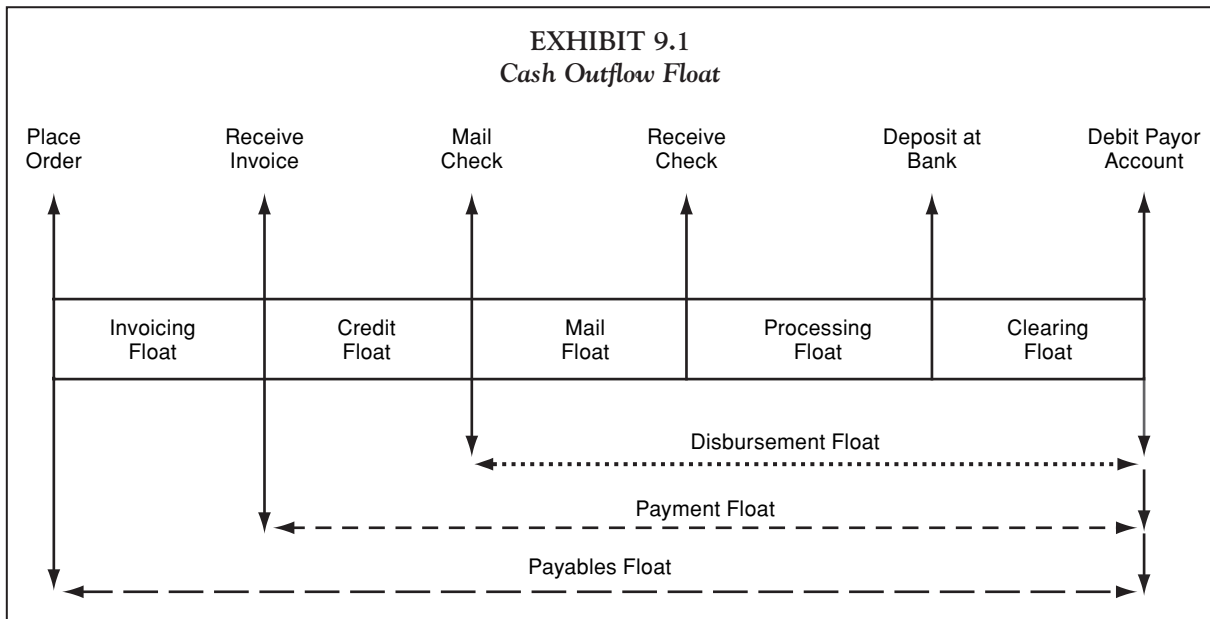
**Mail float.** Domestically can be between one and five days.

**Processing float.** Typically one to three days.

**Clearing float.** Can range from same day credit for on-us items to up to three or more days for distant end-points. Electronic clearing of checks, made possible through Check 21, is expected to reduce clearing float even further as more banks take advantage of the new legislation.

## Objectives of a Disbursement System

Although maximizing disbursement float may, in reality, remain an undisclosed objective of a disbursement system, the Federal Reserve has put in place measures to discourage this practice, and banks offer services





to speed up collections, negating many of the disbursement delays. The latest such measure by the Fed was Check 21, a response to the events of 9/11 when checks were unable to move physically, because of the grounding of all air traffic. As a result, checks clear even faster now.

Today, when designing a disbursement system, the cash manager has several additional objectives:

- Timely payment, taking advantage of discounts where appropriate
- Keeping idle balances to a minimum
- Reducing the cost of making payments
- Obtaining timely and accurate information on disbursements
- Preventing fraud
- Supporting the accounts payable function
- Maintaining vendor relationships

To achieve these objectives, a number of specialized disbursement vehicles have been developed, which are discussed later in the chapter.

## Considerations When Designing a Disbursement System

The following is a checklist of considerations to be taken into account when designing a disbursement system. These factors influence the type of system that best achieves the company's objectives, industry practice, and environmental context:

- Degree of centralization in the company's banking system
- Degree of local autonomy within the company
- Nature of cash flows for the company
- Industry practices with regard to disbursement
- Importance of disbursement float versus maintaining vendor relationships
- Importance of disbursement float versus the value of discounts
- Ability to measure the true cost of alternative disbursement methods
- Reconciliation costs
- Opportunity cost of idle balances
- Availability of information and treasury systems
- Ability to measure the risk and cost of fraud and fraud prevention
- Integration with the accounts payable process
- Exception processing, both on issuance and on acceptance
- Providing an audit trail

## Specialized Disbursement Vehicles

### Zero Balance Accounts

The zero balance account (ZBA), introduced in the previous chapter, can be used both as a concentration tool and as a vehicle to minimize idle balances in a demand deposit account (DDA), which otherwise would earn no interest. The opening balance in the ZBA is always zero. At the end of the day, if the final closing

balance is positive, the balance is swept into a concentration account. If disbursements have resulted in a negative balance, funds from the concentration account are transferred to return the end-of-day balance in the ZBA to zero. This allows all surplus liquidity to be concentrated in an interest-earning account and leaves no idle balances in the disbursement account. Funding and defunding is usually an automatic process, involving only book entries by the bank.

One drawback of a ZBA is that the final position is not known until the end of the day, limiting a company's ability to manage liquidity. Borrowing or investing funds at the end of the day leaves a company with very few cost-effective options.

### Controlled Disbursement

Controlled disbursement accounts were introduced in the early 1980s to help companies obtain information about disbursements early on in the day. Controlled disbursement accounts are a specialized form of ZBA but with a few additional features, including early notification of the checks expected to be presented against the account that day. Another feature is that controlled disbursement accounts are used solely for check disbursement activity, often located in an "insulated" location to minimize the risk of over-the-counter presentments later in the day. The only deposit received in the account is the daily funding.

The major cash management banks subscribe to the Fed's Payor Bank Services, which notifies the banks electronically early in the morning of the items that will be physically presented to the banks later in the day. A bank can then inform the client of the amount to be funded. Most often the concentration account from which the funding occurs is located at the same bank as the controlled disbursement account, allowing for same-day funding. If the client is allowed to fund from another account, this is usually done by wire transfer. Occasionally, a bank will allow this to be done by ACH, but as this will result in a next-day value funding, there are corresponding credit implications.

The major benefits to the cash manager of a controlled disbursement account are:

- Idle balances do not need to be left in disbursement accounts in anticipation of potential presentments. Funding of the account is on an as-needed, just-in-time basis.
- Early notification of the presentments for the day allows the cash manager to determine the cash position for the day and make decisions to invest or borrow when the markets are still active and conditions are most favorable.

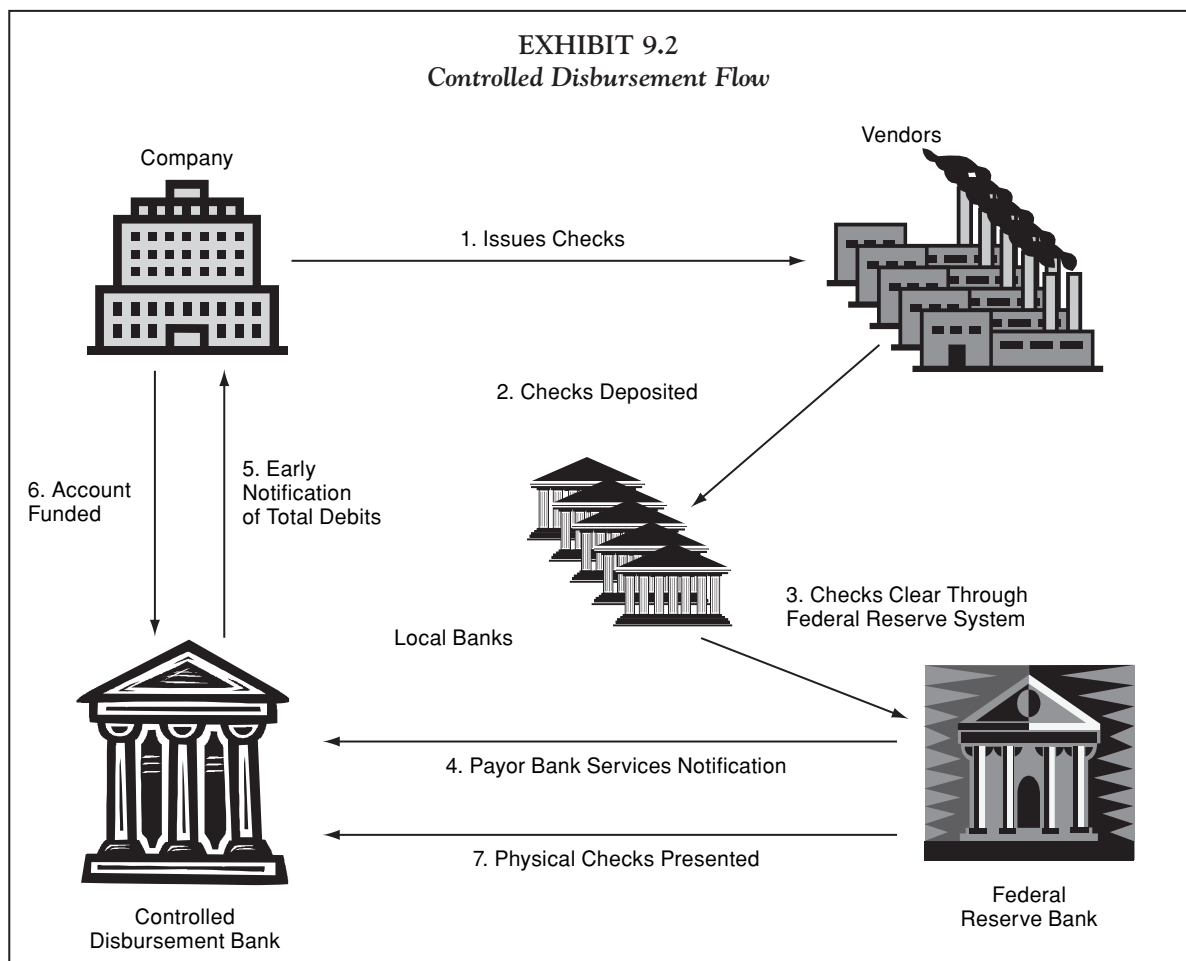
There are some additional issues the cash manager needs to consider:

- If the controlled disbursement bank clears more than \$10 million a day from financial institutions outside its own Federal Reserve district, the bank will fall into the Fed's High Dollar Group Sort (HDGS) program and receive a second presentment later in the day. This will delay final notification to the company of the total presentments for the day (because there will be two transmissions). This limits the usefulness of a controlled disbursement account to the cash manager since funding and investment decisions will need to be made later in the day.
- Sometimes discrepancies arise between the reported clearings to be funded and the actual amount presented for payment. Discrepancies occur when:
  - The disbursement bank is not insulated and receives late over-the-counter presentments.
  - Same-day presentments arrive at the drawee bank before 8 AM.
  - Items are rejected.
  - Exceptions are caused by errors in encoding or by unreadable checks.
  - The Fed missed items in the original notification.

Banks have different policies for handling discrepancies. Some banks will “top” up the funding from the concentration account later in the day; this may result in the concentration account being overdrawn if investments have already been made, so credit facilities should be in place. Other banks will hold adjustments over to the following day, making an appropriate charge for any resulting deficit.

Exhibit 9.2 illustrates the flow of a controlled disbursement account. The steps are as follows:

1. The payor issues checks drawn on its controlled disbursement bank and sends it to the payees.
2. The payees deposit the checks with their local banks.
3. The checks have a routing number that ensures they clear through the Federal Reserve system.
4. At about 7:30 AM the Federal Reserve, through its Payor Bank Services program, notifies the controlled disbursement bank of the checks that will be presented for clearing on that day.
5. The controlled disbursement bank notifies its customer of the presentments for that day.
6. The customer funds the controlled disbursement account (a zero balance account) for the amount of the checks being presented, usually from a concentration account with the controlled disbursement bank.
7. Later in the day the Federal Reserve Bank forwards the physical checks to the controlled disbursement bank, to be paid or returned.



**Treasury Tip: Controlled—Not Remote—Disbursement**

Controlled disbursement should not be confused with remote disbursement. The function of a controlled disbursement account is to reduce idle balances and to provide early notification of presentments for liquidity management purposes. Remote disbursement refers to the practice of locating a disbursement account in geographically remote locations with the explicit intent of extending mail float, which, while it is still practiced in other areas of the world, has been discouraged by the Fed through a series of measures introduced in the early 1980s, including the High Dollar Group Sort program.

The Appendix contains a list of major controlled disbursement providers. Authorized treasury management personnel may request performance results for selected controlled disbursement locations from the Phoenix-Hecht Clearing Study by completing the form at the following URL: [http://www.phoenixhecht.com/treasuryresources/Products/CLS\\_Request.aspx](http://www.phoenixhecht.com/treasuryresources/Products/CLS_Request.aspx).

**Payable Through Drafts**

Payable through drafts are checks that are drawn on the company, not the bank, providing the company with the opportunity to verify them before they are paid. When drafts are presented through the clearing system, the bank provides the details to the company, which in turn informs the bank which items to pay and which to return. The tight time constraints for returning drafts means companies need to be in a position to make a quick pay or no-pay decision when the items are presented. The bank usually insists on having a default decision to pay or no-pay should the customer not respond within the time frame. Typically, the decision is to pay. Payable through drafts are often used by the insurance industry, which wants to verify checks before they are paid.

**Multiple Drawee Checks**

Multiple drawee checks are checks that can be cashed at alternative banks in other states. They are used to comply with state laws that require that out-of-state employees be paid by checks payable at a local bank. Companies using centralized check issuance, such as controlled disbursement accounts, make arrangements so that checks can be cashed at an alternative bank in the appropriate state. The payor remunerates and indemnifies the alternative bank for the multiple drawee service. These are also known as *payable-if-desired* checks.

**Sight and Time Drafts**

Sight and time drafts are often used in international transactions, accompanying letters of credit and documentary collections. A draft is a debit instrument originated by the beneficiary and is drawn on the payor's account (the paper equivalent of an ACH debit transaction). A sight draft is payable on demand once the conditions in the accompanying documentation have been fulfilled. A time draft is a form of trade credit and is payable at a specified date in the future.

**Direct Deposit**

Although prevalent for many years in other parts of the world, direct deposit of payroll and other regular payments, such as expense reimbursements, has become increasingly common in the United States. Direct deposit uses the ACH system for regular batch payments. Many states allow employers to mandate direct deposit for new employees. In 2005 it was estimated that almost 65 percent of employees received their salary this way.

### Payroll Cards

Payroll cards were designed for employees without a bank account. Employers issue an ATM card that employees use to withdraw their pay from ATM machines. An additional feature to these cards, which appeals to foreign employees, is the issuance of a duplicate card that can be sent to families overseas, allowing them to also make withdrawals locally using the ATM card.

### Internet Payments

Businesses are increasingly using the Internet to improve their statement rendering and accounts receivable collections. Some of the major initiatives are:

- Electronic invoice presentment and payment (EIPP) is used for business-to-business (B2B) payments.
- Electronic bill presentment and payment (EBPP) is used for consumer-to-business (C2B) personal computer (PC)-based transactions.
- Electronic billing information delivery services (EBIDS) use ACH to deliver billing information to a consumer's bank, which then makes the information available via the Internet. The consumer can then authorize an ACH credit to the biller.

### Comparison of Payment Costs

It is important to consider the all-in costs of various disbursement methods including systems, maintenance, operation, supplies, reconciliation, fraud prevention, and so on. Exhibit 9.3 shows the average per-item prices charged by banks as listed in the Phoenix-Hecht *Blue Book of Bank Prices*.

<b>EXHIBIT 9.3</b>	
<b><i>Average Bank List Price for Payments</i></b>	
<i>Service</i>	<i>Average List Price, \$</i>
Debit posting	0.43
ACH	
• Maintenance	61.00*
• Internet maintenance	40.45*
• ACH credit	0.12
• ACH Internet credit	0.23
• ACH debit received	0.21
• ACH tax payment	5.06
Checks	
• Paid	0.19
• Image maintenance	45.00*
• Image capture	0.05
• Automated stop payment	10.83
• Manual stop payment	26.78
	<i>(Continued)</i>

<b>EXHIBIT 9.3 (Continued)</b>	
<u>Service</u>	<u>Average List Price, \$</u>
Controlled disbursement	
• Maintenance	106.47*
• Checks paid	0.18
• Notification	68.75*
Positive pay	
• Maintenance	77.50*
• Checks paid	0.23
Wires	
• Automated nonrepetitive	8.50
• Automated repetitive	8.13
• Manual nonrepetitive	21.83
• Manual repetitive	17.81
• Internal automated	5.29
• International outgoing	29.09
<b>Note:</b> For the most up-to-date average list price see the latest edition of the Phoenix-Hecht <i>Blue Book of Bank Prices</i> .	
*Monthly charge	

#### **Treasury Tip: Using ACH for Larger Payments**

Companies are beginning to use ACH for value-dated high-value payments because of the price differential between an ACH payment and a wire transfer. Although the ACH system is technically capable of processing amounts up to \$99,999,999.99, with settlement delayed one or two days after origination, the system was not originally designed as a high-value payment system. Once the originating bank releases an ACH file, it is obligated to settle regardless of the status of the originating party. Thus, if a company wishes to use ACH for high-value payments so as to protect itself from settlement risk, a bank may either establish a credit line for the company or require prefunding of the account. A company should take the cost of these measures into consideration when calculating the all-in cost of using ACH versus a wire.

## Considerations in Converting Paper to Electronic Payments

In light of the changing economics of disbursing by check and the concerns surrounding fraud, many companies are performing a cost-benefit analysis to see if a business case can be made for converting to elec-

tronic payment methods. The objectives can range from 100 percent conversion to setting progressive goals for achieving conversion (such as 100 percent direct deposit of payroll, converting 100 percent of consumer checks to ARC, or using Check 21-capable banks to digitize and truncate checks).

### Factors Driving Migration

The drivers for such a move are:

- Market opportunity
- Reducing external disbursement costs
- Reducing internal administrative costs
- Automating internal processes
- Preventing fraud
- Reducing operational risk
- Competitive pressure
- Customer or vendor pressure
- Regulatory requirements
- Regulatory changes, such as Check 21
- Employing best practices
- Improved, available, and affordable technology

### Barriers to Electronic Payments

Despite the many compelling arguments in favor of converting paper payments to electronic formats, there remain many barriers and challenges:

- Internal**
- Cost of conversion in systems and training on the products
  - Scarce IT resources
  - Need to maintain dual systems for emergencies and backup
  - Resistance to change (Hey—checks work!)
  - Perception that checks are cheap
  - Loss of disbursement float (largely eroded in today's environment)
  - Integrating new systems with other internal accounting systems
  - Electronic payments require more banking information
  - Business case is hard to make due to lack of information

- External**
- Vendor acceptance not assured; some may not be able to receive electronic payments
  - Multiple formats are required
  - Remittance and bank account data is required

### Implementation of Electronic Payments

If a company is considering moving to electronic payments, there are certain steps that should be taken to ensure a smooth implementation:

- 1. Determine the project goals**
  - What is the ultimate objective?
  - What is the benefit to the company?
  - Why is the project being undertaken at this time?
  
- 2. Build the business case**
  - Identify *all* the stakeholders.
  - Determine the impact of conversion across the company.
  - Conduct a cost-benefit analysis.
  - Evaluate risks, issues, and concerns and the extent to which they can be mitigated.
  - Evaluate contingencies and disaster recovery plans.
  - Outline the project plan.
  - Obtain agreement to proceed.
  
- 3. Project launch**
  - Put together the project team, with representation from all major stakeholders.
  - Profile requirements.
  - Select vendors (see Chapter 17 on the bank selection process).
  - Review and finalize legal documentation.
  
- 4. Implementation**
  - Review process flows, procedures, technology, and other requirements.
  - Ensure product delivery.
  - Conduct pilot testing, including all operational, audit, disaster recovery, and contingency planning aspects.
  - Conduct installation and training.
  
- 5. Transition**
  - Review all procedures with primary users.
  - Test for acceptability.
  - Conduct further training (if necessary).
  - Obtain sign-off and approval.
  
- 6. Go live**
  - Operate parallel systems for three to six months.
  - Cut over to the new system when all major issues appear to have been satisfactorily resolved.
  
- 7. After implementation**
  - Continue to check with users and stakeholders if there are any post-implementation issues.
  - Resolve issues as they arise.

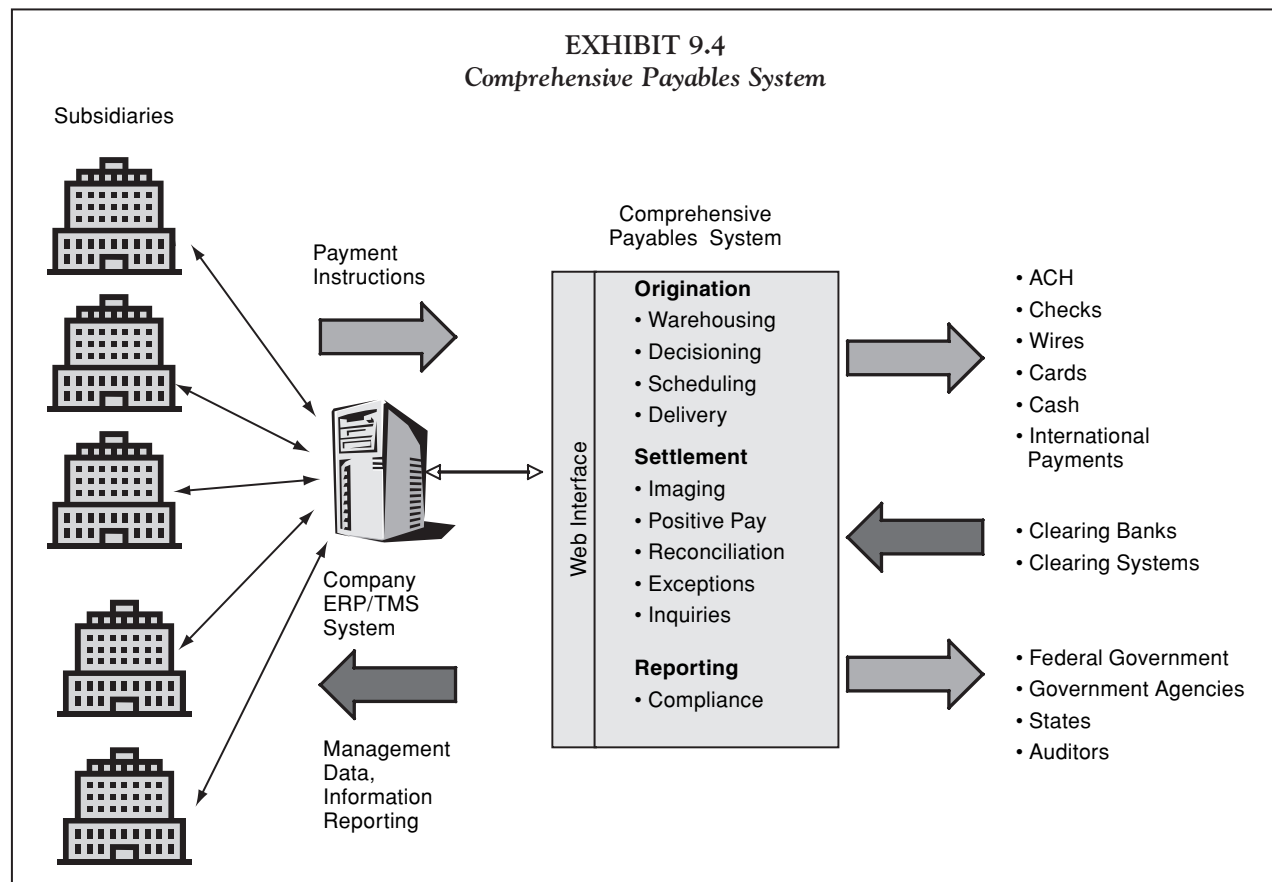


Outsourcing disbursements may be one effective way to ease the migration to electronic payments, so that the internal investment in systems is minimized and the service providers maintain the ability to make payments in multiple formats.

## Outsourcing Disbursements

Unless companies have the corporate weight of a General Motors and can insist on all payments being made and received electronically, most companies end up with multiple disbursement systems. Even a highly automated company using mainly electronic payments may also keep a check payment system as a backup or for last-minute exception payments. As companies automate their accounts payable function and centralize disbursements, many look to outsource their payments function to avoid the administrative nightmare of managing and controlling multiple payment systems. Most major banks now offer services that allow companies to send a single file transmission to the bank with all of their payments and the bank will then effect the payments in the most expeditious manner. The parameters concerning disbursement methods may be established either by the bank or the company. Outsourcing payments also brings about greater efficiencies in the automation of accounts payable, disbursements, and reconciliation.

Exhibit 9.4 illustrates a typical structure for a comprehensive payables system. A company links its subsidiaries directly to its enterprise resource planning (ERP) system or a treasury management system (TMS). The ERP system or TMS consolidates all the payment information from the subsidiaries and then uploads



this information to the outsourcing bank through a Web interface. The bank then effects all the payments, using whichever method is appropriate and sends confirmations back to the company, which in turn sends the information back to the subsidiaries.

## Cash Management Tips for More Efficient Disbursement

As mentioned earlier, there are many different objectives for a disbursement system. Although the cash management role may have historically been confined to disbursement float, today the cash manager is expected to have a much broader view and influence, if not directly manage, the wider context of payables float. The following are suggestions for making cash outflows more efficient.

### *Managing Accounts Payable Float and Costs*

- Negotiate the extension of credit period to reflect transit time.
- Do not miss taking discounts (if cost effective).
- Negotiate better discounts with suppliers.
- Ensure procedures exist so that payments are not made early just to fit in with the accounts payable cycle.

### *Managing Disbursement Float*

- Negotiate float-neutral terms (electronic disbursement on the equivalent date had the payment been made by check).
- Use a zero balance or controlled disbursement account.

### *Managing Vendor Relationships*

- Pay on the due date and avoid late penalties or more costly methods of transfer.
- Pay electronically.
- If paying by check, use a bank that is local for the vendor.

### *Minimizing Disbursement Costs*

- Fully cost the different payment methods being used by the company, including internal, external, and opportunity costs, to determine which is most cost beneficial.
- Use repetitive wires rather than freeform wires.
- If large disbursements are known in advance, consider using ACH rather than wire transfers (caveat: see Treasury Tip above).

### *Reducing Internal Labor Costs*

- Calculate the cost of using a bank's full reconciliation services against the internal costs of doing the reconciliation in-house.
- A purchasing or procurement card (p-card) can reduce the internal costs of purchasing considerably by automating, consolidating, and bringing efficiencies to the entire process (see Chapter 5).
- Outsource disbursements using a comprehensive payables service that can not only provide bulk pricing but also reduce the internal costs of issuing, controlling, and making payments.

## Trends in Payment Practices

The way in which disbursements are made in the United States is changing. The following summarizes the major trends:

- |                                       |  |
|---------------------------------------|--|
| <i>Declining use of check</i>         | <ul style="list-style-type: none"> <li>• Decreased float advantages brought about by lower interest rates, Check 21 electronic clearing, check truncation, conversion to ACH, and efficient check collection services.</li> </ul>  |
| <i>Increased cost of fraud</i>        | <ul style="list-style-type: none"> <li>• Fraud prevention measures are becoming expensive.</li> <li>• Many banks will not sell disbursement services without positive pay (see Chapter 10 on fraud prevention).</li> </ul>   |
| <i>Increased pressure to automate</i> | <ul style="list-style-type: none"> <li>• Pressure from trading partners to use EDI and e-commerce.</li> <li>• Internal pressure to reduce costs.</li> </ul>  |
| <i>Increased use of ACH</i>           | <ul style="list-style-type: none"> <li>• Float-neutral terms provide equal disbursement float.</li> <li>• Cheaper all-in cost compared to the all-in cost of checks.</li> <li>• Concerns with and cost of fraud.</li> <li>• Government and state initiatives for electronic payment.</li> <li>• For larger-value, non-urgent payments (rather than wire).</li> <li>• Growth of international ACH (see Chapter 14 for a description of international ACH).</li> </ul> |
| <i>Growth of Internet use</i>         | <ul style="list-style-type: none"> <li>• Improved security is increasing corporate use of the Internet for payments, for example, EIPP and EBPP.</li> </ul>  |
| <i>Outsourcing payments</i>           | <ul style="list-style-type: none"> <li>• Comprehensive payables products are gaining popularity and enabling companies to use multiple disbursement vehicles cost-effectively.</li> </ul>  |
| <i>Use of procurement cards</i>       | <ul style="list-style-type: none"> <li>• Along with increased use of plastic generally, p-cards are providing enormous efficiencies to the corporate purchasing process.</li> </ul>  |

Although 34 billion checks are still being written, the trend is inexorably toward electronic disbursements.

## Practical Applications

Review the disbursement methods used by your company. Determine the volume and value for each method. What are the trends for disbursements in your industry? How are your competitors paying? On what terms? Are there any recommendations for changes you would like to make?

## Summary of Key Points

- The objectives of a disbursement system should include making timely payments, keeping idle balances to a minimum, reducing the cost of making payments, obtaining timely and accurate information on

disbursements, preventing fraud, supporting the accounts payable function, and maintaining vendor relationships.

- There are a number of specialized vehicles designed to achieve the above objectives, the major ones being the zero balance account and controlled disbursement.
- There are some very compelling arguments for a company to consider moving to electronic payments rather than check disbursements.
- Such a move, however, is not without challenges, the cost of systems conversion and vendor acceptance being two of the major ones.
- These can, in part, be overcome through a well-planned and well-executed implementation.
- Another solution to ease a transition to electronic payments and overcome many of the challenges is to outsource all disbursements using a comprehensive payables service.
- Although the statistics still show a heavy reliance on checks as a payment mechanism, the trend is inexorably toward electronic methods.

# 10

## *Fraud Prevention and Control*

### Chapter Goals

This chapter covers the following topics:

- Where fraud occurs
- Fraud detection
- Fraud prevention
  - What the banks are doing
  - What the company can do
- Resources

### Introduction

Fraud and fraud prevention are important topics for the cash manager, and this chapter identifies where fraud arises and what can be done to prevent it. Further information can be found in the list of resources provided at the end of this chapter.

Although the true cost of fraud to corporate America is difficult to estimate because much of it goes unreported, the financial industry has discovered that fraud and the resulting losses continue to increase every year. Ernst & Young estimated that over 500 million checks are forged annually, resulting in losses of between \$10 billion and \$15 billion. Although there are no definitive studies on ACH fraud, the National Automated Clearing House Association (NACHA) estimates that fraud losses in 2004 were between \$2 million and \$5 million. *The American Banker* forecasts that these losses will grow at a rate of 2.5 percent a year. Much of the emphasis in disbursement systems concerns fraud prevention, but companies should also be concerned about fraud in all areas of the financial cycle.

### Where Fraud Occurs

Although fraud can occur at any stage in the financial cycle, a 2004 survey conducted by KPMG found that employees were responsible for approximately 60 percent, with the theft of assets accounting for almost 50 percent of the losses. The most common types of financial fraud a company is exposed to are:

- Concealing cash**
- Skimming small amounts of cash off each transaction
  - Diverting collections
  - Collecting cash for unrecorded sales

- Vendor schemes**
- Vendor schemes usually involve either making cash payments to employees to influence a purchasing decision or sharing the proceeds of a scam with the employee. These can include:
    - Masking a payment to an employee as a refund
    - Receiving kickbacks on purchases, when employees make a purchasing decision based on a promise of an under-the-table payment
    - Inflating the original invoice and then paying the difference to the employee
    - Not recording a payment due for goods shipped and taking the payment directly
- Employee misuses**
- Inflated expenses and double charging
  - Inappropriate use of corporate credit cards
  - Use of company time and materials for private purposes
- Asset theft**
- Theft or sale of corporate assets
  - Improper retirement and sale of assets
  - Non-reporting of proceeds from sale of retired assets
- Payroll abuses**
- Fictitious employees
  - Withholding taxes deducted but not paid
  - Overtime hours misstated or inflated

The treasury function is particularly concerned with fraud that affects the payment and collection cycles. Although typically more secure than check disbursements, electronic payments, and in particular the ACH system, also have a number of weaknesses that can be exploited:

- Since it is a batch system with a one- or two-day cycle, it can take a number of days before an account is reconciled and a fraud detected.
- Consumer debits can be returned up to 60 days after the settlement date.
- At time of settlement there is no real-time mechanism for checking the status and balance in an account.
- NACHA rules do not require there to be a match of the account number to the name of the account holder.
- With no standardized account number structure in the United States, account numbers are difficult to validate prior to release of payment to ACH.

## Fraud Detection

There are a number of ways to detect fraud (both formal and informal), and a company may use many of these methods in combination:

- Test internal controls
- Internal audit
- External audit
- A whistle-blower or anonymous tip

- Vendor information
- Regulatory or law enforcement investigation
- Happenstance (detection by accident or coincidence)

There is, however, no better substitute in fraud detection and prevention than having policies and procedures that are documented, implemented, and enforced. Most important, senior management sets the tone. The following section examines what fraud prevention measures can be taken throughout the financial supply chain.

## Fraud Prevention

The Uniform Commercial Code specifies a minimum level of responsible measures to help protect banks and bank customers from fraud, and requires the exercise of “ordinary care” in the payment process.

Article 3, which covers check payments, states that customers must not only exercise “ordinary care” but also implement “reasonable commercial standards” for safeguarding against fraud. If a customer fails to exercise ordinary care, such as not securing blank check stock, or refusing to accept the security measures offered by the bank, the bank is not liable for a fraudulent item. Banks, on the other hand, may charge items to a customer’s account only if they are properly payable; that is, they have been signed by an authorized signer. Thus if a bank pays a check that has a forged signature, it is liable for any loss, unless it can demonstrate that the customer did not follow “reasonable” procedures to safeguard the check issuing process.

Article 4 further requires that customers reconcile their bank accounts within 30 days after a statement has been sent, and to inform the bank promptly of any discrepancies, or alterations to or unauthorized signatures on checks. Failure to do so may limit a bank’s liability. Article 4 limits a bank’s liability to the actual monetary loss, and excludes consequential damages.

### *Treasury Tip: Checking Signatures on Checks*

Although banks may be liable if they have paid an unauthorized check, in real life banks do not verify signatures on the majority of checks. Verifying signatures is a manual process that would be prohibitively expensive if all checks had to be verified before being processed. Most banks establish a threshold amount above which they will manually process a check and verify the signature, but beneath that threshold a check will be processed without verification. Article 3 specifically recognizes that general banking practice now does not require manual signature verification of all checks and that failure to do so is not a failure to exercise ordinary care. This makes it even more important for companies to reconcile accounts promptly and to inform their banks quickly if they notice any evidence of fraud.

## What the Banks Are Doing

One of the more significant developments in the fight against fraud has been the development of *positive pay*. Recall that *positive pay* is a bank service that requires a company to inform the bank of all authorized checks that have been issued, and the bank matches all items presented for payment against the authorized list before debiting the customer’s account. Positive pay enables a company to quickly identify checks on which the amount has been altered or the payee has been changed, or determine if the check is counterfeit. If a company uses a bank’s full reconciliation product, the company is already sending a transmission

to the bank with the relevant information required for positive pay. The major difference is that with positive pay a fraud can be detected *before* the item is paid rather than as a result of the reconciliation process that occurs several days or weeks later.

When a bank receives an item that is not on the authorized list, it presents the information electronically to the customer for a pay or no-pay decision. Because the bank has a very short time frame during which it can return the item, the customer usually leaves a default decision with the bank just in case the relevant parties cannot be reached in time. Usually that default decision is to pay as most mismatches are the result of something other than a fraud, such as an exception item that was issued after the check run had been communicated to the bank.

Most positive pay services will look for a match of the check number and the amount. Some of the more advanced products will also look for a match with the payee. Banks are also expanding positive pay to the teller window, so that any checks presented over the counter can be matched up by the teller.

***Treasury Tip: To Positive Pay or Not to Pay***

Because fraud is such a large and expensive problem for banks, many now require that customers using a disbursement product also use positive pay. This may be priced separately or bundled into the cost of the disbursement service itself. When buying new disbursement products, it is important to understand whether positive pay is a requirement and how it is priced.

There are still instances in which positive pay will not catch a fraud:

- If the bank service does not match for payee
- If a check is presented over the counter and the bank's tellers are not linked to the positive pay data base
- If a check is intercepted and fraudulently endorsed and deposited
- If a check is cashed in good faith by a third-party check cashing facility
- If there is internal fraud or collusion

The ongoing developments, however, coupled with electronic presentment, go a long way toward preventing corporate check fraud. Today, most banks have either bundled positive pay with the controlled disbursement product or will increase the cost of disbursement to the customer if he or she refuses to take positive pay.

***Treasury Tip: Positive Pay for ACH***

The concept of positive pay has been extended to ACH transactions and only ACH payments to vendors on the approved vendor list are permitted. Any exceptions are referred back to the company for approval before being processed.

## What the Company Can Do

- Accounts reconciliation***
- Insist that employees promptly reconcile their reimbursements to the expense voucher to make sure there have been no errors or fraud by intermediaries.
  - Separate account reconciliation, accounts payable, and disbursement functions.



- Accounts payable**
- Audit vendor list: Fraud occurs when fictitious vendors are introduced. Verify the vendor list, request and follow up on references, run a credit check, and request a federal tax identification number.
  - Mail vendor payments: Do not allow vendors to pick up checks physically; mail them to the company address or lockbox.
  - Monitor expense reimbursement: Ensure that requests for expense reimbursement are submitted according to company guidelines, are properly supported, and are substantiated.
  - Reimburse employees by direct deposit.
- Check Issuance.** The prevention of check fraud should be addressed at several levels: before, during, and after issuance:
- Before issuance**
- Use a reputable vendor for check printing.
  - Use the highest-level safety paper with watermarks.
  - Ensure access to all check stock, blank or preprinted, signature plates, check-printing equipment, and so on is secured, and only authorized staff is allowed access.
  - Allow disbursements only from certain accounts and set debit blocks on all other accounts.
- During issuance**
- Use blank safety paper and print checks inhouse as needed using check-printing equipment.
  - Maintain logs of use, including check number runs.
  - Print signatures or signature substitutes at the time a check is printed rather than using signature plates.
  - Consolidate and centralize check issuance for the company. Do not allow manual check preparation and establish stringent procedures for exceptions.
  - Set maximum dollar amounts on checks from certain accounts.
  - Use electronic payments instead of checks.
- After issuance**
- Keep issued checks in a secure area until mailed.
  - Mail issued checks immediately (do not print in advance and store).
  - Do not allow employees or vendors to pick up checks personally.
  - Secure any checks returned as part of the reconciliation process.
  - Use a positive pay service (with payee verification if available) and review all mismatches.
  - Select a bank with good imaging capabilities so that a check image is available immediately for inspection if a fraud is suspected.
  - Establish a policy of rejecting stale dated items.
- Policies and procedures**
- Reconcile accounts promptly.
  - Develop, implement, and enforce policies and procedures for check disbursements.

- Work with banks to develop procedures that require presentation of several forms of ID before cashing checks.
- Limit check signing authority to a few senior corporate officers and keep the list of authorized signers current.
- Keep an approved vendor file and do not allow additions without proper authorization.

**Electronic Payments.** Although generally much more secure than check payments, electronic payments are not invulnerable and every year the amount of electronic fraud increases:

- Wires**
- Use repetitive rather than freeform wires.
  - Use all of the bank's wire transfer security procedures, which may include:
    - Passwords and PINs.
    - Test keys.
    - Multiple approval levels.
    - Separating input from release functions.
    - Encryption, authentication, and digital signatures.
    - External security devices or keys.

- ACH**
- Use a bank that matches the account name with the account number and returns payment if there is no match.
  - Use positive pay for ACH by providing the bank a list of authorized payees and their bank accounts and allowing only ACH transactions to those accounts.
  - Consider blocking debit transactions on all accounts except the few that require the functionality.

### Purchasing Cards

- Internal**
- Place individual dollar amount limits on employee spending.
  - Place individual vendor restrictions on employee purchases.
  - Require timely accounting and original invoices for all employee purchases.

- External**
- Authorize use with preapproved vendors only.

### Securing PCs Physically

- Internal**
- Secure the treasury area and control access to PCs in the area.
  - Change passwords frequently and do not post them on a PC!
  - Encrypt sensitive files.
  - Do not allow PCs to be removed from the premises without proper authorization.

- External**
- Do not lose visual contact with a PC, especially at airports.
  - Secure a PC when not in the office or at home.
  - Do not leave PC unsecured in a hotel room—use the safe.

- Do not leave a PC in unoccupied conference rooms or offices, even for a short period of time.
- Carry a PC lock that can be used to secure the equipment.
- Back up data frequently to a removable drive, or e-mail important new data to yourself as a backup.
- Do not travel with unnecessary, sensitive, or confidential information on the computer.

## Resources

When preventing fraud, or if a fraud has been detected, there is much helpful information available on the Internet. The following are good places to start:

- Department of Justice: [www.usdoj.gov](http://www.usdoj.gov)
- Securities and Exchange Commission: [www.sec.gov/investor/pubs/cyberfraud.htm](http://www.sec.gov/investor/pubs/cyberfraud.htm)
- American Institute of Certified Public Accountants: [www.aicpa.org/antifraud](http://www.aicpa.org/antifraud)
- Association of Certified Fraud Examiners: [www.cfenet.com](http://www.cfenet.com)
- National Check Fraud Center: [www.ckfraud.org](http://www.ckfraud.org)
- Internet Fraud Complaint Center: [www.ic3.gov](http://www.ic3.gov)
- Association for Financial Professionals: [www.afponline.org/pub/pdf/PaymentsFraud05.pdf](http://www.afponline.org/pub/pdf/PaymentsFraud05.pdf)
- GTnews: [www.gtnews.com/article/5718.cfm](http://www.gtnews.com/article/5718.cfm)
- National Automated Clearing House Association: [www.internetcouncil.nacha.org/docs/Fraud](http://www.internetcouncil.nacha.org/docs/Fraud)

## Practical Applications

Determine what fraud prevention measures are in place at your company. Are there any other recommendations you might want to consider?

## Summary of Key Points

- Fraud is a very large problem, costing companies and banks in the United States over \$10 billion a year.
- Fraud is as likely to arise from an internal source as from an external source.
- Companies must be vigilant in their efforts to detect fraud.
- There is much that a company can do to prevent fraud from occurring in the first place, and the Uniform Commercial Code places as much responsibility on the company as on the banks in combating fraud.
- Positive pay has been one of the recent bank products that helps detect, but cannot eliminate, check fraud before an item is paid.
- Companies should ensure that they have taken responsibility for implementing and enforcing internal fraud prevention measures.



# Cash Forecasting

## Chapter Goals

This chapter covers the following topics, with worked examples of several major forecasting methods:

- Why cash forecasting is important
- Key drivers of cash forecasting
- Sources of data
- Forecasting methods
  - Short-term forecasts
  - Medium-term forecasts
  - Long-term forecasts
- What to consider when designing a forecasting system

## Introduction

A good cash forecast is an important tool in managing a company's liquidity, not just for short-term day-to-day cash management but also for medium-term investment and borrowing. It is also instrumental in managing risks, enhancing returns, and maintaining financial controls. Cash forecasting techniques range from the simple spreadsheet to sophisticated computer models integrated into a company's enterprise-wide resource planning (ERP) system. Although the methods of forecasting may not have changed much over the years, the methods of data collection have progressed significantly. What is most important, however, is that the technique selected is appropriate for the purpose, reliable, and accurate.

## Why Cash Forecasting Is Important

Although none doubt the importance of forecasting, most treasurers admit that it is a very difficult and time-consuming process, mostly because spreadsheets often are not integrated with other systems, do not allow multiple user access, are resource intensive, and are error prone. Having a system that works for the company, however, is crucial for a number of reasons:

- Liquidity management**
- Predicting shortfalls and surpluses
  - Improving short-term investment returns

- Negotiating better borrowing terms and rates
  - Minimizing overdrafts
  - Using credit lines effectively
  - Optimizing the use of cash
- Risk management**
- Predicting interest rate changes
  - Anticipating foreign exchange fluctuations
  - Minimizing foreign exchange (FX) and interest rate risk
  - Understanding country risk
- Financial controls**
- Understanding the components of cash flows
  - Determining key drivers
  - Providing an early warning signal for changes or problems with the key drivers
  - Improving operational controls
- Strategic planning**
- Predicting the impact of capital planning and budgeting decisions
  - Anticipating market, economic, and competitive changes

## Key Drivers of Cash Forecasting

The short-term cash forecast is determined by the direct cash inflows and outflows:

- Cash inflows**
- Collections from customers
  - Uncollected or returned disbursements
  - Investment income
  - Maturing investments
  - Intercompany payments
  - Payment terms
  - Credit facilities
- Cash outflows**
- Disbursements to vendors and suppliers
  - Disbursements to employees for payroll and expense reimbursement
  - Uncollected or returned collection items
  - Debt repayment
  - Short-term investments
  - Capital investments
  - Interest expense
  - Federal, state, and local taxes
  - Corporate dividends
  - Pension fund and savings plan payments
  - Hedging costs
  - Intercompany payments

## Sources of Data

When constructing the forecast, the cash manager should access many sources to obtain data. Some of the best sources are:

### *Bank reporting systems*

Actual external flows:

- Current day and previous day's transactions
- Lockbox reports
- Controlled disbursement reports
- Trade collections reports
- Loan reports

### *Treasury systems*

Internally generated payments:

- Disbursements to vendors
- Investments
- Intercompany movements
- FX and hedging transactions

This system should also be able to provide historical patterns and analysis of:

- Seasonal patterns
- Other trends
- Economic factors

### *Accounting systems*

Information generated by other internal systems:

- Accounts payable
- Accounts receivable
- Capital expenditures

These systems provide data on recurring transactions and those that are known in advance, such as:

- Payroll
- Mortgage and lease payments
- Taxes
- Dividends

### *Investment and trading systems*

Maturing transactions and settlements

### *Company strategic plans*

This source provides information on the company's long-term business plans and budgets

### *Other internal sources*

More information on the business environment can be obtained from:

- Monthly internal reports
- Quarterly and annual reports
- Long-term plans and budgets

## Forecasting Methods

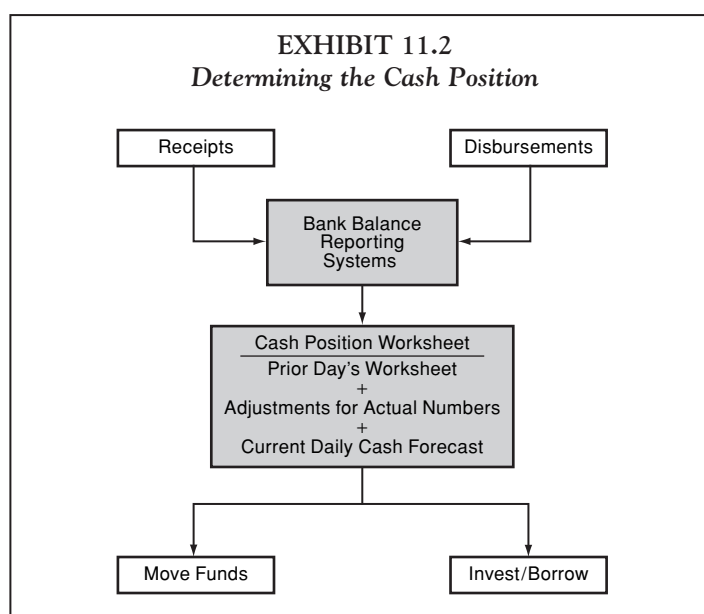
Forecasting methods are usually categorized by their primary purpose and time horizon. The following are descriptions of the methods most used by cash managers for the short, medium, and long terms.

### Short-Term Forecasts

The purpose of the short-term forecast is to manage day-to-day liquidity, to ensure that the company has sufficient funds to pay its obligations, and to optimize the use of any short-term excess cash. Exhibit 11.1 illustrates how a short-term cash forecast is constructed; this is also called a *receipts and disbursement forecast*. When used on a daily basis, this forecast helps the cash manager determine the final daily cash position (see Exhibit 11.2) in order to make borrowing and investment decisions.

<b>EXHIBIT 11.1</b> <i>Example of a Daily Cash Forecast</i>					
	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
<b>Opening Cash Balance</b>	20,000	10,000	13,000	-12,000	-12,000
Total Expected Cash Receipts	15,000	25,000	10,000	5,000	30,000
Total Expected Cash Disbursements	-25,000	-22,000	-35,000	-5,000	-10,000
<b>Ending Cash Balance</b>	10,000	13,000	-12,000	-12,000	8,000
Compensating Balance*	-5,000	-5,000	-5,000	-5,000	-5,000
<b>Forecast Deficit</b>			-17,000	-17,000	
<b>Forecast Usable Surplus</b>	5,000	18,000			3,000

\*The compensating balance is a balance that the bank requires be left in the account to compensate for services the bank provides.





## Medium-Term Forecasts

In the medium-term forecast, the cash manager takes additional factors into consideration, such as:

- Seasonality
- Capital expenditures
- Major acquisitions or divestments
- Maturing investments or borrowings

The examples in Exhibit 11.3 illustrate some seasonal trends in cash flows that might be experienced by different industries. The building industry, for example, has a very slow period during the winter months, when outdoor construction is difficult because of weather conditions. Much of the work is performed and paid for in the more clement seasons. Ski equipment is bought prior to the beginning of the skiing season with heavy sales continuing through to the end of the season as equipment is sold off in preparation for the next season's inventory. Retailing has a big buildup to the Christmas buying period and a sharp decline after the post-Christmas sales. Tourism typically experiences two peak seasons, the traditional summer season and increasingly the shorter Christmas getaway season.

To adjust a forecast for factors such as seasonality, or anomalies in the most recent data, some treasurers use a modification of the moving average, called *exponential smoothing*. A forecast using exponential smoothing adjusts the forecast by providing either more or less smoothing to the moving average for the next period. The formula for exponential smoothing forecasting is:

$$\text{Next Period Forecast} = \text{Current Period Forecast} + \alpha (\text{Current Period Actual} - \text{Current Period Forecast})$$

Or, more simply stated:

$$\text{Next Period Forecast} = \text{Current Period Forecast} + \alpha (\text{Current Period Error})$$

where  $\alpha$  is the smoothing constant.

The smoothing constant ( $\alpha$ ) ranges in value from 0 to 1. A value closer to 1 assigns more weight to the most recent data, signifying that this is more indicative of the direction of future cash flows. A value closer to 0 assigns more weight to the historical data by applying more smoothing and signals that the most recent data is an anomaly and not as representative of future flows. The value of  $\alpha$  can be calculated using computer techniques such as regression analysis or manually through trial and error using historical data to determine which value produces the most accurate forecast.

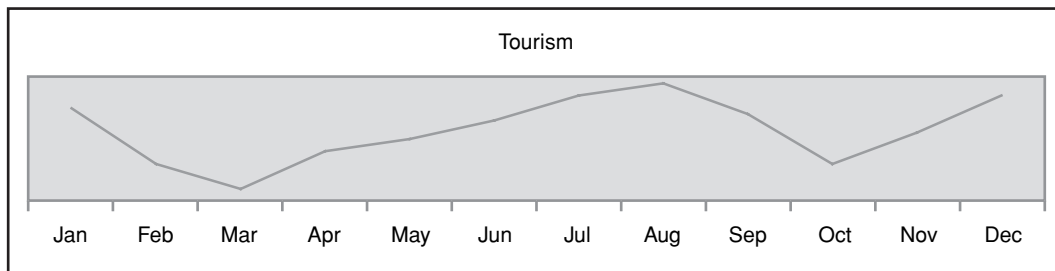
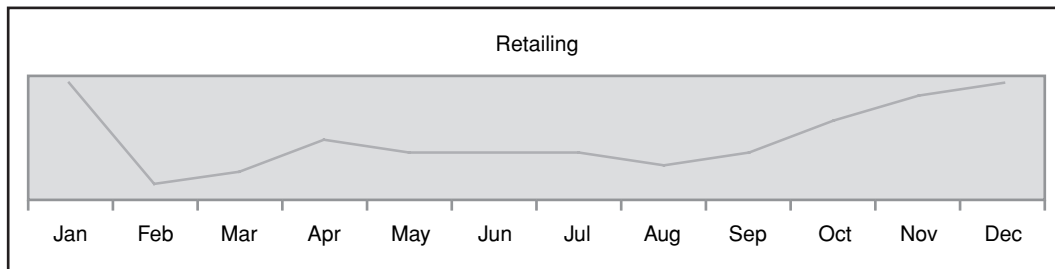
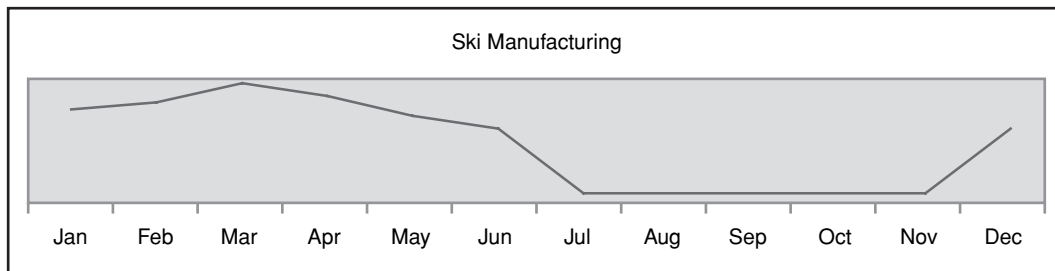
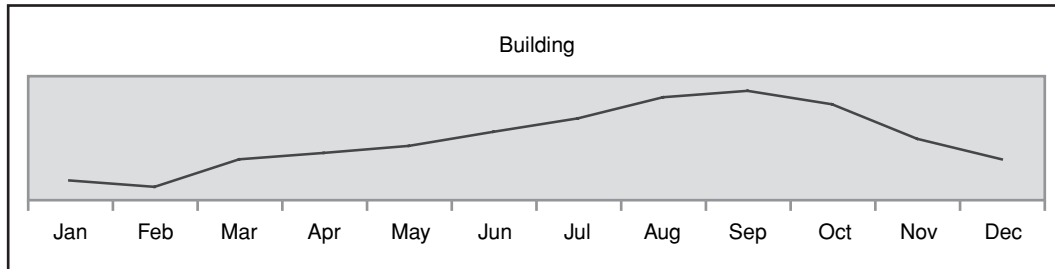
### Worked Example: Exponential Smoothing

A company wishes to determine whether exponential smoothing will produce a more accurate forecast than the simple moving average. The actual cash flows for weeks 1 through 6 are as follows (all numbers in \$000s):

Week 1:	250
Week 2:	235
Week 3:	250
Week 4:	240
Week 5:	350
Week 6:	250

(Continued)

EXHIBIT 11.3  
Seasonal Fluctuations of Cash Flows



**Worked Example (continued)**

1. To compute the forecast for week 5 using the four-week moving average, which makes no adjustment for smoothing we get:

$$\text{Moving average forecast week 5} = (250 + 235 + 250 + 240)/4 = 243.75$$

As the actual cash flow for week 5 is 350, the forecast error is  $350 - 243.75 = 106.25$

2. Noticing that week 5 actual flows are unusually high, the cash manager needs to make a decision about the forecast for week 6. The moving average forecast for week 6 would produce a forecast of:

$$(235 + 250 + 240 + 350)/4 = 268.75$$

3. If the cash manager believes that week 5 data is more indicative of future flows (for example, a new product has been launched) it can assign a high  $\alpha$  value of 0.85 to make sure that more weight is assigned to the week 5 actual flows.

The exponential smoothing forecast for week 6 with  $\alpha$  value 0.85 is, therefore:

$$243.75 + .85 (106.25) = 334.06$$

4. If, however, the cash manager believes that week 5 actual cash flows are an anomaly, concludes that historical data for weeks 1 through 4 is more indicative of future flows, he can assign a low value to  $\alpha$  of 0.15, ensuring greater smoothing.

The exponential smoothing forecast for week 6 with an  $\alpha$  value 0.15 is, therefore:

$$243.75 + .15 (106.25) = 259.69$$

5. Actual cash flow for week 6 was 250. The forecasts, therefore, produced the following errors:

$$\text{Moving average error} = 250 - 268.75 = -18.75$$

$$\text{Exponential smoothing using } \alpha \text{ value } 0.85 = 250 - 334.06 = -84.06$$

$$\text{Exponential smoothing using } \alpha \text{ value } 0.15 = 250 - 259.69 = -9.69$$

In this example, it appears that week 5 actual flows were an anomaly and a low  $\alpha$  value produced a more accurate forecast. A correctly applied  $\alpha$  value results in a more accurate forecast than using the simple moving average.

Historical information can also be useful in predicting the pattern of sales receipts and how check disbursements clear. The following is a worked example of a *distribution forecast*.

**Worked Example: Forecasting Collections**

A company's collection experience has shown that 60 percent of sales are collected in the month after the sale, 30 percent in the month following and the final 10 percent in the third month after the sale. Thus, with the following sales recorded, the company can forecast the cash collections as follows:

*(Continued)*

## Worked Example (continued)

	JAN	FEB	MAR	APR	MAY
	(\$000s)				
Sales	350.00	225.00	300.00	120.00	220.00
Collections Forecast					
Jan Sales		210.00	105.00	35.00	
Feb Sales			135.00	67.50	22.50
March Sales				180.00	90.00
April Sales					72.00
Forecast Collections	0.00	210.00	240.00	282.50	184.50

## Worked Example: Forecasting Check Disbursement Clearing

The company has determined that check disbursements clear in the following pattern:

- First business day after disbursement: 10% clear
- Second business day after disbursement: 35% clear
- Third business day after disbursement: 40% clear
- Fourth business day after disbursement: 10% clear
- Fifth business day after disbursement: 5% clear

In addition, the company, through statistical analysis of historical data, has also found that the day of the week affects the clearings and that on:

- Monday 5% fewer clear than would otherwise be expected
- Tuesday 3% more clear
- Wednesday 2% more clear
- Thursday 1% more clear
- Friday 1% fewer clear

If the company disburses \$100,000 in checks on Wednesday, January 2, it can forecast the following clearings:

Date	Day of Week	Day After Disbursement Effect	Day of Week Effect	Clearing Forecast
Jan. 3	Thursday	10%	+1%	\$11,000
Jan. 4	Friday	35%	-1%	\$34,000
Jan. 5	Saturday	—	—	—
Jan. 6	Sunday	—	—	—
Jan. 7	Monday	40%	-5%	\$35,000
Jan. 8	Tuesday	10%	+3%	\$13,000
Jan. 9	Wednesday	5%	+2%	\$7,000

## Long-Term Forecasts

Although cash managers are often involved in providing input and should have an understanding of how longer-term forecasts are constructed, they are usually produced by financial analysts in the company, using techniques such as cash modeling. This involves creating a pro forma profit and loss statement and balance sheet based on certain data forecast for the next period.

Again, based on historical observation, a company can extrapolate relationships between certain P&L and balance sheet items, such as the ratio between sales and cost of goods sold (COGS), administrative expenses, and levels of inventory. Thus, if the company plans a launch of new products in the following year and expects sales levels to rise, pro forma financial statements can be drawn up to see the impact on cash and whether as a result of the planned changes the company will need to borrow or will have a surplus, which means it can undertake more investments or reduce debt.

### Worked Example: Cash Modeling

Based on the following projections, the company will prepare its forecast for the next period:

- The company is planning an increase in sales of 30% due to a new product launch.
- There is a correlation between sales and COGS, selling and administrative expenses, and current assets and current liabilities.
- Depreciation will increase by 20%.
- Long-term debt will decrease by 30%.
- Dividends will increase by 10%.

	<i>Current Period</i> \$000s	<i>Forecast Period</i> \$000s
<b>Profit and Loss</b>		
Sales (increased 30%)	10,250	13,325
COGS (55% of sales)	5,638	7,329
Selling and Admin. (12% of sales)	1,230	1,599
Depreciation	250	300
Interest Expense @ 8%	440	308
Income Before Tax	2,693	3,789
Tax @ 35%	942	1,326
Net Income	1,750	2,463
Dividends	500	550
Net Earnings	1,250	1,913
<b>Balance Sheet</b>		
Cash (5% of sales)	513	666
Receivables (34% of sales)	3,485	4,531
Inventory (15% of sales)	1,538	1,999
Fixed Assets (less depreciation)	5,000	4,700
<b>Total Assets</b>	<b>10,535</b>	<b>11,896</b>
Payables (24% of sales)	2,460	3,198
Long-Term Debt (reduced by 30%)	5,500	3,850
Equity (includes net earnings)	2,575	4,488
<b>Total Liabilities and Equity</b>	<b>10,535</b>	<b>11,536</b>

*(Continued)*

### Worked Example (continued)

Remember this is a forecast, *not* a balance sheet statement. The imbalance that exists between the total assets and the total liabilities and equity in the forecast period predicts that based on company's plans there would be a deficit of:

$$\$11,896,000 - 11,536,000 = \$360,000$$

The financial managers would then have to determine whether to scale back their plans or find additional funding. They may have to reevaluate how much they can reduce debt in the next period.

## What to Consider When Designing a Forecasting System

There are a number of factors to consider when designing a forecasting system:

- Availability of data.** Where is the information? Is it consistent and available on a timely basis?
- Quantifiability.** The data must be quantifiable.
- Reliability of data.** Data can range from being highly accurate in terms of amount and timing, such as tax payments, to being highly uncertain, as with predicting the outcome of lawsuits or the cost of labor action. The forecast should take into account the degree of certainty associated with the data.
- Time frame.** The purpose of the forecast will affect the type selected. Receipts and disbursements calculations or distribution forecasts are ideal for short-term cash budgeting. For strategic planning purposes, on the other hand, a pro forma statement or regression analysis may be more appropriate.
- Flexibility.** The forecast must be flexible enough to be adjusted quickly for changes in the market, the economy, the effect of competition, and the like.

A good forecasting system also should be:

- Supported by senior management
- Well documented (in terms of policies and procedures)
- Compared with real data and corrected accordingly
- Consistent (in terms of timing and processes)
- Automated and integrated with existing systems
- Continuously improved

Companies that are automating their financial systems may be tempted to use forecasting modules that are often bundled with new software or hardware packages. Certainly, to the extent that data collection can be automated, that will be a plus in terms of timeliness and accuracy in producing the forecast. Cash managers should be certain, however, that the forecasting technique is appropriate for the purpose for which it will be used and that the forecast that will be produced is reliable, accurate, and most important, useful.

## Practical Applications

Identify the cash forecasting techniques used in your company. For what time frames are they being produced and to what use are they being put? Are the forecasts checked back against actual data and are the variances investigated and explained? What recent changes have been made to improve the cash forecasts?

## Summary of Key Points

- A good cash forecast is instrumental in managing a company's liquidity, managing risk, financial control, and strategic planning.
- Although sophisticated computer programs are available, the majority of forecasts are still done on a simple spreadsheet basis.
- There are many different types of forecasting techniques, designed for different purposes and time periods:
  - Short-term forecasting techniques include the receipts and disbursement forecast.
  - Medium-term forecasts include the distribution method and moving average.
  - Long-term forecasts use cash modeling.
- When constructing a forecast, it is important to consider the availability, quantifiability, and reliability of the data and the time frame for the forecast. Is the forecast flexible enough that it can be adjusted to reflect current or changing conditions?
- A good forecast does not necessarily need to be complex, but it does need to be accurate, reliable, and useful.





# 12

## Short-Term Investing

### Chapter Goals

This chapter covers the following topics and provides worked examples of how to calculate and compare yields on different investment instruments:

- Investment objectives
- Developing investment policy guidelines
- What the credit ratings mean
- Instruments used for short-term investments
  - Government issues
  - Bank and broker vehicles
  - Corporate instruments
- Factors that influence investment yields
- Calculating and comparing yields
- Investment strategies
  - Is outsourcing right for your company?

### Introduction

The cash manager is responsible for investing any surplus cash. He or she also considers and manages the proceeds from maturing investments (in both the long and short term). This can be done with active or passive strategies, outsourced or managed in house. In this chapter, we examine the investment options available to cash managers and the factors that influence the decision-making process.

### Investment Objectives

When investing short-term liquidity surpluses, three overriding objectives must be met:

1. *Preserving capital.* There must be no risk to principal in the short term.
2. *Retaining liquidity.* The investments must be convertible into cash quickly and easily when needed, which means that the markets for the instruments need to be deep and active.

3. *Increasing the company's return on assets.* The company must profit on cash that would otherwise earn nothing if left in a bank account.

More significantly, these objectives are shown in their order of importance, because it would be impossible to optimize all three without making some tradeoffs. To maximize investment return, a cash manager might have to give up liquidity or security of principal. If liquidity is emphasized, it puts either principal or rate of return at risk. An asset can always be sold in a hurry, but at what price?

***Treasury Tip: How Not to Invest a Company's Liquidity Reserves***

A few years ago, Robert Citron, the treasurer of Orange County in California, made headlines by investing the county's \$7.5 billion portfolio in risky, leveraged medium-term securities. The pool was intended to create investment returns before the money was spent on vital public services. When interest rates increased, the securities fell in value and Citron's Wall Street counterparties demanded billions of dollars of collateral. This created a liquidity trap and forced the sale of both collateral and securities. When the dust settled, the county had lost \$1.69 billion! This also highlighted another shortcoming in the county's treasury function—the lack of a strict framework of investment policies, guidelines, risk reporting, and independent and expert oversight.

The policy of choosing investments for their safety, liquidity, and yield is sometimes referred to as the *SLY principle*.

## Developing Investment Policy Guidelines

A company should have an investment policy to provide guidelines and parameters to the treasury area for investing short-term surpluses. The policy should cover the types of instruments, the duration, the currency, the credit quality, and the borrowers that are acceptable. It is important that senior management approve the company's policy toward investing funds and understand and accept the level of risk. When putting together an investment policy, the following items should be taken into consideration:

**Board approval.** Does the board have control and approval over the process?

**Security of capital.** Can the company sustain the loss of any or all of the principal? If so, how much?

**Liquidity.** How soon will the company need to have access to the funds? How much and by when?

**Yield.** What does the company expect by way of income on the investment?

**Flow of funds.** Does the company expect there to be a consistent stream of funds to be invested, or will the flow be sporadic?

**Covenants.** Are there any provisions creditors, stockholders, or lenders require?

**Regulatory.** Are there any regulatory limitations on investments that should be incorporated into the policy?

**Administration.** Who will manage the investment, effect the transactions, and have custody of the investment? Is the credit rating of the manager or custodian acceptable?

**Staffing.** Does the company have staff in place with the required expertise to manage the company's investment portfolio according to the investment guidelines?

**Taxes.** Does the company pay taxes?

**Future requirements.** Are there any upcoming projects or major purchases that will be funded from these investments? Are there any future divestments or inflows expected?

**Other issues.** Are there any other issues to be considered, such as banking relationships, local community support, and the like?

Once the policy has been established, it must be communicated to corporate staff in a useful format. This is normally achieved by drafting a comprehensive set of guidelines and procedures. The areas that should be addressed in the investment guidelines are as follows:

**Investment policy.** A summary statement of the company's philosophy with regard to risk and yield, and the attitude toward yield in relation to safety of the principal and liquidity of the portfolio.

**Applicability.** Are the guidelines applicable to all investments, or only certain investments, such as short-term excess funds?

**Responsibility.** Who will implement the policy, execute the investment transactions, supervise the operations, audit the investment activities, and provide administrative backup? Identify the position or title rather than the name of the individual performing each function.

**Types of instruments.** A description of the instruments that are acceptable and those that are prohibited. How will new instruments be considered and approved?

**Credit rating.** What degree of credit risk is the company prepared to accept? Are there minimum standards? Do they apply to all investments? *Diversification.* What are the maximum allowable concentrations by issuer, industry, country of origin, and so forth?

**Maturity limits.** What is the maximum period of time for which an investment can be held? What proportion of the portfolio can be held in various maturity ranges? Are there certain issues for which longer maturities are acceptable, for example, government securities?

**Maximum positions.** Are there limits on the maximum position the company can invest by issuer, by instrument, by maturity, or by currency?

**Safekeeping.** Where and how will securities be held? Pooled, segregated, or delivered to a third party? Who regulates the custodian, and how creditworthy is the custodian? Is the custodian covered by the Federal Deposit Insurance Corporation (FDIC), the Securities Investor Protection Corporation (SIPC), or other insurance coverage, such as excess SIPC?

**Hedging.** Can the portfolio be used for hedging purposes? How will the hedging transactions be handled, accounted for, and monitored?

**Performance measurement.** How will the performance of the portfolio be measured? Against what benchmarks will it be measured? Who selects the benchmarks?

**Reporting.** What reports does management need, with what frequency, and who should receive them?

**Audit.** What information is required to demonstrate compliance with regulations and investment policy? Who will monitor and track compliance?

## What the Credit Ratings Mean

As mentioned previously, preservation of principal is paramount and the guidelines should be very specific as to the amount that can be invested in instruments with various credit ratings. U.S. government instru-

ments (treasuries) are considered to have the highest credit rating. They are the closest to being risk-free instruments because they are backed by the “full faith and credit of the U.S. government.” Most other investment instruments are rated by various credit rating agencies, including Fitch’s, Standard and Poor’s (S&P), and Moody’s. Exhibit 12.1 shows examples of the rating systems covering both short- and long-term instruments.

**EXHIBIT 12.1**  
***Credit Rating Definitions***

**Fitch National<sup>1</sup>**  
Short-term issues

- F1:** Strongest capacity for timely payment of financial commitments.  
**F2:** Satisfactory capacity for timely payment of financial commitments.  
**F3:** Adequate capacity for timely payment of financial commitments.  
**B:** Uncertain capacity for timely payment of financial commitments.  
**C:** Highly uncertain capacity for timely payment of financial commitments.  
**D:** Indicates actual or imminent payment default.

**Note:**

- Ratings are available by country.
- Where the credit rating is particularly strong, a “+” is added to the assigned rating.
- Rating symbols may be changed to comply with local country regulations concerning labeling scales. For example, A1 is equivalent to F1, A2 is equivalent to F2, A3 is equivalent to F3, and so on.

**Standard & Poor’s<sup>2</sup>**  
Short-term issues

- A-1:** Capacity to meet its financial commitment on the obligation is strong.  
**A-2:** Somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions.  
**A-3:** Exhibits adequate protection parameters, but adverse conditions are more likely to lead to a weakened capacity to meet financial commitment.  
**B:** Has significant speculative characteristics. Rating can be further refined by the following categories:  
    **B-1:** Has significant speculative characteristics, but the obligor has a relatively stronger capacity to meet financial commitments over the short term.  
    **B-2:** Has significant speculative characteristics and an average speculative-grade capacity to meet financial commitments over the short term.  
    **B-3:** Has significant speculative characteristics and a relatively weaker capacity to meet financial commitments over the short term.  
**C:** Currently vulnerable to nonpayment.  
**D:** In payment default.

**Note:** Where the credit rating is particularly strong, a “+” is added to the assigned rating.

*(Continued)*

## EXHIBIT 12.1 (Continued)

Moody's<sup>3</sup>  
Long-term issues

**Aaa:** The best quality, the smallest degree of investment risk, and generally referred to as "gilt edge."

**Aa1–Aa3:** High quality by all standards, known as high grade bonds.

**A1–A3:** Upper medium grade obligations.

**Baa1–Baa3:** Medium grade obligations; that is, they are neither highly protected nor poorly secured and have speculative characteristics.

**Ba1–Ba3:** Have speculative elements with only moderate protection of interest and principal payments.

**B1–B3:** Lack characteristics of the desirable investment.

**Caa:** Of poor standing; may be in default.

**Ca:** Speculative in a high degree and are often in default.

**C:** The lowest-rated class of bonds, with extremely poor prospects of attaining any real investment standing.

<sup>1</sup>Source: Fitch Inc.

<sup>2</sup>Source: Standard & Poor's

<sup>3</sup>Source: California State Treasurer's Office

## Instruments Used for Short-Term Investments

There are a number of different types of investment vehicles. The instruments vary in terms of risk, maturity, and yield. Next, we describe the major types available to the cash manager.

### Government Issues

The most important issuing entity is the federal government, which issues short-, medium-, and long-term obligations. Recall that obligations issued by the U.S. government are considered to be virtually risk free because they are backed by the government. The yields on treasuries are used as the benchmark to compare the relative riskiness of investments, as seen in Exhibit 12.2. One of the other big advantages of using treasury issues for short-term investments is that the secondary market is very active, making these issues ideal for liquidity purposes.

There are also a number of federal agencies and government-sponsored enterprises (GSEs) that issue notes and bonds to provide liquidity for government-sponsored programs. Many of these instruments are mortgage-backed securities programs and, with the exception of the Government National Mortgage Association (GNMA, or Ginnie Mae) and the U.S. Department of Veterans Affairs (VA), they carry a slightly higher risk because they are not fully guaranteed by the government (although the expectation is that the government would intervene to repay investors in the event of default).

Municipal securities (munis) are interest-bearing notes and bonds issued by state and local governments and their agencies. They can be issued on a *callable* or *noncallable* basis. If callable, the issuing agency has

<b>EXHIBIT 12.2</b> <b>United States Treasury Securities</b>			
<i>Instrument</i>	<i>Maturity Range</i>	<i>Interest Basis</i>	<i>Characteristics</i>
Treasury bills (T-bills)	13, 26, and 52 weeks	Discount	<ul style="list-style-type: none"> <li>• Considered risk free</li> <li>• Yields are low</li> <li>• Active secondary market</li> <li>• Issued by <i>Dutch auction</i><sup>1</sup></li> <li>• Available in \$1,000 denominations</li> <li>• Exempt from state and local income taxes</li> </ul>
Treasury notes	2–10 years	Coupon	<ul style="list-style-type: none"> <li>• Considered risk free</li> <li>• Yields are low</li> <li>• Interest is paid semiannually (on par value)</li> <li>• Exempt from state and local income taxes</li> </ul>
Treasury bonds	Over 10 years	Coupon	<ul style="list-style-type: none"> <li>• Considered risk free</li> <li>• Yields are low</li> <li>• Interest paid semiannually (on par value)</li> <li>• Exempt from state and local income taxes</li> </ul>

<sup>1</sup>A Dutch auction, also known as a *descending price auction*, uses a *bidding* process that starts with a high price and continues to lower the price until all the available shares or units have been sold. It is usually done on a sealed-bid basis and all buyers pay the same price.

the option to repurchase the securities prior to maturity. This is an attractive feature for issuing agencies as it allows them the flexibility of refinancing if interest rates fall. Investors, however, face the possibility that their investments will be paid off early and then they will have to reinvest in a lower interest-rate market. We summarize GSE securities and munis in Exhibit 12.3.

<b>EXHIBIT 12.3</b> <b>Government-Sponsored Enterprise and Municipal Securities</b>			
<i>Instrument</i>	<i>Maturity Range</i>	<i>Interest Basis</i>	<i>Characteristics</i>
GNMA/VA	15–25 years	Coupon	<ul style="list-style-type: none"> <li>• Backed by full faith and credit of the U.S. government</li> <li>• Have interest rate–related risk</li> <li>• Have prepayment risk</li> <li>• Less liquid than T-bills or treasury notes</li> <li>• Less active secondary market</li> </ul>

*(Continued)*

EXHIBIT 12.3 (Continued)

<i>Instrument</i>	<i>Maturity Range</i>	<i>Interest Basis</i>	<i>Characteristics</i>
GSEs: <i>Federal Farm Credit Banks Funding Corporation, Federal Home Loan Mortgage Corporation (Freddie Mac), Federal National Mortgage Association (FNMA, or Fannie Mae), Student Loan Marketing Association (Sallie Mae)</i>	5 days–20 years	Discount and coupon	<ul style="list-style-type: none"> <li>• Slightly higher risk than T-bills, treasury notes, and GNMA/VA</li> <li>• Expectation (but not the guarantee) that the U.S. government will underwrite any losses resulting from default</li> <li>• Slightly higher yields</li> <li>• Market not as liquid</li> <li>• Not required to be rated by rating agencies</li> </ul>
Munis—general obligation	3 months–several years	Generally coupon	<ul style="list-style-type: none"> <li>• Backed by full faith and credit of issuer</li> <li>• Less risky than other types of munis</li> <li>• Repaid from local taxes</li> <li>• Most are exempt from federal and/or state taxes</li> </ul>
Munis—revenue obligation	3 months–several years	Generally coupon	<ul style="list-style-type: none"> <li>• Riskier than general obligations</li> <li>• Repaid by the revenues from a specific project</li> <li>• Creditworthiness can be enhanced by a letter of credit or an indemnity bond</li> <li>• Exempt from state and local taxes</li> </ul>

### Bank and Broker Vehicles

Banks, both domestic and foreign, are another major source of investment vehicles, offering a wide range of products. In addition, securities dealers and brokers also offer investment vehicles (see Exhibit 12.4).

Banks and securities dealers are active in the repo market. Repurchase agreements are widely used for short-term investments, and they are frequently used as the underlying investment for sweep accounts. The investor buys government securities from the bank or dealer, who agrees to repurchase them for a slightly higher price at a specified date in the future. The loan is collateralized by the securities that are simultaneously transferred with the funds. Most repos are overnight, although longer-maturity repos called *term repurchase agreements* are available. Exhibit 12.5 illustrates the flow of funds in a repo transaction.

**EXHIBIT 12.4**  
**Bank- and Dealer-Issued Investment Vehicles**

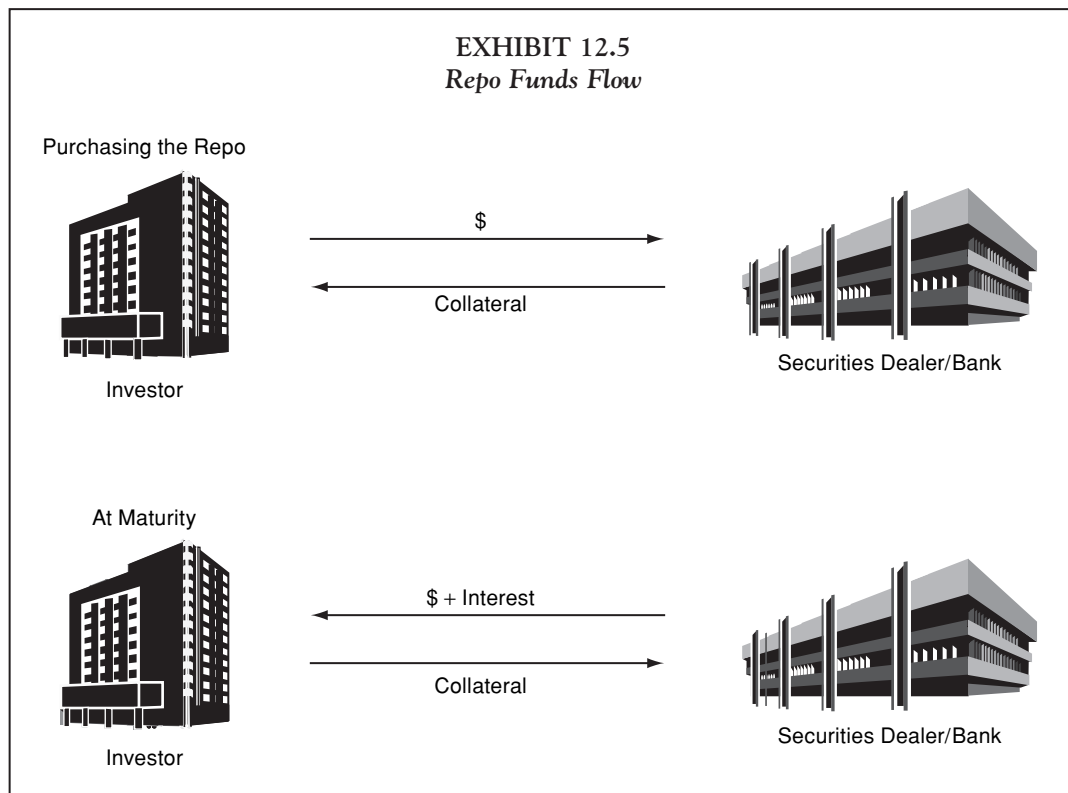
<i>Instrument</i>	<i>Maturity Range</i>	<i>Interest Basis</i>	<i>Characteristics</i>
Sweep accounts	Overnight	Coupon	<ul style="list-style-type: none"> <li>• End-of-day balances in demand deposit accounts (DDA) are swept into an investment vehicle and are returned to the DDA the next morning</li> <li>• Usually invested offshore or in repurchase agreements (repos)</li> <li>• Due to last-minute nature of the investment, interest rates are low</li> </ul>
Time deposits (TDs)	1 day–6 months	Coupon	<ul style="list-style-type: none"> <li>• Usually offered in the Eurodollar market (a market outside the U.S.—not necessarily in Europe)</li> <li>• Non-negotiable</li> <li>• Fixed rate for fixed period</li> <li>• Penalty for early termination</li> <li>• Carries credit risk of the issuer</li> </ul>
Certificates of deposit (CDs)	1 day–several years	Coupon	<ul style="list-style-type: none"> <li>• Can be issued in bearer or in registered form</li> <li>• Active secondary market</li> <li>• Fixed or floating rate</li> <li>• Minimum denomination of \$100,000</li> <li>• Jumbo CDs issued for \$1 million and above</li> <li>• Can be issued by U.S. banks in the U.S., foreign banks in U.S. (Yankee CDs), and banks outside the U.S. (Eurodollar CDs)</li> </ul>
Banker's acceptances (BAs)	30–180 days	Discount	<ul style="list-style-type: none"> <li>• Guarantee of payment by issuing bank on maturity date</li> <li>• Subject to the credit risk of the issuing (or confirming) bank</li> <li>• Arise from specific trade transactions</li> <li>• Active secondary market</li> </ul>
Repurchase agreements (repos)	1 day–upward	Preagreed on the repurchase price	<ul style="list-style-type: none"> <li>• Purchase of a security with an agreement to sell back at a predetermined price on a specified date</li> <li>• Usually collateralized</li> <li>• Major risks are creditworthiness of seller, custody arrangements, and quality of the collateral</li> </ul>

*(Continued)*



EXHIBIT 12.4 (Continued)

<i>Instrument</i>	<i>Maturity Range</i>	<i>Interest Basis</i>	<i>Characteristics</i>
Short-term investment pools (STIPs)	1 day–upward	Based on the value of the portfolio	<ul style="list-style-type: none"> <li>• Money market funds are most commonly used form of short-term investment pools (STIPs)</li> <li>• Large pools of short-term financial instruments</li> <li>• Investors are sold shares in the pool</li> <li>• Earn money market rates on even small amounts</li> <li>• Highly liquid and well diversified</li> <li>• Many are federal and/or state tax exempt</li> </ul>



### Corporate Instruments

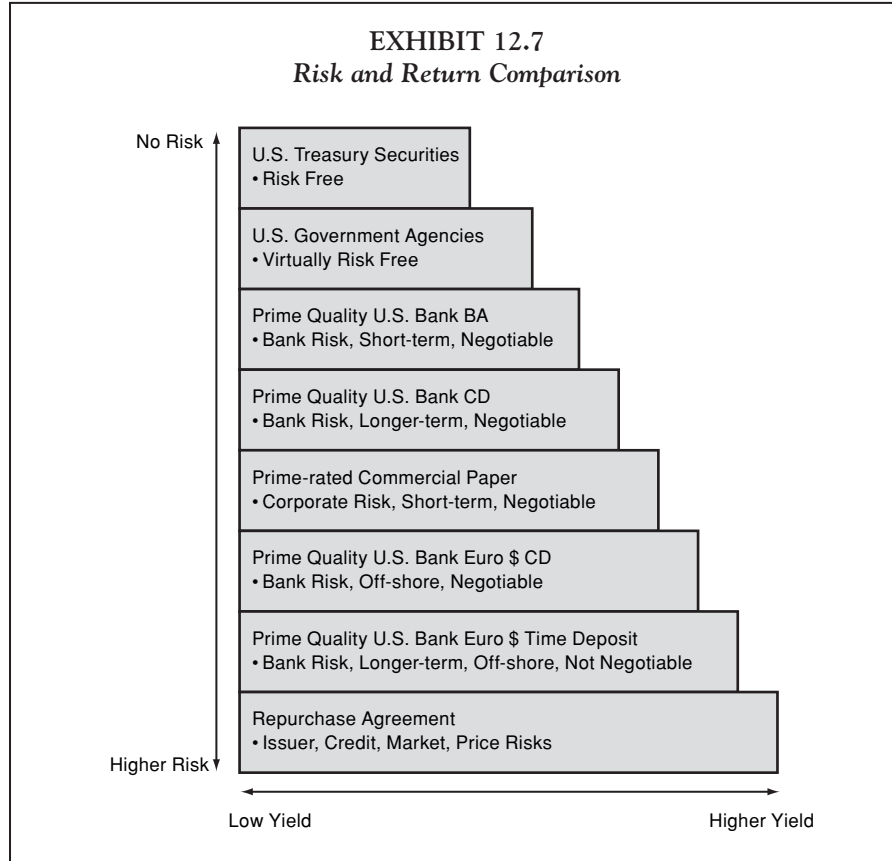
Creditworthy companies can also go directly to the financial markets and issue commercial paper and tax-advantaged instruments, reducing their cost of debt by disintermediating the banks. Since the rating applies to the issue itself (not to the borrower), even lesser known companies or those with lower credit ratings can issue commercial paper by using some form of credit enhancement, such as a letter of credit or a bank guarantee. The characteristics of corporate investment instruments are described in Exhibit 12.6.

**EXHIBIT 12.6**  
**Corporate Investment Instruments**

<i>Instrument</i>	<i>Maturity Range</i>	<i>Interest Basis</i>	<i>Characteristics</i>
Commercial paper (CP)	1–270 days	Usually discount	<ul style="list-style-type: none"> <li>• Unsecured promissory note</li> <li>• To avoid SEC registration, maturity must be less than 270 days</li> <li>• Usually issued on a revolving basis; renewable at maturity</li> <li>• Typically the issue is rated by the credit rating agencies</li> <li>• Often a backup source of liquidity is required</li> </ul>
Preferred stock	1 day—upward	Usually fixed	<ul style="list-style-type: none"> <li>• Investor receives federal corporate dividend exclusion as the shares are purchased before ex-dividend date and held unhedged for at least 45 days</li> <li>• Subject to issuer and market risk</li> </ul>

**Risk and Return Comparison**

Exhibit 12.7 illustrates the general ranking of the various investment instruments by risk and return.



## Factors That Influence Investment Yields

As can be seen from the above section, a cash manager has many options when selecting an investment. Each instrument has unique characteristics in the way in which the interest rate is quoted, and rates are not always directly comparable with the quoted rates on other types of instruments. Some of the major factors that influence the interest rate and yield of an investment are:

**Creditworthiness of the issuer.** The higher the credit rating the lower the return.

**Maturity date.** Under normal yield curve conditions, the longer the maturity, the higher the risk; therefore, the higher the yield.

**Year basis.** Some instruments calculate return on a 360-day year basis, others on 365-day year basis. As a general rule of thumb the money market yield and discount instruments use 360 days. The bond equivalent or effective annualized yield instruments use 365 days.

**Day basis.** In much the same way as the year basis changes, some instruments also calculate interest based on the actual number of days, whereas others use a standard 30-day month (that is, 360 days a year).

**Coupon versus discount.** Investments such as time deposits and CDs pay interest on a simple interest or coupon basis. Interest is payable at maturity, or for longer-term instruments, at regular intervals in arrears. Banker's acceptances (BAs) and commercial paper, on the other hand, are discount instruments. The face value is the value at maturity and the purchase price reflects the discount off the face value. The yield on a discount instrument is higher than the quoted discount rate.

**Taxable status.** Some investment instruments provide tax advantages. Treasury securities, for example, are exempt from state and local taxes. Munis are usually exempt from federal and/or state taxes. The quoted rate reflects the tax advantage.

**Compounding.** Longer-term instruments often pay interest at regular intervals throughout the life of the investment. Under the assumption that the interest payments can be reinvested, in order to assess the real rate of return the yield needs to reflect the effects of compounding.

**Active secondary market.** If an instrument can be sold in a secondary market, it is considered to be more liquid (provided the secondary market is active); that is, the average daily transaction volume on the secondary market determines the liquidity. The more liquid the instrument, all other things being equal, the lower the yield. T-bills have one of the most active secondary markets.

**Yield curve.** The normal yield curve reflects an upward slope; that is, interest rates rise as the maturity extends. Occasionally, especially when interest rates are expected to decline, the yield curve may become inverted and the shorter maturities pay a higher rate of interest than longer-term maturities. Inverted yield curves are usually of short duration and quickly self-correct as the demand for longer-term investments pushes the longer-maturity yields back up.

## Calculating and Comparing Yields

When looking at the various approved investment options, the cash manager has to convert the yields of the different instruments to a directly comparable basis. For example, the rates on a muni reflect its tax-free status, and the rate should be adjusted to its taxable equivalent so that it can be compared with other taxable instruments. A discount instrument needs to have the discount percentage converted into the yield equivalent. Most cash managers use the annualized yield (which uses a 360-day year basis) or the bond

equivalent yield (BEY), which uses a 365-day year basis. Examples of the calculations based on a 365-day basis follow:

$$\text{Annual Yield} = \frac{\text{Maturity Value} - \text{Purchase Price}^*}{\text{Purchase Price of Investment}} \times \frac{365}{\text{Days to Maturity}}$$

or

$$\text{Annual Yield} = \frac{365 \times \text{Quoted Discount Rate}}{360 - (\text{Quoted Discount Rate} \times \text{Days to Maturity})}$$

#### Worked Example: Converting a Discount Rate to an Annualized Yield

A \$1 million T-bill is issued for 26 weeks (182 days) at a quoted discount rate of 3.5 percent.

$$\text{Annual Yield} = \frac{\text{Amount of Discount}}{\text{Purchase Price}} \times \frac{365}{\text{Days to Maturity}}$$

$$\begin{aligned} \text{Amount of discount} &= \frac{\text{Face Value} \times \text{Discount Rate} \times \text{Days to Maturity}}{360^{**}} \\ &= \frac{1,000,000 \times .035 \times 182}{360} = \$17,694.44 \end{aligned}$$

$$\begin{aligned} \text{Purchase Price} &= \text{Maturity Value} - \text{Amount of Discount} \\ &= \$1,000,000 - \$17,694.44 = \$982,305.56 \end{aligned}$$

$$\text{Annual Yield} = \frac{17,694.44}{982,305.56} \times \frac{365}{182} = 3.61\%$$

or

$$= \frac{365 \times .035}{360 - (.035 \times 182)} = 3.61\%$$

A T-bill issued at 3.5 percent discount is the equivalent of an annual yield of 3.61 percent.

#### Worked Example: Converting a Tax-Exempt Yield to a Taxable Equivalent Yield (TEY)

A municipal bond is issued at 2.05 percent and the company's marginal tax bracket is 38 percent.

$$\text{TEY} = \frac{\text{Annualized Interest Rate on Tax Free Bond}}{1 - \text{Tax Rate}}$$

$$\text{TEY} = \frac{.0205}{1 - .38} = 3.31\%$$

A tax-exempt muni paying 2.05 percent is the equivalent of a taxable instrument paying 3.31 percent.

\* Amount of dollar discount, or interest received at maturity.

\*\* Discount instruments use a 360-day year basis.

### Worked Example: Yield to Redemption (YTR)

A one-year investment pays 4.5 percent with interest paid quarterly. Is that a better return than an investment that pays 4.55 percent at maturity?

$$YTR = \left[ 1 + \frac{\text{Interest Rate}}{\text{Number of Periods}} \right]^{\text{number of periods}} - 1$$

$$YTR = \left[ 1 + \frac{.045}{4} \right]^4 - 1 = 4.58\%$$

The instrument paying 4.5 percent with interest paid quarterly provides a better return than the one paying 4.55 percent with interest at maturity.

## Investment Strategies

The company's investment policy dictates the type of short-term investment strategy that is most appropriate. These strategies include:

**Passive strategies.** Passive strategies include using sweep accounts, in which the bank automatically invests surplus balances overnight. The costs may be high and the yields low. *Matching* is another low-risk strategy in which the investment maturity is matched precisely to when the funds will be needed. This strategy avoids both price and market risk.

**Active strategies.** Active strategies are more aggressive and generally improve returns but also increase risk. One example is riding the yield curve. This strategy takes advantage of higher returns for mismatched periods. For example, when the yield curve is normal, taking funds that are available for three months, investing in a six-month instrument to get a higher rate, and then selling the instrument after three months. This strategy works only when interest rates are stable; otherwise there is a risk, following a change in interest rates, that the value received at maturity may be less than expected or even less than the original amount invested.

**Tax strategies.** If the company pays taxes, then it may consider using tax-advantaged investments. The result of such a strategy is directly related to the company's marginal tax rate.

**Outsourcing.** Under pressure to improve returns, many treasurers are now looking at outsourcing as a solution, both to reduce costs (systems and staff) and to improve revenues by using professional investment management.

## Is Outsourcing Right for Your Company?

Answer the following questions to determine if outsourcing the investment function is viable for your company:

- Do you already have all the systems required to undertake the investment function?
- Are these systems up-to-date or do they require upgrading?
- Are they capable of producing all the management, audit, and compliance reports that are necessary in today's environment?
- Are there significant amounts of cash to be invested?
- Is there also longer-term cash available to manage?

- Does the cash management area frequently and consistently have funds to invest, or are surpluses sporadic and infrequent?
- Is the cash management area under pressure to improve investment returns?
- Does the cash manager have the technical expertise to undertake the investment function?
- Does the corporate structure allow or support outsourced functions?
- Do viable options or providers exist?
- Will the assets be adequately safeguarded if the function is outsourced?
- Does the cost-benefit analysis support the outsourcing option?

If outsourcing appears to be a viable option, the company must decide the type of investment style its guidelines permit. The major types of investment styles are:

**Passive.** The fund managers invest in companies that comprise various stock market indices, in the same proportion as they are represented in the index. This means that the investment return will match performance of the index. There are many funds that mirror the different indices so the company can select from a wide range of investments.

**Active.** The fund manager makes investment decisions based on analysis and research of companies, industries, and so forth, seeking those that will provide a superior return. Active fund managers aim to provide better yields than passive managers by selectively picking stocks that will beat negative trends in the market. This cannot, however, be guaranteed and active strategies are, therefore, riskier.

There are many options when selecting an investment outsourcing provider, including banks and specialist providers. The selection criteria should include the following:

**Past performance.** Track record of the fund, benchmarks used, consistency of results, and quality of the fund's management team.

**Tax impact.** Tax treatment of investment returns and impact on the company's balance sheet.

**Risk profile.** Does the fund manager's approach to investment match the company's risk objective? Are returns maximized at an appropriate level of risk? Is the investment style compatible with the company's objectives?

**Staying power.** What is the provider's financial strength? Larger companies will be able to pay higher salaries, attract better staff, and achieve lower unit costs.

**Staff.** What is the level of turnover in the company? Is management stable? Is new staff added to bring in fresh ideas?

**Investment approach.** What process does the fund manager use to make decisions? What research is done? How are portfolios constructed? Do they impose limits by sectors? What benchmarks are used? Are those benchmarks appropriate?

**Support.** What level of customer service can you expect to receive? To whom in the company will you have access? How good are the performance reports?

**Fees.** What are the different types of fees, and how do they impact overall yields?

## Investment Tips for the Cash Manager

When investing cash surpluses, the cash manager has to take a number of things into account: The company's investment guidelines, the available options, the time frame, and the yield. These recommendations will help the cash manager when making investment decisions:

- Review the company's investment guidelines to ensure that they reflect company policy, the current environment, and available options. If not, start the process to get them updated.
- Keep handy a checklist of short-term money market instruments that can be used. Note the liquidity, level of risk, and any other key features about the instruments.
- Develop a spreadsheet that will automatically calculate the annualized yield of different instruments you use frequently.
- Keep a list with the phone numbers and contacts of all approved banks, brokers, and dealers.
- Compare the returns between tax-advantaged and non-tax-advantaged instruments. Make sure you are aware of your company's current marginal tax rate.
- If the guidelines allow, compare rates with Eurodollar CDs and TDs. Check whether the foreign banks are paying better rates on Yankee CDs.
- If you regularly receive large incoming wires from overseas, make sure you have real-time balance reporting so that funds can be invested immediately.
- In a low-interest-rate environment, check that a sweep account is still the best option after considering all the fees.

## Practical Applications

Locate your company's investment policy guidelines. Do they cover short-term cash only? What instruments are allowed and what restrictions, if any, are placed on term, credit quality, currencies, and concentration? Are there any elements you might suggest should be added to the guidelines?

## Summary of Key Points

- Although other areas of the company may be tasked with maximizing return on investments, the primary considerations of the cash manager in investing short-term cash are that the principal be preserved and that funds be available, quickly and without loss of value, at the time needed. Follow the SLY principle: safety, liquidity, and yield.
- The company should develop an overall investment policy that outlines the company's attitude toward risk and any other requirements.
- The investment policy should then be translated into investment guidelines for the cash manager to follow when making investment decisions.
- The cash manager can turn to a number of sources for investments: the government and its agencies, municipalities, banks, and the corporate market.
- The factors that influence yield are creditworthiness of the borrower, tax basis, year and day basis, maturity of the issue, discount, coupon or compounded interest, depth of the market, and the yield curve.
- Because all these instruments are issued on a different basis, it is important that the cash manager knows how to compare the yields in order to make a selection.
- Cash managers can choose a passive or an active strategy in managing investments.
- Outsourcing the investment function is a viable option for cash managers who wish to pursue an active strategy but who do not have the expertise and resources in house.





# 13

## *Short-Term Borrowing*

### Chapter Goals

This chapter covers the following topics and includes a worked example on how to calculate the all-in cost of borrowing:

- Borrowing objectives
- Short-term borrowing options
  - Short-term sources of funds
  - Short-term borrowing instruments
- Factors that influence the cost of borrowing
- What to look for in a loan agreement

### Introduction

Although the treasury department will almost certainly be involved in the strategic decisions concerning the long-term capital structure of a company (see the discussion on the weighted average cost of capital in Chapter 1), the cash manager's primary concern is with tactical short-term borrowing to ensure adequate liquidity for the company. In this chapter, we revisit many of the instruments in the previous chapter, in addition to exploring a number of specialized vehicles, from the perspective of the borrower. The rate of interest is only one factor contributing to the overall cost of borrowing and we examine the other factors that influence the cost of debt.

### Borrowing Objectives

The cash manager's objectives for short-term borrowing are to ensure that the company has access to sufficient liquidity to pay its obligations when due under acceptable terms and conditions. The questions to ask to ensure the optimal source of funding is used include:

- How much money is required overall? A lender will prefer to make a decision and provide funds based on the overall need, rather than to have the borrower return several times for additional funding.
- For how long will the funds be needed? It is important that the lender does not request the return of the funds before the borrower is ready to repay.

- On what basis will the loan be made? Will it be collateralized? Will the rate be fixed or floating? Are there any conditions or covenants?
- Have all the potential sources been considered?

## Short-Term Borrowing Options

### Short-Term Sources of Funds

There are a number of sources to which the cash manager can turn for short-term funds:

#### *Internal*

- Internal cash pools (that is, liquidity within the company)
- Ongoing selling activities on a cash basis
- Accelerating collections and accounts receivable
- Extending accounts payable
- Reducing inventory
- Reducing expenses
- Cash in bank accounts
- Sale of company assets or investments
- Internal *factoring* (selling receivables at a discount to the in-house bank)

#### *External*

- Banks
  - Overdrafts (in the United States this may only be intraday)
  - Credit lines
  - Term loans
  - Letters of credit (L/Cs)
  - Banker's acceptances (BAs)
- Financial markets
  - Commercial paper
  - Reverse repurchase agreements
  - Asset-backed securities
  - External factoring (selling accounts receivable to an external factor on a discount basis)
  - Securitization
- Commercial credit
  - Trade credit
  - Inventory financing

Usually, internal cash pools are the cheapest source of funds, followed by cash at the bank, assuming that these funds are earning very little interest, if any. The cost effectiveness of selling assets or investments depends upon the particular instruments and market conditions at the time, which is why when investing surpluses a cash manager's primary objective should be preservation of both principal and liquidity.

Borrowing directly in the financial markets, using commercial paper, should be less expensive than borrowing from a bank, but that will depend on the company's creditworthiness and the cost of credit enhancement if required. Credit obtained from vendors or trading partners is often a way of leveraging a company's liquidity, but it does not represent a consistent or reliable source of funds. If a cash manager borrows from banks, there must be sufficient banking relationships to cover the company's funding needs. The best terms and conditions are received when credit lines are put in place well in advance; last-minute borrowing and overdrafts can be very expensive.

### Short-Term Borrowing Instruments

Generally, a cash manager will look to external sources of funds only after all internal sources have been exhausted. Exhibit 13.1 describes the typical characteristics of the external sources of borrowing, although many variations and permutations are possible. The longer-term borrowing options, which affect a company's debt structure, usually are the responsibility of the senior management team and are part of the long-term corporate financial strategy.

<b>EXHIBIT 13.1</b>	
<b>Short-Term Borrowing Instruments</b>	
<i>Issuer</i>	<i>Characteristics</i>
<b>Banks</b>	
Overdraft	<ul style="list-style-type: none"> <li>• Very-short-term informal credit line.</li> <li>• Automatically activated once an account is overdrawn.</li> <li>• Expensive form of borrowing; should be used only in emergencies.</li> <li>• Common outside the United States.</li> <li>• In United States only allowed intraday.</li> <li>• Overnight overdrafts are usually converted through a formal credit line.</li> </ul>
Credit line	<ul style="list-style-type: none"> <li>• Formal credit facility with the amount and time period specified.</li> <li>• Usually for a stated purpose, such as working capital or foreign exchange.</li> <li>• Should not be used as a source of long-term funding.</li> <li>• Often offered on a renewable, revolving basis, and money can be borrowed and repaid, within the limits, as needed.</li> <li>• If offered on a committed basis, the bank guarantees availability of funds to the company on demand; the company will usually pay a fee for a committed line.</li> <li>• If offered on an uncommitted basis, for which there is usually no fee, amount of the line is often not disclosed to the customer.</li> <li>• Uncommitted funds cannot be guaranteed and thus should not be used as a sole or primary source of liquidity.</li> <li>• To ensure credit lines are not being used for long-term purposes, some banks may require a "cleanup" period during which all funds are repaid and no new funds may be borrowed.</li> <li>• Can be secured or unsecured. A credit line that is secured with collateral reduces the risk to the lender and therefore the cost to the borrower.</li> <li>• Pricing is based on a benchmark rate such as the <i>London Interbank Offer Rate</i> (LIBOR). It also includes a commitment fee if committed, and possibly an application fee and compensating balance, although this last requirement is less usual for larger loans.</li> </ul>

*(Continued)*

**EXHIBIT 13.1 (Continued)**

<i>Issuer</i>	<i>Characteristics</i>
<b>Banks, continued</b>	
Term Loan	<ul style="list-style-type: none"> <li>• Fixed amount and term, usually for a specific project</li> <li>• Not generally used for short-term borrowing</li> <li>• Funds are disbursed according to a fixed schedule, not at borrower's option</li> <li>• Pricing can be on a fixed rate basis or tied to a benchmark such as the prime rate (the interest rate banks charge their most credit-worthy customers)</li> </ul>
Commercial or trade letter of credit (L/C)	<ul style="list-style-type: none"> <li>• Generally used for international business and is linked to a specific transaction.</li> <li>• Provides an exporter with a guarantee of payment by the issuing bank if the exporter performs per the conditions of the L/C.</li> <li>• Since these are usually issued as <i>term drafts</i> (payable at some point in the future—usually 90 days), the importer is provided with financing for that period.</li> <li>• L/Cs are expensive and become more so as levels of protection are added; for example, having a confirming bank back up the issuing bank guarantee.</li> </ul>
Banker's acceptance (BA)	<ul style="list-style-type: none"> <li>• Once the draft arising from an L/C transaction has been accepted by the issuing bank for payment (creating a banker's acceptance), the exporter can discount the draft and receive funds immediately.</li> </ul>
Standby letter of credit	<ul style="list-style-type: none"> <li>• A standby letter of credit provides a bank guarantee of payment should a company not perform. It is often used to enhance credit for commercial paper.</li> <li>• A commitment fee is usually charged at a percentage of the maximum amount of credit extended.</li> </ul>

**Financial Markets**

Commercial paper (CP)	<ul style="list-style-type: none"> <li>• A promissory note issued by a company, promising to repay a specific amount on a specific date.</li> <li>• Used by highly creditworthy companies.</li> <li>• Less creditworthy companies can enhance their credit standing by obtaining a standby letter of credit or a backup line of credit.</li> <li>• To avoid registration with the Securities and Exchange Commission (SEC), CP is usually issued for 270 days or less.</li> <li>• Often rolled over at maturity.</li> <li>• Each CP issue is rated by the credit rating agencies.</li> <li>• Cheaper than bank lending but issuance, dealer, and distribution fees, and credit enhancement can add to the cost considerably.</li> </ul>
Reverse repurchase agreement	<ul style="list-style-type: none"> <li>• Selling a security to raise liquidity, with a promise to buy it back at a certain price at a certain date (the investment context of the repurchase agreement is described in Chapter 12).</li> <li>• Usually done on an overnight or very-short-term basis.</li> </ul>

*(Continued)*

<b>EXHIBIT 13.1 (Continued)</b>	
<i>Issuer</i>	<i>Characteristics</i>
<b>Financial Markets, continued</b>	
Factoring	<ul style="list-style-type: none"> <li>• Selling accounts receivable at a discount.</li> <li>• Can be done on a <i>recourse</i> (the company collects on past due receivables and bad debts) or <i>nonrecourse</i> (the factor assumes responsibility for past due receivables and bad debts) basis.</li> <li>• Most factoring is without recourse.</li> <li>• Nonrecourse factoring is more expensive.</li> <li>• Generally, factors will discount only a percentage of a company's receivables.</li> <li>• Factoring can be with or without notification to the buyer.</li> <li>• Most factoring is with notification.</li> <li>• Although in the United States there are negative connotations when a company factors its receivables, in other parts of the world this is a normal and legitimate method for raising liquidity.</li> </ul>
<b>Commercial Credit</b>	
Trade credit	<ul style="list-style-type: none"> <li>• Vendor financing through deferment of payment.</li> <li>• Can be done formally through trade terms (see Chapter 6) or informally by delaying payment.</li> <li>• Can be an expensive form of borrowing because of loss of discounts, late fees, and the like.</li> </ul>
Inventory financing	<ul style="list-style-type: none"> <li>• Loans are secured by the pledge of inventory.</li> <li>• Often a manufacturer of large-ticket items finances the inventory and retains title to the goods until sold.</li> <li>• <i>Floor planning</i>, used in the automobile industry, is a specialized form of inventory financing in which the vehicle manufacturers deliver cars to the dealer's showrooms but retain title to the vehicles and are not paid until the vehicles are sold, not unlike the concept of consignment.</li> </ul>
Securitization	<ul style="list-style-type: none"> <li>• A company issues securities backed by a pool of receivables that have an associated revenue stream and a good track history of repayment, such as mortgages (see the GSEs described in Chapter 12), credit cards, and auto loans and leases.</li> <li>• The income from the underlying collateral pays down the loan.</li> <li>• Attractive to companies because it is off-balance-sheet financing.</li> </ul>

## Factors that Influence the Cost of Borrowing

There are a number of factors that influence the overall cost of borrowing. Some of them affect the interest rate directly, whereas others are in the form of additional fees. The interest rate and spread (the percentage points above an agreed benchmark) are determined by the following:

**Benchmark rate.** The base rate from which the rate is set. Banks use a variety of indices including the prime rate, LIBOR, and the *federal funds rate* (the rate set by the Federal Reserve Bank at which banks lend excess reserves to each other).

**Maturity date.** Borrowers normally require a higher rate for longer loans.

**Credit risk.** The perceived risk of default by the borrower.

**Secured or unsecured.** A collateralized loan will have a lower rate.

**Fixed or variable.** A variable rate may carry a lower initial rate but carries with it the risk of a significant increase later on.

**Tax advantaged.** Borrowers who can offer tax advantages (such as the government, state, and local authorities) can obtain funds at a significantly lower rate.

To determine the overall cost of borrowing, however, the following items also should be included in the calculation:

**Tax basis.** Interest paid can usually be deducted from income for tax purposes, reducing the overall cost of debt.

**Discount or interest-bearing.** The actual cost of borrowing with a discount instrument is higher than the quoted discount rate.

**Year basis.** The year basis can be calculated on 360 or 365 days. Discount instruments are usually calculated on 360 days, lines of credit on 365 days.

**Credit rating agency fees.** Companies issuing CP will pay a fee to have the issue rated.

**Credit enhancement fees.** The cost of a backup line of credit or standby letter of credit.

**Other issuance costs.** Issuance, printing, dealer, broker, and distribution charges for CP issuance.

**Compensating balances.** Some banks require that a percentage of the loan be left as a compensating balance on which no interest is paid.

Because of these additional factors the all-in cost of borrowing is higher than the return an investor would earn from investing in the same instrument. The worked examples illustrate the calculation for determining the all-in cost on several of the major borrowing vehicles.

#### Worked Example: All-In Cost for Commercial Paper

A company issues CP with a face value (FV) of \$15 million for 180 days at a discount rate of 2.25 percent. Credit enhancement costs .5 percent on the face value. Dealer charges are an additional .125 percent.

Step 1: Determine Issue Costs

$$\begin{aligned} \text{Issue Costs} &= \text{FV} \times \text{Prorated (Discount \% + Enhancement \% + Dealer \%)} \\ &= \$15,000,000 \left( (.0225 + .005 + .00125) \times \frac{180}{360} \right) \\ &= \$15,000,000 \times .014375 \\ &= \$215,625 \end{aligned}$$

Step 2: Determine Available Funds

$$\begin{aligned} \text{Available Funds}^* &= \text{FV} - \text{Discount Amount} \\ &= \$15,000,000 - \left( \$15,000,000 \times .0225 \times \frac{180}{360} \right) \\ &= \$15,000,000 - \$168,750 \\ &= \$14,831,250 \end{aligned}$$

(Continued)

**Worked Example (continued)**

Step 3: Calculate Annualized All-In Cost

$$\begin{aligned}\text{Annualized All-In Cost} &= \frac{\text{Total Issue Costs}}{\text{Available Funds}} \times \frac{365^{**}}{\text{Days to Maturity}} \\ &= \frac{\$215,625}{\$14,831,250} \times \frac{365}{180} \\ &= 2.95\%\end{aligned}$$

Thus although the CP is issued at a discount of 2.25 percent, the additional charges have resulted in an all-in cost to the borrower of 2.95 percent.

\*Available funds is equivalent to the purchase price of the CP from the investor's perspective.

\*\*Although the discount on CP is calculated on 360-day year basis, the effective rate uses 365.

**Worked Example: Investment Yield Versus Borrowing Cost**

In the above example the discount rate was 2.25 percent, and the all-in cost to borrow was 2.95 percent. The annualized yield to an investor for that same CP issue would be:

$$\begin{aligned}\text{Annual Yield} &= \frac{\text{Amount of Discount}}{\text{Purchase Price}} \times \frac{365}{\text{Days to Maturity}} \\ &= \frac{\$168,750}{\$14,831,250} \times \frac{365}{180} \\ &= 2.31\%\end{aligned}$$

Although the yield to the investor is only 2.31 percent the all-in cost to the borrower is 2.95 percent, because of the additional fees and charges.

**Worked Example: All-In Cost of a Committed Bank Line of Credit**

Determine the all-in cost for a committed line of credit given the following parameters:

Maximum loan: \$7,500,000

Loan period: 1 year (365 days)

Average loan outstanding: \$2,000,000

Commitment fee (charged on unused portion of loan): .25 percent

Interest rate (charged on used portion of loan): 3.5 percent

$$\begin{aligned}\text{Annualized All-In Cost} &= \frac{\text{Interest Charges} + \text{Commitment Fee}}{\text{Average Loan Outstanding}} \times \frac{365}{\text{Days of Loan}} \\ &= \frac{(2,000,000 \times .035) + (5,500,000 \times .0025)}{2,000,000} \times \frac{365}{365} \\ &= \frac{70,000 + 13,750}{2,000,000} \times 1 \\ &= 4.19\%\end{aligned}$$

This means that the actual cost of the committed line of credit is 4.19 percent.

## What to Look for in a Loan Agreement

A loan agreement can be a very long document, depending on the type of credit facility being offered. It should be read very carefully, not only to ensure that the specific terms being offered are acceptable but also to ensure that the lender has not inserted any unacceptable restrictions on the borrower in the covenants. The specific terms will cover:

- Amount of the loan or credit facility.
- Period for which the loan is being made.
- Index on which the interest rate will be based and the spread above the rate that the borrower will pay.
- Repayment schedule—when payments are to be made and how much.
- What collateral is being used to secure the loan; this could be:
  - Accounts receivable
  - Inventory
  - Securities or other current assets
  - Equipment, fixtures, or other fixed assets
  - Property improvements
- What reporting is required by the lender on the financial condition of the borrower.
- Any covenants or restrictions on the borrower imposed by the lender to secure its position.
- A requirement to report to the lender any significant changes in the borrower's financial condition. The terms will often include a termination clause in the case of adverse changes.

To protect the lender's position, the loan document may include requirements that the borrower maintain certain balance sheet ratios, including limiting the level of debt.

Some of the most commonly used covenants are as follows:

**Minimum interest coverage ratio.** Also known as the times interest earned (TIE) ratio, this measures the company's ability to pay the interest due on a loan from operating cash flows.

**Maximum debt to equity ratio.** This measures a company's leverage and helps to protect the lender's position as a creditor.

**Minimum net worth.** This provides a minimum level of shareholder equity. Some lenders insist on using tangible net worth, thereby excluding intangibles, such as goodwill, from equity.

**Minimum current ratio.** By specifying minimum working capital requirements, the lender is ensuring that there are enough current assets to cover current liabilities.

Some of the other conditions that a lender may insert into a loan document extend to limitations or requirements in other areas of the company's operations, such as:

- Minimum insurance coverage
- Compliance with laws and regulations
- Current in payment of taxes
- Proper maintenance of facilities
- Restriction on sale of assets
- Restriction on capital purchases



- Limits on dividends or stock repurchases
- Changes in accounting methods or fiscal periods
- Limit on the amount and types of investments that can be made
- Restrictions on new leases
- Good corporate citizenship and local community involvement
- Right to terminate in the event of management changes

Loan documents should be read very carefully and onerous conditions negotiated or removed, if possible.

***Treasury Tip: Negotiating the Loan Document***

A bank will usually try to use its standard loan document, which covers a multitude of scenarios, possibilities, and caveats, many of which may not be relevant to the transaction in question, but which provides the bank with the broadest protection possible. Some of the largest companies refuse to sign anything other than their own standard agreement. Banks are, however, very reluctant to accept this from any but their very best customers. If a company is faced with signing the bank's documents (and most of them are), it is important to remove any clauses that do not apply. Do not be discouraged if a bank initially balks at making any changes—this is the standard response. Banks do, however, have teams of lawyers on staff precisely for the purpose of negotiating documents. Leaving irrelevant clauses in the document could cause complications at a later date. Do not be afraid to request changes to clauses that must stay in but are not phrased clearly enough or could be interpreted in an ambiguous fashion. Just because the document was drawn up by a bank's lawyers and has probably been used a thousand times does not mean that it is a good document. If the bank is requesting onerous covenants, discuss with them the reasons for these restrictions and whether there is any other way you could satisfy this requirement. If a bank cannot provide an acceptable explanation for requiring the covenant, it might be advisable to do business with another bank.

## Recommendations for Managing Short-Term Debt

The following are some suggestions for managing short-term debt:

- Establish a checklist of the company's borrowing options and refer to it frequently to ensure all options are being considered.
- Use a spreadsheet to list the characteristics of each of the sources of debt (committed, uncommitted, revolving, backup) and compute rates to select the most appropriate source for the need.
- Track your all-in cost of debt for each credit facility.
- Determine which debt arrangements are least favorable to the company and which you would seek to replace first when the occasion presents itself. Rank each.
- Make a list of the terms and conditions you would try to obtain for any new debt arrangements. Modify the list in the light of new agreements and keep the list current. This will help you be prepared at short notice if the need arises.
- Identify the covenants to which the company is bound, and those you would prefer not to see in future agreements.

- Negotiate capping the total amount of fees on loan arrangements made with your bank.
- Never let your lenders be surprised. Make sure they are part of the solution and are included early on in the process if the company's financial condition starts to deteriorate.

## **Practical Applications**

Find out what short-term borrowing vehicles are being used by your company. What are the rates for each instrument and what is the all-in cost? Examine the documentation and see what covenants and restrictions are included.

## **Summary of Key Points**

- The cash manager's primary objective in short-term borrowing is to ensure that the company has access to sufficient liquidity to pay the company's obligations when due.
- To manage a company's liquidity, a cash manager will usually be both borrowing to cover deficits and investing short-term surpluses.
- Although many instruments can be used for both purposes, it is important to remember that the yield on an investment will be lower than the all-in cost of borrowing using the same instrument because of additional fees and charges levied by the lenders.
- The cash manager can obtain funds from a number of sources; the cheapest ones are usually internal sources.
- Of the external sources, the cash manager can borrow from banks and financial institutions, or financial markets directly through commercial credit.
- Many factors affect the overall cost of debt, some related to the company (such as creditworthiness, tax status, and availability of collateral), and others related to market factors (such as maturity, benchmark rate used) and the characteristics of the instrument being used (discount or coupon, year basis).
- Loan documents should be very carefully reviewed and negotiated to ensure that they are appropriate for the specific transaction.

# 14

## *Doing Business Internationally*

### Chapter Goals

This chapter covers the following topics:

- Making international payments
  - Paper payments
  - Electronic payments
- Receiving payments from overseas
  - Payment by check
  - Electronic payments
- What you need to know about foreign currency accounts
- Managing foreign exchange (FX) exposure
  - FX risk
  - FX risk management policy
  - FX hedging vehicles
- International trade vehicles
- Notional pooling

### Introduction

For over a quarter of a century multinational companies have been finding ways to make their global business more efficient, seeking to bring the same techniques they use domestically to their international funds flows. As the proportion of business done overseas increases, so does the bottom line impact of managing global cash efficiently. Today, a company that is not affected in some way by global trends and international business is the exception. The Internet has greatly facilitated access to international markets and made worldwide sourcing viable. Although the topic of international cash management could easily fill an entire volume, we limit the scope of this chapter to cross-border payments and managing foreign exchange and commercial risk.

### Making International Payments

When making international payments, there is no single cross-border vehicle for effecting them swiftly and cost effectively. Whichever method is used, it is almost certain to be more expensive and take more time

than domestic payments. The payment method may also have to be adapted to the country and currency in question. This chapter summarizes the major methods and their respective advantages and disadvantages. First, however, we define a few important international terms:

**Ad valorem.** A method of bank compensation in which the transaction fee is a percentage of the amount being transferred.

**BACS.** Bankers Automated Clearing Services. This is the UK's low-value batch transfer system, similar to ACH in the United States.

**BIC.** Bank Identification Code, a standardized domestic bank code used by the Society for Worldwide Interbank Financial Telecommunications (SWIFT) network (see SWIFT below).

**Cash pool.** A form of bank concentration in which balances are transferred into a centralized cash pool account.

**CHAPS.** The Clearing House Automated Payment System. This is the UK's high-value real-time gross settlement system (RTGS) and the equivalent of the Fedwire.

**Correspondent bank account.** One bank's account with another bank for the purposes of facilitating foreign currency transactions.

**Hedging.** The implementation of a set of strategies by a company with the express goal of limiting or eliminating, through the use of hedging vehicles, the impact of fluctuations in the cost of credit, foreign exchange, or commodities prices on an organization's profits or assets.

**IBAN.** International Bank Account Number, a standardized international bank account number, developed by ISO, which must be included on wire transfer payments to Europe in order for the payments to be processed straight through.

**ISO.** International Organization for Standardization, an organization that establishes international standards.

**Nostro account.** A bank's account with a foreign correspondent bank.

**Notional pooling.** An automated bank service in which a company's debit balances are offset against positive balances for the purposes of calculating overall debit or credit interest; unlike cash pooling, the actual balances never move from the accounts.

**SWIFT.** Society for Worldwide Interbank Financial Telecommunications, a worldwide standard for interbank telecommunications. Used for sending information on wire transfers, balance and transaction reporting, foreign exchange, money market transactions, documentary collections, and letters of credit.

**SWIFT MT101.** A SWIFT message type for initiating transfers from a third-party bank.

**SWIFT MT103.** A SWIFT message type for customer wire transfer instructions sent to the beneficiary bank to advise of an incoming payment.

**SWIFT MT202.** A SWIFT message type sent by a bank to its correspondent bank to request a cover payment, debiting the nostro account.

**SWIFT MT940.** A SWIFT message type used to report customer balances.

**Settlement date.** The date in the future on which a transaction settles and value changes hands.

**STP.** Straight-through processing, when the wire transfer process is entirely automated from beginning to end.

**TARGET.** Trans-European Automated Real-time Gross Settlement Express Transfer system, the European Central Bank's cross-border euro payment system.

**Transaction date.** The date on which a transaction is initiated.

**Vostro account.** An account held on behalf of a foreign bank. Also known as a *loro* account.

### Paper Payments

Although checks are totally acceptable in the United States, this is rarely the case overseas, and even more so if the check is not in local currency drawn on a local bank. With very few exceptions, a U.S. dollar (USD) check must settle through the U.S. banking system after deposit by the beneficiary in a local bank.

Payment by check is lengthy, expensive, and rarely acceptable to suppliers. In addition to the delay in obtaining availability, the beneficiary is also exposed to the risk of a currency rate change during the collection process.

#### *Treasury Tip: Clearing USD Locally*

There are a few overseas locations where USD checks can clear and settle locally. These are countries where a high percentage of the local volume of trade is denominated in USD, such as London, Hong Kong, and Singapore. These checks are drawn on local banks and settle across USD accounts held in the country.

Aside from USD checks, payments can also be effected in foreign currency via a *bank draft*, a check drawn by a bank on its foreign currency correspondent account. Bank drafts are more acceptable to the beneficiary, they carry less risk than a corporate or personal check, and payment is already in local currency drawn on a local bank. From the payor's perspective, however, they can be quite expensive because not only is there a fee for the draft, but also there will have been a spread on the foreign exchange transaction, and the payor loses value immediately.

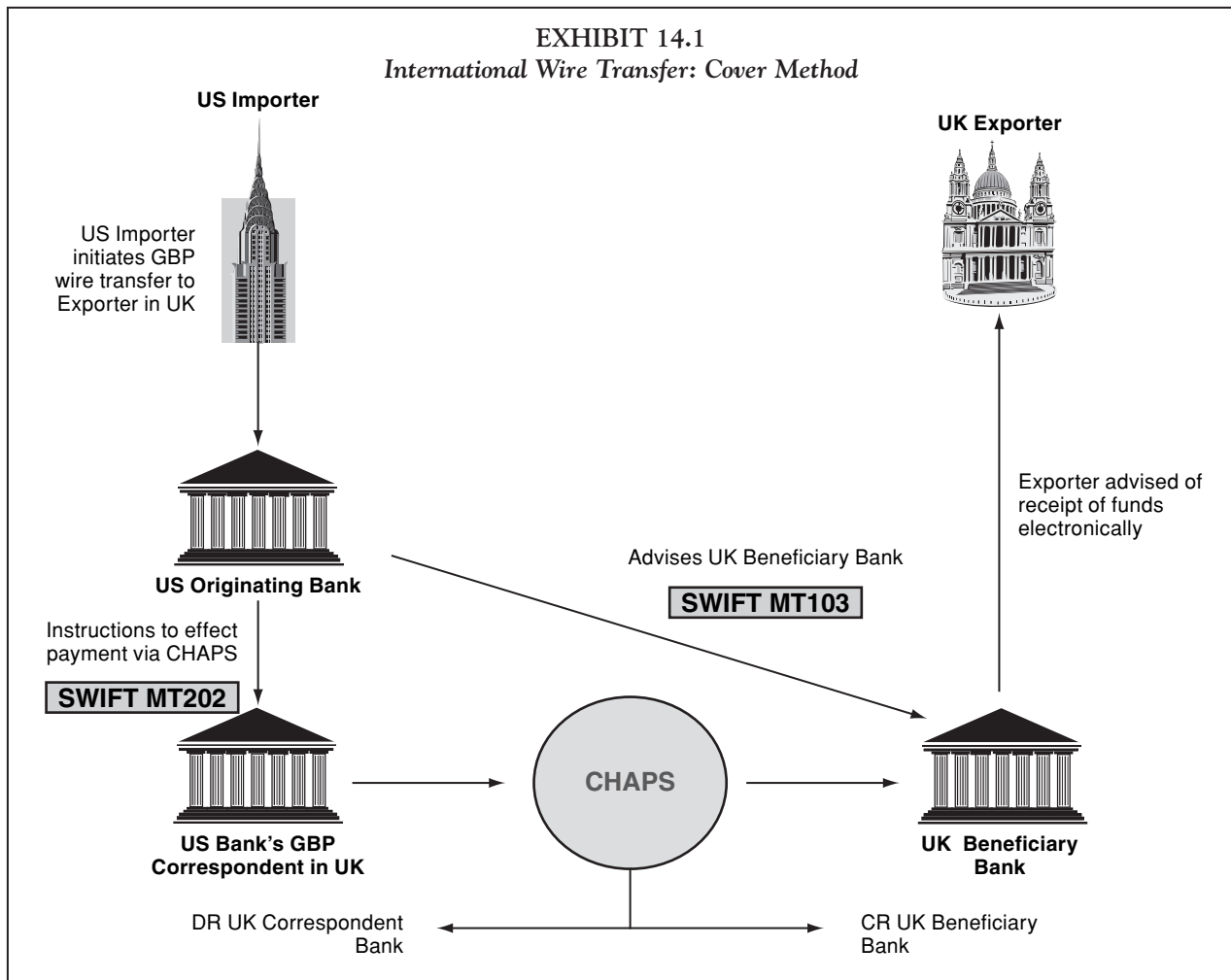
Other forms of paper payment include documentary collections and letters of credit, which we discuss in the section on trade payments.

### Electronic Payments

When electronic payments can be made, they are generally more acceptable. They will, however, be more expensive than checks and will also take a little more time than domestic payments to reach the destination, depending on the method and vehicle used.

**Wire transfers.** Most developed countries have both a high-value electronic payment system (equivalent to the Fedwire system) and a low-value batch transfer system, similar to ACH. Until recently, the only option for making international electronic payments from the United States was to use the more expensive wire transfer vehicles because local ACH-type systems could not be accessed from outside the country.

Although some countries and banks still use the *serial* method for transfers (money moves from one correspondent account to another until a mutual relationship of correspondent banks is found), today most banks use the *cover* method, using SWIFT messages to inform the beneficiary bank that funds are being sent and to instruct the correspondent bank to initiate payment through the local payment system. The wire transfer process is shown in Exhibit 14.1.



Generally these cross-border transfers take at least two business days, sometimes more, depending on the holiday schedules in the two countries (since the banks have to be open in both countries for the payment to be made). At present, wire transfers remain the fastest method of transferring funds overseas. The disadvantage of using wires is the cost, which can be 150 to 300 percent more expensive than a domestic wire transfer, or between \$25 and \$45. It is also important that all of the bank account details be known and correct—otherwise repair charges may also be incurred.

*Treasury Tip: Making Payments to Europe*

In an attempt to increase the efficiency of cross-border euro payments in Europe, the banks have agreed to use an ISO standard for bank account numbers called IBANs and SWIFT bank identification codes, BICs. Any SWIFT payment not carrying the correct IBAN and BIC will not be eligible for straight-through processing. If you are making euro payments to Europe, make sure that any payments processed through SWIFT include the IBAN and the BIC, or they will be subject to delays, expensive repair costs or be rejected.

**International ACH.** The newest development in electronic payments is the growth of international ACH, which can take a number of forms. The most common is the bank proprietary product, in which the customer initiates international payments to a foreign ACH system and the bank reformats the instructions to local format and transmits them to its local branch or correspondent network overseas for execution. There may or may not be a related foreign exchange transaction depending on whether the customer maintains foreign currency accounts. The advantage is that the customer can use existing bank communication systems and not have to open accounts overseas in order to use local low-value payment systems. International ACH products can usually handle batch transactions and are considerably cheaper than using wire transfers.

One drawback is that most of these systems (with the exception of ACH payments to Canada) can handle credit transactions only. Collections via direct debit are not yet widely available. A second drawback is that because the instructions need to be reformatted and transmitted overseas, they usually require a day or two extra notice than if originated directly in the local market. Most banks require a certain minimum volume to offer this service.

**Treasury Tip: FX Payments**

One of the most efficient ways to make a payment in a foreign currency is to make payment through the settlement of a foreign exchange transaction. Although there still will be a charge in the form of a spread, there usually will not be an additional charge for the delivery of the foreign currency. One caveat: In the current environment of heightened security, some banks will not make a payment to a third party, so the foreign exchange will need to be credited to an account in the same name as the ordering party.

## Receiving Payments from Overseas

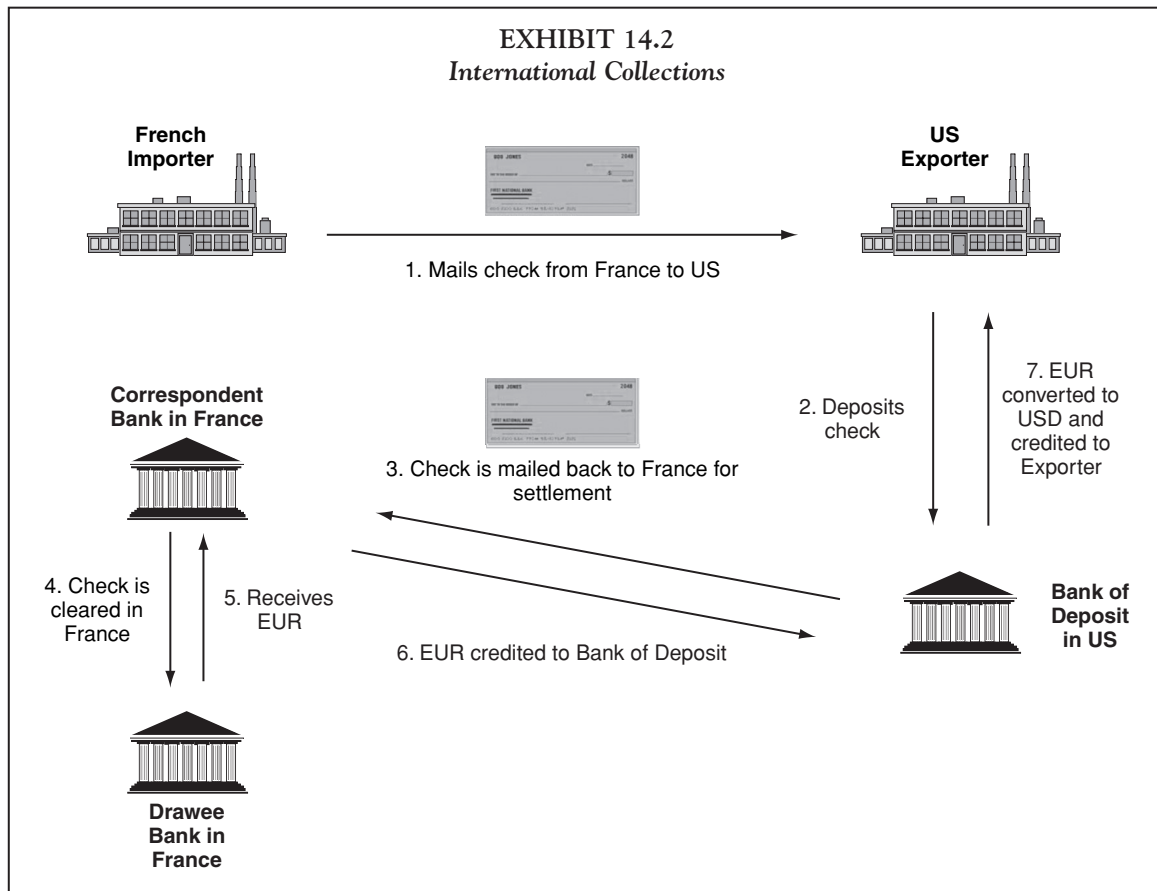
Receiving payments from overseas can also be a lengthy and expensive business. It is important that the parties discuss and agree on the method and who pays for what before the first payment is due.

### Payment by Check

Payment by check is generally to be avoided if at all possible. That having been said, there are still enormous volumes of checks that are sent across border, enough to support a large collections department at every major bank. As mentioned previously, check collections involve long delays and risk whenever checks are denominated in a foreign currency, or drawn on a foreign bank. Exhibit 14.2 illustrates the process of collecting a check from overseas. The process is also expensive and should not be considered for low-value items for which the collection fees can be more than the value of the check.

One way to reduce both delays and risk is to negotiate the check with the bank. For their good customers, banks will often agree to discount a check, on a recourse basis, stopping the clock on both the loss of availability of funds and the FX risk. Should the check not clear, however, the bank will claim the money back.

A growing trend is the establishment of an overseas lockbox, sometimes called an *intercept point*. Although not strictly speaking the same product as a U.S. lockbox, it shares the characteristics of halting the progress of the check close to its origination point and clearing in the local market. Although not a cheap solution, if the values and volumes are high this may be a viable option for overseas collections. If considering this service, it is most important to find out what type of reporting is provided, the channel used for reporting (PC, Internet, and so forth), timeliness, level of detail, and policy on returned items.



***Treasury Tip: When a USD check is not a USD check***

Even though you may be receiving a check in U.S. dollars, it is important to specify that the instrument is *drawn on a bank that is a member of the U.S. clearing system*. Otherwise, you may receive a check drawn on a foreign bank's USD account, which will have to go through the same collection process, back to the drawee bank (as if it was a foreign check), before it can clear and settle.

### Electronic Payments

Just because a payment is electronic, there can be no assumption that it will be made as swiftly and efficiently as a domestic wire transfer in the United States. Conflicting holiday schedules, a long correspondent bank chain, or a manual process can all add to delays for an incoming wire. Expect little in the way of accompanying information. At very best, unless making a euro transfer through TARGET, a cross-border wire transfer will take a minimum of two business days. If the transfer is urgent, there are ways of accelerating the process, but this will be on an exception and best efforts basis. Similarly, do not assume that a bank has capabilities just because it is a member of SWIFT; this does not necessarily mean that the bank



offers full SWIFT functionality or that the payment can be guaranteed to go STP. The speed of the transfer depends on the weakest link in the chain.

The major drawback of international wires remains the cost, which can take many forms. In addition to the transaction fee paid by the originator, intermediary banks will also take their fees from the proceeds as the transfer passes through their hands. This is called *deduct from beneficiary* and will not only reduce the amount received, but will also create an exception item if you reconcile automatically. Although many countries charge a flat transaction fee, some countries, such as Japan and Germany, charge, on an ad valorem basis, a fee that is a percentage of the amount being transferred. Additionally, some countries charge an extra fee for central bank reporting when money moves across a border or is transferred from a resident to a nonresident account. It is important to agree up front who will pay which charges and that the funds are remitted without charges to the beneficiary if possible. Although most banks will charge a fee for an incoming SWIFT (between \$10 and \$25), by taking it as a separate charge and not from the proceeds, the amount received can still be reconciled automatically.

***Treasury Tip: Ask About Value Days***

Many countries overseas take value days as a form of compensation, sometimes in addition to the transaction fee. Value days are extra days, during which the customer loses value, *after* the beneficiary bank has received the funds (unlike availability in the United States; the delay in obtaining value is caused by the collection process). Value days are usually between one and two days and can be negotiated. Companies should be aware that value days can work both forward (for deposits) and backward (to compensate the originating bank for outgoing payments). It is not uncommon for back value days to create overdrafts as a result.

## What You Need to Know About Foreign Currency Accounts

One way to reduce charges and make and receive foreign currency payments more efficiently may be to open up a foreign currency bank account. This is not without its drawbacks. The major advantages and disadvantages of maintaining a foreign currency account in the local country are summarized in Exhibit 14.3.

Before proceeding with opening a new account, first answer several questions and then perform a cost-benefit analysis to determine whether this is a viable solution. For example:

- What are the charges and fees for the account? (Be aware of different types of fees or unexpected charges such as value days.)
- Is there a minimum balance requirement?
- Is credit interest paid on balances? If so, on what basis is the rate determined? Is interest tiered, paying more for higher balances?
- On what basis is debit interest calculated? Is it deductible against income?
- Are overdrafts permitted? At what rate are they charged? Are debit balances offset against positive balances (notional pooling)?
- Are there withholding taxes or other taxes of which the company should be aware?
- What is the cost to the company in terms of lost availability, foreign exchange commissions, and transfer costs of not maintaining a foreign bank account?

### EXHIBIT 14.3

#### Considerations When Maintaining Foreign Bank Accounts

##### Advantages

- Two-way cash flows can provide a natural hedge to reduce FX exposure.
- Avoids the expense of *round-tripping*; that is, buying and selling the same currency within a short period of time and paying commissions on both transactions.
- Payments and collections are in the local environment and, therefore, are priced as local transactions, not as cross-border transactions.
- Availability of deposits will be much faster.
- Later cutoff times for payments and receipts.
- Access to local ACH and debit and credit transactions.
- Avoids central bank reporting because funds do not move across border.
- Can take advantage of local knowledge and expertise.

##### Disadvantages

- May require a new bank relationship.
- An additional account will increase expenses.
- Can be more difficult to administer, reconcile, and manage because of banking system differences.
- Types of fees may be unfamiliar, such as value dating, *turnover fees* (a monthly charge based on the value of turnover in the account), *lifting charges* for overseas remittances (fees levied on movements between resident and nonresident accounts), stamp duties on inter-company loans, deductions from beneficiary fees, and the like.
- Electronic banking services may be more limited or unavailable.
- Inconvenience and cost of using an additional foreign electronic banking system.
- Customer service may be more difficult because of language and time zones.
- May create additional tax issues and create a *permanent establishment* (when a company is deemed to have a taxable presence in a foreign country).

#### ***Treasury Tip: Receiving Payments Is Only the First Step***

Obviously, receiving the money is extremely important, but if you are collecting currency in a foreign bank account, it will be equally important to receive timely information on the receipt so as to be able to manage companywide liquidity. Not all countries and all banks are able to provide electronic balance reporting. When establishing accounts overseas, therefore, it is essential to verify how balance and transaction information will be reported and with what frequency. The most commonly used method is to request that the bank send a SWIFT MT940 message to your primary cash management bank. That bank should be able to take the SWIFT message and combine the information into a consolidated multibank balance report. Note that U.S. banks use Bank Administration Institute (BAI) as the communication standard, whereas international banks use SWIFT formats. It is important, if consolidating bank reporting, that your domestic bank is able to receive or reformat SWIFT messages into BAI format.

## Managing Foreign Exchange Exposure

Although interest rate and commodity risk (the risk that the price of the commodities used in a manufacturing process will rise) may be more complex in an international context, one major additional concern is to protect the company from foreign exchange risk.

### FX Risk

The first step is to recognize the risk and to measure it. If you cannot measure it, you cannot manage it. FX exposure is generally categorized in three ways:

1. **Transaction risk.** The exposure a company has to known future foreign currency cash flows caused by the fluctuation of foreign exchange rates between the time the transaction is initiated until the time it is completed. This affects receivables and payables.
2. **Translation risk.** A company must convert the net value of foreign assets to the currency of the parent to prepare consolidated financial statements. Translation risk is the potential negative impact on a company's value caused by the change in value of those assets denominated in foreign currency. This is sometimes referred to as *balance sheet exposure*.
3. **Economic risk.** The degree to which a company's cash flow, competitive position, or value is affected by macroeconomic changes, such as civil unrest disrupting supply chains. This exposure often arises from long-term contracts and is very difficult to hedge because of the lack of predictability of such events.

### FX Risk Management Policy

The second step in managing FX exposure is to put in place an FX risk management policy. Part of the outcome from the Sarbanes-Oxley Act (SOX) is a proliferation of new standards and requirements that establish measurements for good risk management practice. This has extended to foreign exchange risk management because of the volatility of the exchange rates. Many companies are reassessing whether their current risk management policies and procedures are sufficient to cover their underlying FX exposures and whether their controls satisfy the requirements under SOX. Establishing FX risk management policies and procedures is a major step toward achieving the mandated financial controls. The process to establish such a policy, which should then be approved by the appropriate level of management, is as follows:

1. **Articulate objectives.** Determine the company's overall attitude toward FX risk, and the areas where it is prepared to take risks for competitive reasons. Some companies will be more aggressive than others because of the characteristics of their industry or maturity of the market.
2. **Categorize exposures.** Determine which types of FX risk (transactional, translational, or economic) pose major exposure to the company. The company's business activities and organizational structure will help determine if it is high risk.
3. **Measure exposures.** Quantify the magnitude of each exposure. A company can use sophisticated techniques such as value-at-risk or simply historical observation of currency fluctuations. From this analysis, senior management will be able to determine which exposures are significant and, therefore, will need to be reduced or eliminated.
4. **Determine policy.** Establish specific actions to be taken for each identified significant risk that is to be managed. For example, this may include determining a range of hedging activity such as hedging 60 to 75 percent of payables to Asia, or attributing specific policies for specific risks, for instance, fully hedging high-risk currencies but only 75 percent of the risk of other currencies.

**5. Select strategy.** Determine if there are any natural hedges (for transaction exposure) or balance sheet hedges (for translation exposure). Company management should also approve the types of derivatives that can be used, based on the type of exposure and the objective. For example, if certainty of cash flows is required for forecasting, forward contracts are appropriate. The strategy will also depend on the degree of internal expertise and knowledge to manage risk effectively. See Exhibit 14.4 for an example of risk management strategy.

**6. Implement strategy.** Identify individuals who are approved to enter transactions and specify approval levels required, counterparties, and credit limits. Put in place internal controls and independent confirmation of trades.

**7. Monitor and review.** Review the success of hedging vehicles against the corporate objectives, using quantifiable data. Financial Accounting Standards Board Statement No. 133 (FASB 133) requires that the derivatives used be marked-to-market and reflected in the financial statements. Establish responsibility for communicating results and monitoring ongoing exposures. Periodically review the current policy to ensure that it is still appropriate.

**Treasury Tip: Financial Risk Management**

The process described above can also be used to develop a policy and process for managing all financial risks, including interest rate risk, commodity price risk, and capital structure risk.

### Developing an FX Hedging Strategy

The final step is to implement the risk management policy and determine how to manage the exposure by developing a hedging strategy. There are three ways to approach risk:

1. Ignore it (not recommended).
2. Avoid it, where possible.
3. Mitigate it, when necessary.

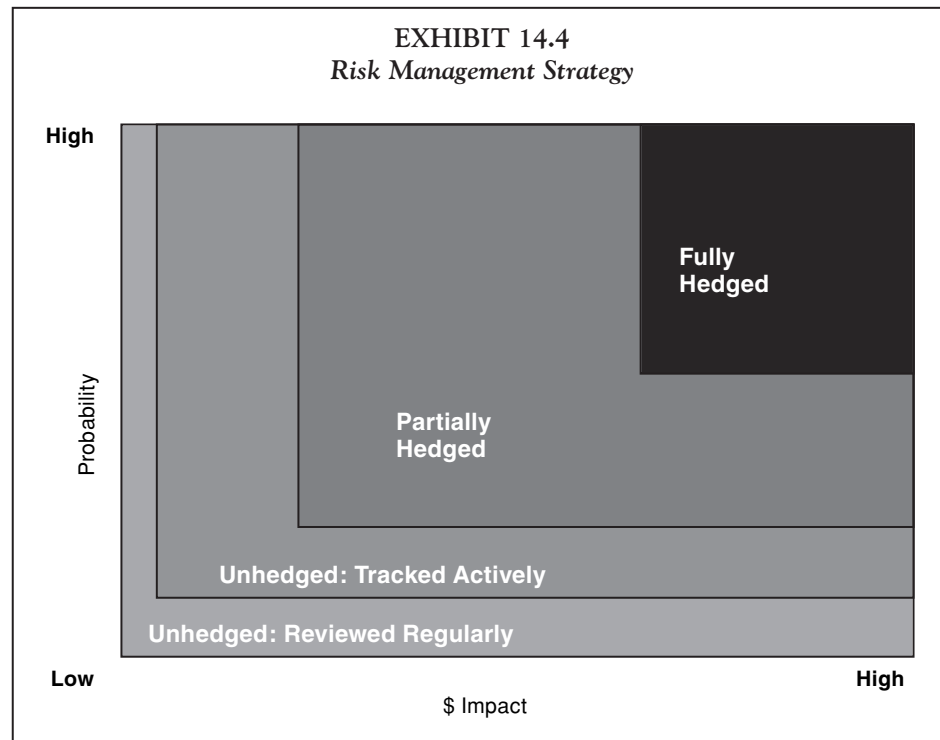
Exhibit 14.4 provides an illustration of how a company might structure its risk management strategy. It shows how a company can develop its hedging strategy according to the perceived level of risk, as measured by the probability of an occurrence and the actual dollar impact of the exposure. Only those risks deemed to have a high probability of occurrence *and* a high dollar impact are fully hedged. This approach can be used for developing a strategy for all types of risk.

There are no rules that stipulate that a company must hedge its exposures. What is important, however, is that any decision not to hedge be taken consciously and not by default. Although there are many hedging vehicles available, some of them are esoteric, complex, and expensive. The major hedging vehicles used by companies are described as follows:

**Spot.** A foreign exchange transaction in which the rate is agreed a maximum of two business days in advance of settlement.

**Forward.** A foreign exchange transaction in which the rate is agreed on the transaction date for a settlement date more than two business days in advance. This is used for hedging transaction exposure and is highly customizable as to the amount and forward date.

**Future.** A contract stipulating the purchase or sale of a specific amount of foreign currency at a specified price at a predetermined future date. Unlike forwards, futures are highly standardized in terms of quantity



(usually large amounts), price, and maturity date (usually at the end of each quarter). They can be used for hedging both transaction (if the precise date is uncertain) and translation exposures. Unlike forwards, they are actively traded on commodity exchanges.

**Currency swap.** An agreement between two parties to exchange a series of cash flows denominated in one currency for those in another, over a predetermined period. It usually involves swapping both the currency amounts over the agreed period and the related interest for that period. Used to hedge ongoing transaction and translation exposures.

**Currency option.** A derivative giving the holder the right, but not the obligation, to buy or sell a certain amount of foreign currency at a predetermined price on a specified date (European option) or to be exercised at any time before maturity (American option). Used for both transaction and translation exposure. This is also used when companies are bidding for a fixed-price contract in a foreign currency. The FX risk arises because the bid price is based on prevailing exchange rates, but before the outcome of the bidding is known the rates might have changed. A forward locks the company into the FX contract, whereas an option allows the company to lock in the price, but also to walk away should it not win the bid.

**Natural hedge.** When a company has two-way flows in a foreign currency, it can offset the overall exposure by netting the inflows against the outflows. Only the difference need be hedged. Used to hedge both transaction and translation exposure.

**Balance sheet matching.** Translation exposure refers to the reporting and consolidation of the net value of foreign currency-denominated assets. Balance sheet matching involves putting a matching amount of foreign currency liabilities on the books, thereby offsetting the foreign assets (to zero or as close as can be achieved). The assets and liabilities must be in the same currency.

***Treasury Tip: Why Use Options?***

Options can provide more flexibility compared with using a forward contract because:

- They are exercised only when the results are advantageous.
- If rates move favorably, the treasurer does not exercise the option but still gets the advantage of the favorable move.
- The cost of the option can be reduced by limiting the upside advantage, but still protecting against the downside movement.
- Options can be customized to cover almost any type of risk and can be structured to fit a company's cost-versus-risk reduction requirements.
- Under FASB 133 many foreign currency options qualify for special hedge accounting treatment.

***Treasury Tip: When to Use Swaps Versus Options***

If using a derivative instrument to hedge an exposure would produce a reliably predictable outcome, then the answer is to use a swap. If the outcome is uncertain, then an option is the right choice. For example, if a company had an ongoing stream of foreign currency outflows, such as lease payments on plant and equipment, a foreign currency swap could eliminate that ongoing transaction exposure. On the other hand, if the outcome is uncertain when bidding on a contract that includes foreign currency outflows or income and pricing is predicated on a certain exchange rate, an option can safeguard the profit by ensuring that if the company wins the business it will have a source of funds at the appropriate rate, even if the exchange rate has moved adversely. The cost of the option is considered to be a cost of the bidding process.

## International Trade Vehicles

Commercial risk is another major concern for companies doing business overseas. Starting a new trading relationship in the United States is relatively straightforward, and there is an abundance of information readily available. Dealing internationally, however, is considerably more difficult. Credit information may not be as easily accessible and may take considerably longer to collect. Both exporter and importer bear commercial risk, as follows:

- Exporter risks**
- Not being paid.
  - Having goods impounded or blocked in a foreign port.
  - Currency is not available for transfer.
  - Exchange controls prohibit the cross-border transfer of funds.
  - Goods are damaged or lost in transit.

- Importer risks**
- Goods do not arrive or do not arrive in time.
  - Goods do not meet specifications.
  - Goods are damaged in transit.
  - The value of the shipment decreased while goods were in transit.

Over the centuries a number of tried and tested vehicles have been developed to mitigate some of the risks of international trade for both importer and exporter. The major trade payment vehicles, in order of ascending risk to the exporter and descending risk for the importer are described below.

### Cash in Advance

There are a number of reasons why an importer would agree to pay cash in advance to the exporter. In the domestic environment, it may signal a bad credit history and this is the only way to get suppliers to ship. In the international environment, it may be an indication of lack of available credit information rather than a poor track record. It may signify an extraordinarily strong competitive situation for the exporter, and cash in advance is the only way to obtain the goods. It is also used as a way for the importer to finance the production of customized goods. With cash in advance, the importer assumes all the risk.

### Letter of Credit (L/C)

The exporter can protect against nonpayment by the importer providing a letter of credit. There are many different types and permutations of letters of credit, but the basic concept is that the issuing bank (the importer's bank) accepts the importer risk and guarantees payment to the exporter provided that all the terms and conditions of the letter of credit are met. The exporter can further protect itself by adding a *confirming bank* (usually a bank in the exporter's country) that will undertake to guarantee payment should the issuing bank default. There are risks for both the importer and exporter, usually associated with discrepancies in the documents. These are time-consuming to resolve, which explains why L/Cs have traditionally been expensive and processed manually. In recent years, however, a number of new products and services that automate the process and dematerialize the documents have appeared, making them available to all parties, simultaneously, on the Internet. The L/C is also a financing and investment vehicle. If the exporter allows payment terms for a future date, the importer is receiving trade credit. Once accepted by the bank, the time draft can be discounted to provide immediate funds to the exporter. The accepted L/C (now a banker's acceptance) can also be sold at a discount by the issuing bank as an investment vehicle. L/Cs are still a major form of payment in the Far East.

### Documentary Collection

Documentary collections protect the exporter by retaining title to the goods until they are paid for by the importer. The collecting and remitting banks are responsible for transporting title documents from the exporter to the importer, and collecting and remitting payment. Although cheaper than an L/C, a documentary collection does not guarantee payment and the exporter still bears the risk that, once shipped, the goods are refused at the point of import.

### Counter Trade

In areas where hard currency is in short supply and cross-border transfers may be prohibited, countertrade, an extension of the barter system, is frequently used. The exporter enters into a preliminary barter agreement with the importer, with the intention of selling the goods received to a third party. Although the pro-



ceeds of a countertrade may realize only a percentage of the value of the shipment, it is a way to continue to do business while waiting for trading conditions to become more favorable.

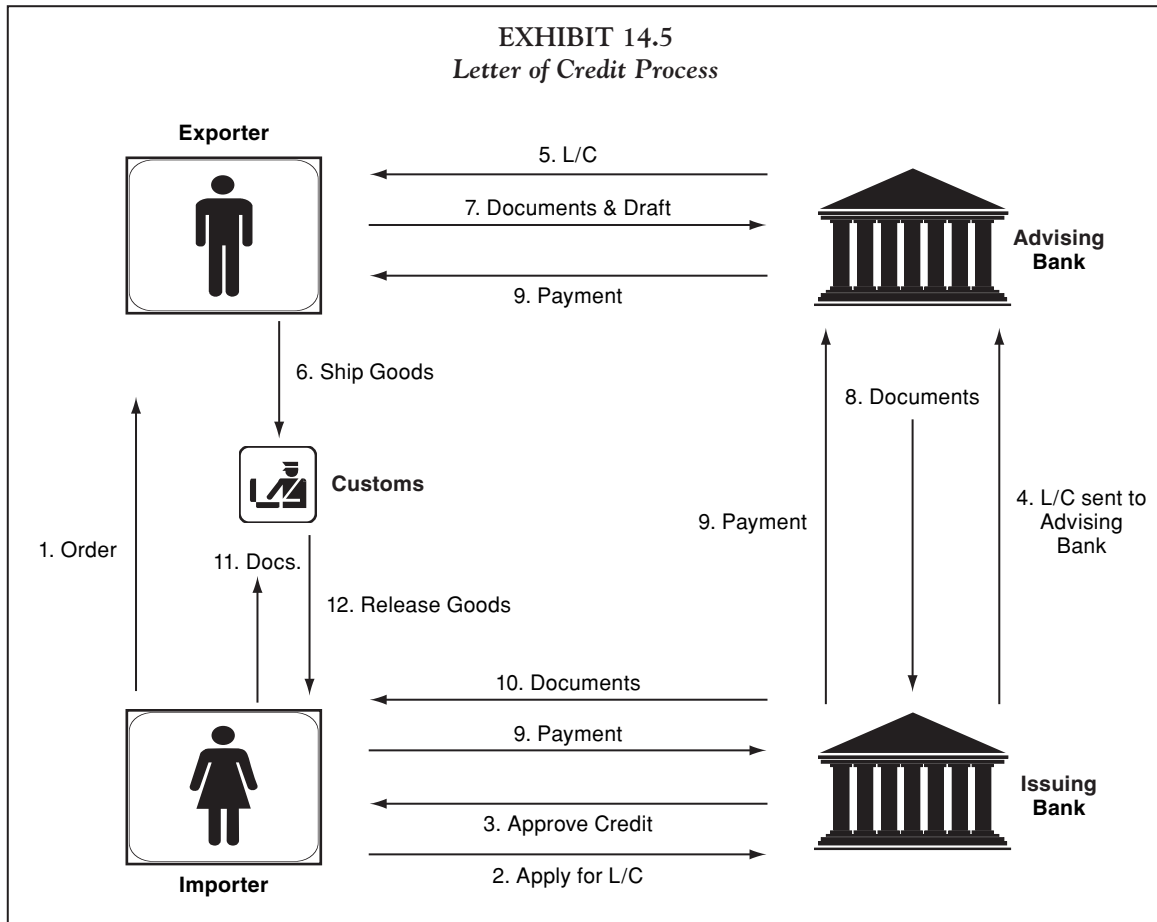
**Open Account**

The goods are shipped and paid for per the terms of the contract. This method is increasingly used in the U.S. and Europe and provides the least protection for the exporter. This is the method of choice for intra-company transactions as it is also the least expensive way to pay.

Exhibit 14.5 illustrates the letter of credit process. From the number of steps involved it is easy to understand why the process can be time-consuming and expensive.

**A Word on Notional Pooling**

Treasurers who do business internationally are familiar with a concept called *notional pooling* that provides an alternative method to concentration for managing a company’s liquidity. A notional pool allows a company to offset any accounts with surplus balances against those that have a deficit. All of the accounts need to be with the same bank, but can be, and usually are, in different locations. By reducing the negative balances to the extent that there are positive balances, a company can considerably reduce its interest expense. If the company has an overall positive balance, interest is earned on the consolidated amount. On a daily





basis, the overall balances are netted off by the bank for the purposes of paying or receiving interest without the balances ever moving.

The integrity of each account is preserved. At the end of each month, each subsidiary is allocated interest expense or income in proportion to the amount it “contributed” or “borrowed” from the pool—this is called *interest allocation* and is part of the service banks offer. Notional pooling is available in many parts of Asia and Europe where there is nationwide banking, and a small number of very large retail banks that cover the entire country.

Today, because of regulations in the United States and the lack of nationwide banking, notional pooling is not a viable option in this country. The Federal Reserve has very strict policies concerning the circumstances under which a company is allowed to notionally consolidate bank balances and requires the banks to have extensive documentation, partially to ensure that banks maintain the proper level of reserves and that reserves are not artificially lowered by companywide offsetting. Regulations prohibiting the payment of interest on corporate demand balances and overdrafts are a further barrier to notional pooling.

It should be noted, however, that many of the roadblocks to notional pooling are in the process of being removed. Regulation Q is expected to be repealed in the very near future, and banks are extending their retail networks over larger territories. It would be reasonable to expect that in the future pooling (or an approximation of pooling) will become a viable option for managing liquidity.

## Improving International Payments

The following are some suggestions about how to improve your international payments and collections process:

- Try to receive payments electronically if possible.
- Open an account at the same bank as your major customers and have the bank effect a book transfer.
- If receiving checks:
  - Make sure the check is drawn on a member of the local clearing system.
  - Deposit the check directly in an account in the local currency center.
  - Use a lockbox if cost-justified.
- Get electronic transaction reporting to make sure you are advised of incoming funds as quickly as possible.
- Do not forget the impact of forward and back value dating to avoid costly overdrafts.
- Determine *all* the costs involved before making decisions on what payment type to use.
- The EU has mandated that the price of cross-border euro transfers below EUR 50,000 be the same as for a domestic transfer. Make sure your bank is pricing accordingly.
- Use procurement cards internationally whenever possible.
- Investigate using the local low-value payment systems instead of wires.
- Use the new electronic letter of credit products.
- If your company has foreign subsidiaries, look to rationalize the global banking structure using as few banks as possible for payments in order to leverage pricing and reduce the number of formats needed.
- Offset currency flows as far as possible, hedging only the differences that cause significant financial risk.

## Practical Applications

Find examples of your company's transaction, translation, and economic risk. Which do you think poses the greater exposure to the company and why? What is your company's FX risk management policy? What hedging instruments are being used? Is the company risk averse, or largely self-insuring?

## Summary of Key Points

- In today's world it is almost impossible to escape the impact of international business, whether from a business activity or a competitive position.
- Doing business cross-border more efficiently will improve a company's bottom line.
- As a rule, paper payments should be avoided because they are expensive to collect and rarely acceptable to beneficiaries.
- Electronic payments can, however, be expensive and will still take a few days, so it is important to plan in advance.
- Wherever possible, advantage should be taken of the newer international ACH payment services offered by banks.
- Sometimes international business will necessitate an account being maintained in a foreign currency; it is important to understand all the charges and conditions associated with the account as they can be very different from those in the United States.
- Foreign exchange risk must be recognized, measured, and managed.
- An FX risk management policy is the first step to developing a hedging strategy.
- There are a number of specialized international vehicles, such as documentary collections and letters of credit, to help exporters and importers manage commercial risk.
- Notional pooling is an effective liquidity management tool that should be used where offered overseas.

# 15

## Using Technology to Manage Treasury

### Chapter Goals

This chapter covers the following topics and provides a methodology for selecting a treasury system provider:

- The treasury management system (TMS)
- Information reporting
  - Internal information
  - External information
- Transaction initiation
- Advanced and specialized modules
- Options in selecting a treasury management system
  - Type of system
  - Access method
  - Internet-based systems
- How to select a TMS vendor

### Introduction

One of the principal tools of the treasury function is the *treasury management system* (TMS), sometimes called a *treasury information system*. A TMS is typically PC- or client server-based software that gathers information from both internal and external sources. A treasury management system compiles financial data for the purposes of analysis and decision making, automating many manual tasks. A survey by Ernst & Young in 2005 found that less than 10 percent of companies use no system at all; over 20 percent use a spreadsheet to manage treasury information; and by far the largest proportion, more than 70 percent of companies, use a specialist treasury system, or TMS. When the TMS is PC-based, it is also referred to as a *treasury workstation* (TWS). The larger companies, about 8 percent, use the treasury module of an ERP (enterprise resource planning) system, in which the module communicates directly with the banks or information providers.

Treasury systems have revolutionized cash management, changing the cash manager's function from being mainly clerical data collection to being a strategic partner in the analysis of the information. More

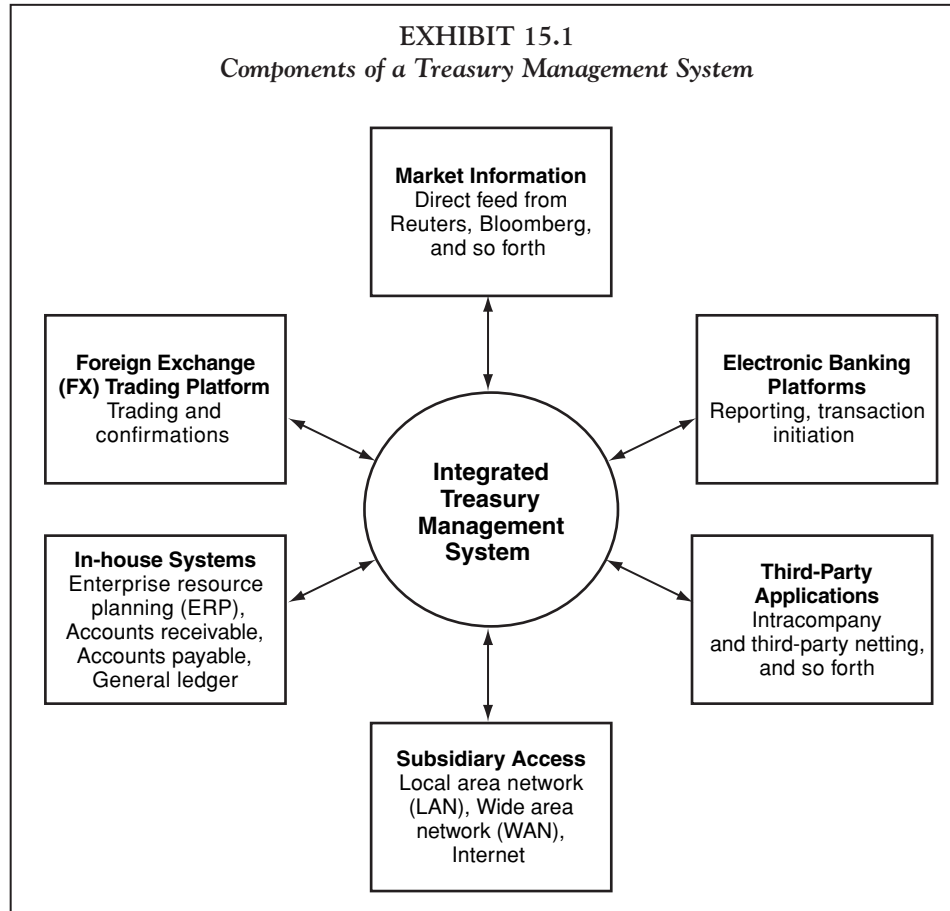
recently, companies are using Internet-based systems and accessing information through a Web browser. Such systems are easier to install and update, and are cheaper to maintain. Effectiveness has been facilitated by both the improvements in TMS functionality and by the increasing automation and use of technology within companies, starting with accounts payable and accounts receivable and culminating in the implementation of full ERP systems. The technology now allows operating companies to submit cash flow forecasts, transactions, and local reports while enabling the cash manager to manage certain functions centrally, which is increasingly important for controlling the treasury function. This chapter looks at what a TMS should provide and how to select one.

## The Treasury Management System

Cash managers use treasury management systems to gather information, initiate and confirm transactions, and create management reports. Most companies today insist that their systems consolidate information and access their whole banking network. Some of the important constituents of a system are:

- General capabilities**
- System security
  - Access levels and protocols
  - Report generator and database manager
  - Communication
  - *Polling and parsing* capability (dialing out to a bank's system to retrieve information and populating formatted reports with the data)
  - Word processing
  - Spreadsheet
  - Graphics
  - Plug-and-play interface capability to external reporting systems
- Specific functionality**
- Bank relationship manager
  - Cash position worksheet
  - Bank balance reporting (previous-day, same-day, real-time)
  - Multibank reporting (consolidating reports from several banks)
  - Historical reports
  - Full transaction details
  - Transaction initiation
  - Third-party initiation (the ability to initiate transactions with multiple banks through a single electronic platform)
  - Investment portfolio administration
  - Short-term borrowing reports
  - Cash forecasting and scheduling
  - Accounting and general ledger interface

Exhibit 15.1 illustrates the typical configuration of a treasury management system. In the following sections, we describe the basic and advanced modules that are currently available for treasury management systems. Many of these modules are standard off-the-shelf products and are readily available from most banks and vendors.



*Treasury Tip: TMS versus ERP*

A TMS offers flexible front office functionality and ease of deployment. An ERP system, on the other hand, encompasses far wider functionality than the traditional treasury function but requires a complex and costly installation. Historically, early ERP systems were unable to meet the full capabilities and reporting requirements needed by a treasury system and thus it was not unusual to find a company that had implemented an ERP system also running an independent TMS. Today, however, the latest generation of ERP systems offers very credible treasury functionality. The decision becomes one of budget rather than of capability. If a company implements a corporate-wide ERP system, it will benefit from full integration of the treasury modules.

## Information Reporting

### Internal Information

A TMS is expected to track both internally generated and externally reported information. Internally, a company records bank relationship data, which would at minimum contain the following information:

- Names, addresses, and telephone numbers of the financial institution head office and the branch that the company uses.
- Reasons for establishing the account and the criteria on which the business was won (for example, if it was a bidding situation).
- Primary contact name, and address, with telephone, fax, and cell phone numbers.
- Names of other contacts, senior managers, calling officers, customer service staff, and specialist staff such as FX, cash management, and trade representatives.
- History of the banking relationship and calling effort.
- List of services currently used, with terms and conditions and their unique characteristics.
- List of services terminated, date terminated, and the reasons why.
- List of persistent problems.
- Credit facilities available and used, with fees, restrictions, and covenants.
- Any new business under discussion.

### **External Information**

For the externally generated information, electronic balance reporting has been widely available since the early 1980s. Although many improvements have been made both in the timing of the data, with real-time information now widely available in the United States, and in the level of detailed information being reported, the balance reporting modules have become a largely commoditized product offered by most major domestic banks. The basic information available from a TMS is as follows:

- |   |   |
|---|---|
| <b><i>Account balances</i></b>                      | <ul style="list-style-type: none"> <li>• Ledger balances</li> <li>• Collected funds</li> <li>• Previous-day closing balance</li> <li>• Same-day opening balance</li> <li>• Funds available in one day</li> <li>• Funds available in two days</li> <li>• Historical information</li> </ul>   |
| <b><i>Transaction detail</i></b>                    | <ul style="list-style-type: none"> <li>• Total credits to the account</li> <li>• Individual credit detail</li> <li>• Total debits to the account</li> <li>• Individual debit detail</li> <li>• Controlled disbursement reports</li> <li>• FX transactions</li> <li>• Same-day information on incoming credits</li> <li>• Same-day information on outgoing debits</li> </ul> |
| <b><i>Collections and concentration reports</i></b> | <ul style="list-style-type: none"> <li>• Lockbox receipts</li> <li>• Concentration transactions</li> <li>• Foreign collections reports</li> </ul>   |

<b><i>Electronic funds transfers (EFT) reports</i></b>	<ul style="list-style-type: none"><li>• Fedwire incoming and outgoing transactions</li><li>• Automated Clearing House (ACH) incoming and outgoing transactions</li><li>• Clearing House Interbank Payment System (CHIPS) incoming and outgoing</li><li>• Domestic and international transactions</li></ul>
<b><i>Intraday reports</i></b>	<ul style="list-style-type: none"><li>• EFT transactions</li><li>• Lockbox receipts</li><li>• Concentration activity</li><li>• Intraday balances and overdraft</li></ul>
<b><i>Controlled disbursement</i></b>	<ul style="list-style-type: none"><li>• Daily disbursements</li><li>• Funding requirements</li><li>• Adjustments</li></ul>
<b><i>Investment reports</i></b>	<ul style="list-style-type: none"><li>• Transactions by trade date</li><li>• Transactions by settlement date</li><li>• Portfolio positions</li><li>• Portfolio valuation</li><li>• History of transactions</li></ul>
<b><i>Borrowing reports</i></b>	<ul style="list-style-type: none"><li>• Summary of credit facilities</li><li>• Drawdowns against facilities</li><li>• History of transactions</li></ul>
<b><i>Domestic multibank reporting</i></b>	<ul style="list-style-type: none"><li>• Polling (automatic dialing of other bank balance reporting systems) and parsing (inserting information into formatted reports)</li><li>• Consolidated balances</li></ul>
<b><i>Reconciliation</i></b>	<ul style="list-style-type: none"><li>• Full or partial reconciliation reports</li></ul>
<b><i>Account analysis</i></b>	<ul style="list-style-type: none"><li>• Monthly bank statement</li><li>• Bank fees and charges</li><li>• Ledger and collected and available balance history</li><li>• Earnings credit calculation</li><li>• Prior-period adjustments</li></ul>
<b><i>Administrative and control functions</i></b>	<ul style="list-style-type: none"><li>• System administration and adding and deleting users</li><li>• Repetitive and non-repetitive wire creation and storage</li><li>• Warehousing of disbursement instructions</li><li>• Stop payment initiation and viewing</li></ul>

***Treasury Tip: Multibank Reporting Is Not a Panacea***

It should be noted that this information reporting function represents a fairly standard product offering for U.S. banks. Internationally, however, electronic reporting may not be so standard. Although many banks overseas offer electronic banking platforms that feed TMSs, the quality and availability of the information are by no means uniform. Some banks manually key information into a multibank reporting system, which is prone to errors as a result. Some send balances only when there has been activity; there will, therefore, be no report on days on which there has been no activity. Transaction details may be more difficult to obtain, or the information may be truncated. And intra-day reporting may not be possible in many parts of the world. Caveat emptor! When buying electronic reporting services, be sure you understand exactly what you will be receiving; before you buy it, make sure you can use it. Unless you have a 24-hour operation, same-day information from Asia will not be very useful.

## Transaction Initiation

In addition to information reporting, most systems also allow companies to initiate a variety of transactions. The most common ones are:

- |  |   |
|--|---|
| <b><i>Domestic wire transfers</i></b>    | <ul style="list-style-type: none"> <li>• Freeform wires</li> <li>• Semirepetitive wires</li> <li>• Repetitive wires</li> </ul>  |
| <b><i>ACH</i></b>                        | <ul style="list-style-type: none"> <li>• Debit transactions</li> <li>• Credit transactions</li> <li>• Tax payments</li> </ul>   |
| <b><i>Checks</i></b>                     | <ul style="list-style-type: none"> <li>• Check initiation</li> <li>• Payable through drafts (paper instruments drawn on and cleared through the issuer, not the bank)</li> <li>• Bank drafts</li> </ul> |
| <b><i>Concentration</i></b>              | <ul style="list-style-type: none"> <li>• Deposit reporting</li> <li>• Drawdown initiation (ACH or wire)</li> </ul>  |
| <b><i>Consolidated disbursements</i></b> | <ul style="list-style-type: none"> <li>• Single file transmission</li> <li>• Bank initiated wires, checks, ACH</li> </ul>   |
| <b><i>Positive pay</i></b>               | <ul style="list-style-type: none"> <li>• File transmission of paid items</li> <li>• File transmission of items presented</li> <li>• Exception reports</li> </ul>  |



## Advanced and Specialized Modules

The larger banks and international vendors also offer advanced systems capabilities designed to meet the needs of larger companies, such as:

- External interfaces*
  - Links to external data sources such as Bloomberg and Reuters
- Internal interfaces*
  - Links to internal accounting data and general ledger information
  - Feeds cash forecast and cash schedules
- System interfaces*
  - Accounts receivable
  - Accounts payable
  - ERP
- Advanced modeling*
  - Testing “what if” scenarios on cash forecast
- Report writing*
  - Customized reports
  - Converting raw data to spreadsheets

Specialized modules for those doing business internationally also are available:

- Foreign exchange*
  - Current exchange rates for major currencies
  - Buying and selling foreign currency
  - Forward transactions
  - Matching reports
  - Settlement reports
  - Purchase of foreign currency bank drafts
- Letters of credit*
  - Letter of credit initiation
  - Discrepancy resolution
- International wire transfers*
  - Wire transfers overseas in U.S. dollars (USD) and foreign currency
  - Third-party transfers using SWIFT MT101
- International ACH*
  - Credit transactions through the overseas equivalent of ACH
  - Debit transactions (usually only for Canada)
- International lockbox*
  - Collection reports on lockboxes maintained overseas
- Notional pooling*
  - Pooling reports on accounts notionally pooled overseas
  - Interest allocation reports
- Netting*
  - Transaction data input
  - Trial balances (a preview of the results of the netting)
  - Intercompany netting report
  - FX transactions for netting settlement
  - Final settlement report
- News*
  - Latest financial headlines
  - International news

- Indicative FX rates
- Indicative money market rates
- Financial indicators

**Risk management**

- Tools for evaluating, monitoring, and managing risk exposure

## Options in Selecting a Treasury Management System

There are a number of decisions to be made when selecting a treasury management system. The first step is to determine the system requirements. Some of the major questions to answer are:

- What cash and banking functionality are needed?
- Does the company also require foreign currency exposure and risk management capabilities?
- Are liquidity, debt, and investment functionality required?
- What reports are needed?
- What is required to comply with internal reporting and intercompany account management?
- For which systems will there need to be an interface?
- Who will be the users?
- Are there any additional technology and security requirements?

### Type of System

Depending on the needs, a system can be built in house or purchased from a bank or a specialist software provider. It should be noted that although many years ago banks were involved in developing proprietary workstations, most banks today have ceded the niche to the specialist vendors. Even those banks offering TMS capabilities have often private labeled the technology from a leading vendor.

#### ***In-house system advantages***

- Can be completely customized to address special needs
- Company control of all aspects of delivery and deployment

#### ***In-house system disadvantages***

- Competing for limited internal technical resources
- Can be much more expensive than purchasing an off-the-shelf product
- Will take much longer to develop
- Internal staff will be required for training and implementation
- Changes and revisions may take a back burner to other priorities
- Technology investment is not applied across multiple companies

#### ***Specialized vendor advantages***

- Core competency in the product
- Speedier delivery
- Investments applied across many clients, reducing costs
- State-of-the-art development
- More responsive to market changes
- Cheaper than building the system in house
- Greater depth of IT resources and backup
- Likely to have already built interfaces to most major bank systems

**Specialized vendor disadvantages**

- A large array of standard off-the-shelf modules that might be beyond the development scope of internal IT resources
- Product may be inflexible in meeting the company's needs
- Interface with the company's systems may be more difficult
- Very expensive to customize, if even possible
- The company loses some control in terms of timing and deployment

**Access Method**

Companies have a number of choices as to how they access treasury systems:

**Dial-up.** Available for nearly 30 years. The technology is proven and still used by smaller companies. Treasury information is accessed via a server or stand-alone PC via a dial-up connection. This is a relatively inexpensive way to retrieve information but can be slow and functionality may be limited.

**Host-to-host.** Available for at least two decades. Larger companies with high volumes of information and transactions link directly from their computer to the bank's network access points. This is usually effected through a dedicated line that can handle high volumes at high speed. Although this may be more expensive to set up and maintain, it allows more flexible access and has advanced functionality.

**Internet.** The newest method of access is via the Internet. Most major banks now offer improved functionality through their Internet-based platforms (often through one of the leading technology providers, such as Politzer and Haney or Magnet). Some companies still have concerns, however, about the security of using the Internet for treasury functions.

The following section provides more detailed information on this most rapidly growing area of treasury management systems.

**Internet-Based Systems**

The Internet is the fastest growing access method for treasury management systems. The older PC and host-to-host systems required much of the software to reside on the company's computers (sometimes referred to as *fat client*). Any changes or upgrades require modification at the client computers and servers. *Thin client* solutions mean that most of the software applications reside at the bank or service provider computer and can, therefore, be more easily maintained and updated. The major benefits of using an Internet system are:

**Lower cost.** Compared with other options, a TMS based on delivery through application software providers (ASPs) on the Internet is considerably less expensive due to the efficiencies of the technology and lower communication costs. This also results in reduced internal implementation costs, bringing TMSs well into the budget of smaller and medium-sized companies.

**Automation.** Banks and providers are focusing their development efforts on Internet-based products. Services are being developed to automate many of the treasury functions over the Internet, such as EIPP (electronic invoice presentment and payment) and EBPP (electronic bill presentment and payment).

**Ease of access.** Although some of the TMSs had evolved to a single platform, many remain unintegrated. Internet service based technology has been developed as a single platform from the start.

**Ease of implementation.** The technology and effort required to establish Internet-based services are minimal. Setup and delivery can often be achieved within minutes, not weeks.

**Ease of maintenance.** Version control, upgrades, and maintenance of the software occur at a single site on the provider server, rather than on each individual PC at the customer site.

**Backup.** Because the software resides at the provider, any computer system failure at the customer site can be easily restored.

**Shareware.** This makes it very easy for multiple users at multiple sites to work simultaneously on the same software and project, for example netting or cash forecasting.

Some of the issues and concerns surrounding Internet services, however, remain, the major ones being:

**Security.** The Internet is a technology whose capabilities grew faster than the business world could understand and manage the implications and issues. As a result, security of Internet access has been of great concern. Over recent years much has been done to create a secure environment and provide safeguards against hackers, fraud, and viruses. Banks have improved their security procedures with firewalls, virtual private networks, and encryption. In addition companies can use third-party digital certification providers such as IdenTrust and RSA cards (standard encryption technology using card access).

**Technology.** Computer systems, telecommunications, and software may need to be upgraded throughout the company. IT will also have to overcome firewall and security issues to the satisfaction of senior management.

**Control.** With access to sensitive company data potentially available through a laptop computer, the company should institute internal controls to ensure the security and confidentiality of the information.

## How to Select a Treasury System Vendor

Once you have determined what functionality is required and what type of system suits the company's requirements and budget, the next step is to select an appropriate vendor.

### Conduct a Vendor Search

The objective is to find out which companies are offering what products. It is useful to allow this part of the process to be as broad as possible. Often, you may not be aware of what is available and it may influence your eventual requirements. Some of the better known treasury technology vendors are listed in Exhibit 15.2.

Other useful sources include:

- *Association for Financial Professionals (AFP) annual conferences.* At the AFP annual conference fully 50 percent of the exhibitors are software providers. Don't expect to get a full-blown demonstration at the conference but use the contacts to determine potential candidates that you can evaluate in more detail. Check for latest details at [http://www.afponline.org/pub/conf/annual\\_conference.html](http://www.afponline.org/pub/conf/annual_conference.html).
- *Regional treasury conferences.* Many of the regional associations also have exhibit halls and an opportunity to meet vendors. Some of the more significant ones are the New York Cash Exchange (<http://www.tmany.org/conference.htm>), the Windy City Summit, (<http://www.meetings-incentives.com/windycity/website/>), and ExpoLA. (<http://www.scafp.net/Symposium2006.htm>).
- *Print and Media.* Many publications frequently publish a list of vendors and capabilities. Some of the sources to check are:
  - AFP Exchange and other AFP publications (details at <http://www.afponline.org/pub/store/pub.html>).
  - The AFP also allows members to access its Directory of Service Providers. The treasury software and workstation vendors are published on <http://www.afponline.org/pub/tsd/cgi/results.cgi>.
  - Other sources of information include GT News at [www.gtnews.com](http://www.gtnews.com), Treasury and Risk Management at [www.treasuryandrisk.com](http://www.treasuryandrisk.com), The Treasurer at [www.treasurers.org](http://www.treasurers.org), and Treasury Today at [www.treasurytoday.com](http://www.treasurytoday.com) (this last often has special supplements devoted to treasury systems).

**EXHIBIT 15.2**  
**Treasury Technology Vendors**

<i>Vendor</i>	<i>Treasury Products</i>
Bellin Treasury Services	TreasuryDatabase
FXpress Corporation	FIRST
Gateway Systems, Inc.	Webcash
Kyriba Corp.	Kyriba
Misys	Misys Treasury Plus
Oracle Corp.-PeopleSoft	Oracle Treasury PeopleSoft Enterprise
Reuters America	Reuters 3000 Xtra
SAP	SAP Treasury
SunGard	AvantGard Quantum Integrity Treasury Solutions
Thomson Financial	Thomson ONE Thomson/Selkirk Treasura
TREMA	TREMA Suites Richmond Suites
Wall Street Systems	Treasury Management Hub
XRT	XRT Enterprise XRT Universe

- *Peers and colleagues.* Do not overlook the experience of your peers and colleagues in the industry. Some of them may even have recently done a similar search and may be able to provide you with a short list of vendors to evaluate.

### Prepare Vendor Short List

The objective in this step is to prepare a short list of potential vendors and narrow down the search to the two or three who offer the functionality you require. Using the research done during the previous step, ask the potential vendors for the following:

- Confirm your understanding of their capabilities by sending out a request for information (RFI), a letter that requests information regarding a vendor's ability to, and interest in, providing services.
- See a full product demonstration.
- Ask for an indication on pricing.

- Select a short list of vendors to receive the request for proposal (RFP), a formal document prepared by the company that outlines the company's objectives and service requirements.

### The RFP Process

Ask the short list vendors to respond to the RFP with specific proposals on their offerings including pricing. The process is as follows:

1. Prepare and send the RFP.
2. Respond to vendor questions.
3. Allow enough time for detailed responses to be prepared. Usually three to four weeks is sufficient unless the request is particularly complex.
4. Analyze responses and evaluate them according to the weighted selection criteria (see the methodology suggested in Chapter 17).
5. Check up on vendor customer references, and try to speak to the user of the system, not the person who made the purchasing decision.
6. Invite vendors to present in person and respond to any remaining issues or questions.

### Preparing an RFP

A template for preparing an RFP for a TMS should include the following elements:<sup>1</sup>

**General company overview.** Include a short summary of the company's operations, lines of business, sales volumes, and geographic spread. Refer to company Web site if more information is required.

**Treasury structure.** Provide brief overview of how treasury or finance operations are organized. Give details if more than one location is involved and how the responsibilities are allocated.

**The scope of the RFP.** State the parameters on which you are requesting the supplier to quote. Provide a response date, number of copies required, and any confidentiality rules or agreements to be signed by the supplier as part of the response.

**Company contacts.** List key company contacts that can be reached for additional information or to answer questions about the RFP. Include mailing addresses, telephone numbers and e-mail addresses as applicable.

**Decision process.** Indicate as clearly as possible when and on what basis the decision will be made.

**Objectives for TMS.** List objectives and summary of what you hope to achieve.

**Description of company banking and treasury management responsibilities.** Describe special banking structures such as cash pooling or other intercompany activities, such as intercompany loans. List all the treasury services or activities to be managed by the TMS.

**Requirements** Provide a list of requirements, with critical weighting. This portion will be the most important section of the RFP, so even if you have discussed the requirements in detail with the bidding suppliers, ensure that you list every requirement so that there are no misunderstandings later.

**Bank configuration.** List of banks and bank accounts and, if possible, a diagram of the major cash flows. This information may be included as an appendix.

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<sup>1</sup>© *Treasury Today*, 2003. Reprinted, with permission, from "Treasury Management Systems in 2004—A Practical Guide." A fuller version is available as a Word document with a subscription, contact <http://www.treasurytoday.com/>.

**Reporting.** This section should include a list of “must have reports” to be designed and available before implementation is signed off. If examples have already been given to the suppliers, it is not necessary to include them in the RFP. However, it is important to stress that report writing functionality to produce these reports or customize existing reports according to requirements should form part of the implementation quotation.

**Accounting.** Describe the accounting system used and what interfaces are expected with TMS to provide transactional information to and from the accounting system. It is not necessary to supply your general ledger categories or file formats with the RFP, but make sure that this information is readily available for the initial implementation discussions.

**Other interfaces.** Describe bank systems to be accessed. Include bank technical contact names in case supplier needs additional information.

**Systems environment.** Specify servers, numbers of workstations, size and configuration, firewalls to Internet access, and so forth (if applicable).

**System implementation.** Although you are likely to have discussed this, the supplier should be asked to include in the RFP a description of how the implementation process will be managed, how training will be handled, commitment for resources, and typical background/experience of the consultants assigned to the project. A description of the supplier’s approach to project discipline (such as timesheets, attending steering committees, and so on) is also useful.

**Price quotes.** Supplier should be asked to include all price components, fixed and variable, such as:

- License/rental fee
- Cost of unlicensed functional items and period for which this cost is fixed
- Timing of license fee payments (e.g., staged payments)
- Implementation estimate
- Daily/hourly consulting rates
- Policy on charging out-of-pocket expenses and travel time
- Maintenance and support fees
- Frequency and start date of maintenance and support fees
- Services included in maintenance and support fees
- Policy on increasing maintenance and support fees

**Ongoing customer service and support.** Does the supplier have a help desk? What are the available hours? If there is no help desk, how will inquiries be handled? What service level agreement will the supplier adhere to?

**License/maintenance contracts.** Ask for a copy of the supplier’s standard license/rental, services, and maintenance support agreement(s).

## Select a Vendor

Select the preferred vendor. The criteria for selection will include:

**Vendor credibility.** Can the vendor really deliver what it promises?

**Track record.** Does the vendor have a number of satisfied customers? Has the vendor worked with other companies in your industry?



**Cultural fit.** Is there a cultural fit between your company and the vendor? Does the vendor understand the company's business and objectives?

**Functional fit.** Does the vendor offer almost all the functionality you require (note that unless your requirements are very basic, no one vendor will be able to offer 100 percent)?

**Technology and future direction.** Do you and the vendor have compatible approaches to technology? Is the technology compatible with other internal systems? Is the vendor's future strategy going to provide you with what you need going forward?

**User friendly.** Is the product user friendly or will extensive training be required?

**Bottom line.** Do the results of the cost-benefit analysis show that the benefit you receive is commensurate with the cost?

**Implementation.** How long will it take to implement and how much time and effort will your company have to devote to implementation?

**Backup and disaster recovery.** What happens in the event of a systems failure or disaster? What backup facilities and contingency plans are in place?

**Commitment.** How committed is the vendor to the business? How long is it likely to offer support and improve the product?

### Finalize the Details

The primary purpose of the RFP process is to select the vendor with the closest match in terms of functionality and fit with the company. Although the proposal will have included pricing and timing information, these are usually treated as guidelines, with the final terms and conditions negotiated as part of the last step in the selection process. The following checklist outlines the areas that the company will need to ensure are spelled out in the final negotiation:

- |                         |  |
|-------------------------|--|
| <b>Setup fees (ASP)</b> | <ul style="list-style-type: none"> <li>• Initial license fees for application software provider system</li> <li>• Fees for additional sites</li> <li>• Fees for installation and implementation</li> <li>• Training fees</li> <li>• Customization fees</li> <li>• Hardware and communication costs</li> <li>• Technical fees for interfaces</li> <li>• Internal costs for IT, legal, and so forth</li> <li>• Out-of-pocket expenses for travel and the like</li> </ul> |
| <b>Recurring fees</b>   | <ul style="list-style-type: none"> <li>• Monthly user fees</li> <li>• External maintenance and support costs</li> <li>• Internal maintenance and support costs</li> <li>• IT support charges</li> <li>• Upgrading and retraining costs</li> </ul>  |
| <b>Timing</b>           | <ul style="list-style-type: none"> <li>• Target date for completing documentation</li> <li>• Start date for implementation</li> <li>• Milestones</li> <li>• Projected finalization date</li> </ul>   |



**Resources**

- What resources is the vendor committing during implementation?
- What resources is the vendor committing after implementation?
- What resources, within what time frame, is the vendor expecting the company to provide?

**A Word on Standardization**

One of the greatest frustrations of companies is the lack of standards in the industry, lack of standards between bank systems, lack of standards between payment systems, and lack of standards globally. Over the past five years several initiatives have been launched to create an open standard for financial communications, many of them using extensible markup language (XML) and its successor, hypertext markup language (HTML), as the basis. Some of the most notable organizations that are currently setting standards for financial and business language are:

**ISO.** The International Organization for Standardization (ISO) is a network of national standards institutes from 150 countries. One of its standards, the ISO 20022 Universal Financial Industry message scheme, was published in 2004 and defines the ISO platform for the development of financial message standards.

**ISTH.** The International Standard Team Harmonization works with four standards setting bodies, the International Financial Exchange Forum (IFX), Open Applications Group (OAGI), Society for Worldwide Interbank Financial Telecommunications (SWIFT), and Treasury Workstation Integration Standards (TWIST) with the aim of creating a harmonized XML payment standard.

**IFX.** The International Financial Exchange Forum (IFX) is a U.S.-based initiative to develop standards for use between the financial services industry and its clients. IFX is dedicated to the development and promotion of XML-based business messaging standards for the exchange of data among financial institutions, service providers, and software vendors.

**RosettaNet.** RosettaNet is a consortium of more than 500 IT companies working to create and implement industry-wide, open e-business process standards. These standards form a common e-business language, aligning processes between supply chain partners on a global basis.

**SWIFT.** The Society for Worldwide Interbank Financial Telecommunications (SWIFT) is the industry-owned cooperative supplying standardized messaging services and interface software to 7,600 financial institutions in 200 countries. Members of SWIFT include banks, brokers and dealers, and investment managers. SWIFT is charged with the development of internationally approved standards relating to the financial services industry. SWIFT is also accessible to corporation through bank-sponsored member-administered closed user groups (MA-CUGs), and closed user groups (CUGS).

**TWIST.** Treasury Workstation Integration Standards (TWIST) delivers nonproprietary XML-based standards for the automation of treasury, working capital management, and commercial payments activities. TWIST focuses on the analysis of end-to-end processes, its aim being to establish efficient straight-through processing of transactions through the use of standard processes and messages.

**Practical Applications**

How does your company manage treasury information? Does it use spreadsheets or a treasury workstation? If it uses a workstation, when was the functionality of the system last reviewed and what were the selection criteria? If you were to select a new system today, what functionality would you require and what would your selection criteria be?

## Summary of Key Points

- Information about money has become more important than the money itself.
- Managing that information is a crucial role of treasury, not only for cash and liquidity management but, in today's environment, increasingly from a control and governance perspective.
- Although managing information can certainly be done manually, in terms of best use of resources, an automated treasury workstation undertakes the labor-intensive information gathering role, freeing up treasury staff to analyze and use the data.
- Selecting the right treasury management system can be a labor-intensive process, with many options in terms of type of system, functionality, access, and provider.
- There are currently many initiatives trying to bring some standardization into the banking industry.
- The trend of the future is to use Internet-based platforms.
- ASP (application software provider) technology is relatively inexpensive to install and can provide a greater range of functionality than the older PC-based systems. The decision will ultimately rest on a company's comfort level with the technology.

# 16

## *Optimizing Banking Relationships*

### Chapter Goals

This chapter covers the following topics and provides worked examples of calculating the value of balances:

- Objectives of bank relationship management
- Determining how many banks are enough
  - Types of banking relationships
- Standards for evaluating performance
  - Why have a service level agreement (SLA)?
  - Key items to include in an SLA
- The account analysis
  - Reading the account analysis statement
  - What to check on the account analysis
- Bank compensation practices
- Negotiating bank fees

### Introduction

The economics of offering services over a fragmented and wide geographic area, combined with the specialized technology many treasury functions require, has meant that technology companies and third-party niche players now dominate certain sectors of the market, while banks have retrenched back to their core competencies. But although banks may have abdicated certain transaction-related activities, the importance of the banking relationship remains stronger than ever: to provide companies with ongoing financial services to keep them in business in both the short and long term. This chapter examines how to manage a bank relationship, monitor performance, and understand the account analysis process.

### Objectives of Bank Relationship Management

Bank relationship management is a comprehensive approach to managing the partnership that evolves between a bank and its corporate customer, covering both credit and noncredit services. A successful bank-

ing relationship is one that builds over time to the mutual benefit of both parties. Although companies do not always have a formal policy for managing these relationships, the costs of managing them badly can be high.

The major objectives in bank relationship management are to ensure that the company has:

- Sufficient credit arrangements to meet both short- and long-term financing needs
- Noncredit services, such as cash management, trade services, shareholder services, custody, foreign exchange, and global services
- Fair pricing for the value received
- Appropriate diversification to minimize financial institution risk (in case of change of ownership, merger, failure, or withdrawal from the market by the bank)
- Acceptable service levels
- A partnership with major banks to ensure that future needs will be met
- A source of referrals and business references

## How Many Banks Are Enough?

Maintaining a bank relationship is expensive—both in terms of hard dollar fees and management time. It is important, therefore, that a company determines what the right number of relationships is. In the United States, where there is no nationwide bank, a company will often be forced into maintaining relationships with several banks in order to cover its banking needs across its geographic footprint. Likewise, as companies expand overseas (unless their domestic banks have international capabilities), they need to expand their banking relationships.

When companies first start to manage their banking relationships actively, they are often surprised by how many banks there are on the list. How many banks a company needs becomes a delicate balance between having sufficient banks to meet the above objectives but not so many that their business is spread so thinly that they lose the status of valued customer. Banks have become very sophisticated in their ability to measure a customer's overall profitability and some have even set minimum financial thresholds. A customer who does not meet the minimum profitability target may be asked to take its business elsewhere.

A good starting point for determining the appropriate number and type of banks is to itemize the banking services a company needs.

### Types of Banking Relationships

Banking relationships tend to become fragmented and specialized, and can be categorized into three broad categories:

1. *Relationship banks.* These banks provide the lion's share of financing to a company and are used for a broad array of services. These are the banks that are considered banking partners and are expected to develop products and services to meet the customer's future needs. The company and the bank will frequently hold strategic planning meetings to make sure that the two organizations continue to align goals and direction. Contact will be at the highest levels in each organization. Compensation of a relationship bank is complex and includes fees, balances, spreads, commissions, and opportunities for new business.
2. *Transactional banks.* In the absence of nationwide banking, there is often a need for local banking services to fill the gaps in the relationship bank's footprint. These banks are used for very specific and limited transactional needs that might include:

- Depositing local checks
- Making payments to local vendors
- Providing coin and currency services
- Accommodating local staff needs such as cashing payroll checks and making staff loans
- Complying with local state banking regulations

The transactional bank is compensated either by fees or balances strictly in accordance with the value of the business it transacts.

3. *Special purpose banks.* Sometimes a company will require services that neither the relationship nor transactional banks can provide, such as international accounts, overseas payroll, or trade services. These banks play a niche role in the overall banking structure. They are often well compensated for the services provided because of their strong competitive position in specialized areas.

It is important that the company recognize the role played by all the banks in the relationship and compensate them accordingly, and that the banks also understand their position vis-à-vis the company. Exhibit 16.1 is an example of how a company could rank its banks using a tiered basis that defines function and relative importance.

## Standards for Evaluating Performance

Companies need to monitor the ongoing performance of their banks to ensure that the service is working as anticipated and that the service provider is responsive to the company's needs. To facilitate this, an increasing number of companies are establishing service level agreements (SLAs) with their banks and third-party providers.

<b>EXHIBIT 16.1</b> <b>Sample Bank Tiering</b>	
<i>Ranking</i>	<i>Description</i>
Tier 1	<ul style="list-style-type: none"> <li>• Top three or four relationship banks</li> <li>• Important supplier of credit to the company</li> <li>• Supplies other operating and noncredit services</li> <li>• First refusal on expanded or new services</li> </ul>
Tier 2	<ul style="list-style-type: none"> <li>• Banks that supply specialized, critical services to the company</li> <li>• Banks of the highest reputation and quality</li> <li>• Company does significant amount of transactional business with these banks</li> <li>• Would be the first banks considered to replace a tier 1 bank</li> </ul>
Tier 3	<ul style="list-style-type: none"> <li>• Highly rated banks that have a limited relationship with the company</li> <li>• These banks would be offered an opportunity for more business only if tier 1 and tier 2 banks are unable to provide the services requested</li> </ul>
Tier 4	<ul style="list-style-type: none"> <li>• Transactional banks with which the company does business because of specific needs and under certain circumstances</li> <li>• These banks are unlikely to gain additional business</li> </ul>

### Why Have a Service Level Agreement?

The service level agreement is a way of formalizing and codifying the relationship between a cash management provider (traditionally a bank) and its corporate customer. It covers the minimum standards of service expected by the company, including key performance indicators (KPIs) and addresses both internal and external processes. Companies are increasingly demanding an SLA to:

- Establish a more uniform and quantifiable way of measuring the level of services received
- Compare performance between banks
- Ensure that the service levels allow the company to operate at peak efficiency
- Open up lines of communication with service providers
- Provide for continuous improvement of services

The SLA is not a one-way street, however, because it provides benefits to the service provider. Specifically, it:

- Defines the roles and responsibilities of the client
- Establishes a level of commitment in writing
- Provides for dialogue and an early warning system in case of problems
- Leads to additional business opportunities
- Is conducive to a partnership business relationship

At the very least, an SLA should cover the following areas:

**Benchmarks and expected service standards.** These are what the customer can expect from the service provider in terms of products and services and what is required of the customer to ensure that the service standards can be met. The SLA will also detail specific, quantifiable service deliverables and their quality (such as turnaround time in opening new accounts or transaction processing cutoff times).

**Customer support.** These are the service support standards that the customer expects. Will there be a single point or multiple points of contact? What commitments are being made in terms of response time to inquiries, access to account officers, and what the escalation procedure is if the service provider fails to perform?

**Inquiries and investigations.** The SLA should also identify anticipated resolution times for different types of inquiries and investigations.

### Key Items to Include in an SLA

A checklist of items a treasurer should consider when establishing an SLA with a service provider includes the following:

- Basics
  - What services does the company need?
  - Can the bank provide them?
  - How will the company communicate with the service provider?
- Operating procedures
  - How will the services operate?
  - Are all activities defined?
  - How will these services affect internal accounting entries?

- Will the services affect subsidiaries and subsidiary accounts?
- Are all procedures documented?
- Are exception situations identified?
- How will exceptions be handled and by whom?
- Have cutoff times been clearly stated?
- Implementation and legal
  - What are the implementation issues?
  - What is the expected time frame for implementation and handoff?
  - What legal agreements are required?
  - Do service agreements conform with the provisions of the Uniform Commercial Code (UCC) (such as UCC4A, which states that a bank incorrectly executing a payment order is liable for interest losses or incidental expenses)?
  - Has corporate counsel signed off on the documentation and provided waivers where necessary?
  - How will damages and nonconformance be identified and handled?
- Performance
  - Have measurable, meaningful service quality standards been agreed to by the bank?
  - Can performance be regularly and reliably reported?
  - Have the latest standards and benchmarks been used?
  - Who will be responsible for monitoring performance on the service provider side?
  - Who will be responsible for monitoring performance on the company's side?
- Customer service
  - Will there be a single point of contact?
  - To whom should inquiries be directed?
  - What types of inquiries can each contact respond to?
  - What is the time frame for responding to different types of inquiry or investigation?
  - May all subsidiaries contact customer service directly?
  - Are customer service representatives trained to understand queries and act appropriately?
  - Do customer service representatives speak the company's language?
- Compensation
  - How will the service provider be compensated for services?
  - How frequently will the company be invoiced for services?
  - Are excess transaction balances allowed to be rolled over into the next period?
  - Can billing be consolidated on a companywide basis?
  - How will the company be compensated for nonperformance by the service provider?
- Review process
  - How often will performance be reviewed and by whom?
  - How often will the SLA be reviewed and by whom?
- Changes and notifications
  - How easily can the billing structure or other information be changed?

- How much lead time is required for notifications of changes?
- Are all changes required in writing?
- Authorizations
  - Are the signers identified and are they authorized?
  - Is the list up-to-date?
  - Are signers limited in authority, whether by transaction type or transaction size?
  - Who can authorize new signers?
- Audit
  - Will the company and its auditors have the authority to visit the service provider and examine its operations?

As the relationship evolves over time, the SLA should be reviewed and updated. The key, however, to a successful SLA is monitoring performance, comparing it to the agreed benchmarks, and discussing the results with the service provider.

## Account Analysis

The account analysis is the bank's invoice to its customers for services rendered. It provides details on the services used, the unit cost, the volumes and balances in the account, and how they are being used to offset the cost of services. It usually comprises several sections:

**Customer information.** Account information, contact details, addresses, and account numbers.

**Current balances.** Average ledger and collected balances, collection float, and earnings credit rate.

**Historic information.** History of past compensation by month and year-to-date information on balances.

**Compensation.** Activity, pricing, volume, and resulting fees due for the current period.

**Adjustments.** Detailed information on any prior-period adjustments made to the account during the current reporting period.

**Summary.** If multiple accounts are being reported, they will be consolidated into a management summary report recapping key information such as average balances and service charges for each account.

**Service description.** Summary and detailed information for each service charge, grouped by standard service charge code, for example:

- Account services
- Depository services
- Lockbox services
- Disbursement services
- Funds transfer services
- Reconciliation services
- Information services
- International services
- Securities services
- Trust services



- Credit services
- Miscellaneous services

### Reading the Account Analysis Statement

Although Regulation Q currently prohibits banks from paying interest on corporate deposit accounts, banks allow their corporate customers a credit, called the *earnings allowance*, for the balances they leave in the account. The computation of the allowance is shown on the account analysis statement. The following terms may be useful in understanding the sample account analysis shown in Exhibit 16.2.

1. *Average ledger balance.* This is the average daily book balance of total funds on deposit. It represents the total debits and credits posted to the account (not necessarily collected or available).

$$\text{Average Ledger Balance} = \frac{\text{Total Credits Posted} - \text{Total Debits Posted}}{\text{Number of Days in the Period}}$$

2. *Average daily float.* This is the average balance of any checks that have been deposited for which ledger credit has been given, but that have not yet cleared through the banking system. This is a daily average of funds that are in the process of collection.

$$\text{Average Float} = \frac{\text{Total Credits Posted} \times \text{Total Days of Float}}{\text{Number of Days in the Period}}$$

3. *Average collected balance.* This is the average daily balance of funds that are available.

$$\text{Average Collected Balance} = \text{Average Ledger Balance} - \text{Average Float}$$

4. *Reserve requirement.* The reserve requirement is the amount that the Federal Reserve Bank requires banks to hold with the Fed to guarantee the liquidity of the banking system. These funds are not included when computing the earnings allowance. The current reserve requirement for deposit accounts is 10 percent.

$$\text{Reserve Requirement} = \text{Average Collected Balance} \times \text{Reserve Requirement \%}$$

5. *Total available balance.* This is the average daily collected balance, minus the reserve requirement, that can be applied toward the earnings allowance. This is sometimes referred to as the *investable balance*.

$$\text{Total Available Balance} = \text{Average Collected Balance} - \text{Reserve Requirement}$$

6. *Earnings credit rate.* The earnings credit rate (ECR) is the rate used by the bank to calculate the earnings allowance. It is usually pegged to a benchmark rate such as the U.S. three-month Treasury bill rate.
7. *Earnings allowance.* This is the dollar amount that can be applied toward the cost of services. It is calculated by taking the total available balance and multiplying that by the ECR, prorated for the number of days in the period.

$$\text{Earnings Allowance} = \text{Available Balance} \times \text{ECR} \times \frac{\text{No. of Days}}{365}$$

8. *Services provided.* The account analysis also describes the services used during the period and their unit costs and volumes. The cost for the services is expressed in required balances and as a hard dollar fee.

<b>EXHIBIT 16.2</b>				
<b>Sample Account Analysis</b>				
1. Average ledger balance				1,082,756.42
2. Average daily float				-203,486.34
3. Average collected balance				879,270.08
4. Reserve requirement		10.00%		-87,927.01
5. Total available balance				791,343.07
6. Earnings credit rate		1.50%		
7. Earnings allowance*				<b>1,008.15</b>
8. <i>Services Provided</i>	<i>Unit/Cost</i>	<i>Volume</i>	<i>Total Cost</i>	<i>Required Balance**</i>
Deposits, foreign	0.18	230	41.40	32,496.77
Deposits, on-us	0.05	125	6.25	4,905.91
Credits	0.08	84	6.72	5,274.84
Debits	0.1	98	9.80	7,692.47
Account maintenance	150	5	750.00	588,709.68
Prior-period adjustment			492.50	386,586.02
		Totals	<b>1,306.67</b>	<b>1,025,665.70</b>
Service charge this statement period			<b>-298.52</b>	
*Assuming a 31-day month				
**Available balance				

The service charge reflects whether the balances maintained during the month were sufficient to cover the services used. If at the end of the month the allowance earned by the balance does not cover all the fees, the account will be charged for the difference. If there is a surplus allowance, some banks allow their customers to roll the amounts forward for the next month. They will not, however, credit the account for the amount because that would be tantamount to paying interest.

***Treasury Tip: Rolling Forward a Surplus or Deficit***

Some banks allow their customers to average out their earnings credit or deficit on a quarterly basis. Any surplus in one month is carried forward to the following month. A deficit can also be carried forward and be offset by surplus balances in the following month. This gives the company the flexibility of averaging balances up or down to cover the fees over a longer period. Companies should try to negotiate as long a period as possible. A company should compare the ECR to the rate that could be earned by investing the balances elsewhere.

Since the late 1980s, banks have been able to transmit their account analysis statements electronically. This was in response to corporate demand to facilitate and automate the reconciliation process. Although certain standards have been established by the Association of Financial Professionals (AFP) with regard to service codes and content, they only go so far because of the different ways in which banks label and bundle their products. Companies still have to do a certain amount of mapping from the banks' formats to their system formats.

### What to Check on the Account Analysis

It is very important to check the account analysis promptly for accuracy and to identify any errors:

- First, Article 4 of the Uniform Commercial Code requires companies to inform their banks of any discrepancies within 30 days of a statement being sent.
- Second, errors creep into statements—usually immediately after a new service has been added. If a company has just started using a new product, it should be especially vigilant for the next few months to check that the billing has been correctly implemented, the right item codes are being reported, and that the analysis is capturing the right volumes.
- Third, check that the company is being billed only for services it uses and still needs. Things change at the company, and the bank is not always kept informed. Sometimes locations are closed or moved but billing continues, even though banking services are no longer being used.

#### ***Treasury Tip: Audit Bank Statements Promptly***

A company should audit its bank statements and analysis on a regular basis. If the bank is not advised within 30 days of any discrepancy, the statement is assumed to be correct and the bank is not liable for any fraud or errors on the account. If it appears that a company has too many banks for this to be a practical proposition, this might be a clue that the company has too many banking relationships.

## Bank Compensation Practices

Banks are compensated either through fees for services or by balances left on deposit. In the past, both companies and banks preferred to compensate with balances. For the company, paying for services with balances has the following implications:

- These are soft dollars and are more difficult to monitor or manage than fees.
- There are often idle nonearning transactional balances left in an account that would otherwise bring no other benefit to the company.
- Banks whose business models favor balances may give preferential rates for customers who provide them.

Banks prefer payment with balances when:

- Their business strategy requires balances.
- They can invest the balances at a higher rate than they are paying on the earnings allowance.

More recently, however, there has been a move away from balances to paying in fees. Companies prefer fees for the following reasons:

- These are hard dollar costs that can be budgeted, controlled, and monitored.
- The company can often invest balances at a better rate than the ECR.

Banks like fees because:

- They do not inflate the balance sheet.
- They provide annuity income.

**Treasury Tip: Optimize the Balance**

Many treasurers use a strategy of generating a small deficit in the earnings allowance each month and paying the residual with a fee. This ensures that any transactional balances for which there is no alternative investment option are fully utilized.

Today most companies pay with a mixture of fees and balances. They will receive an earnings allowance for transactional balances that remain in the account and then pay any deficit with fees. Using the sample account analysis in Exhibit 16.2, we can answer the two following questions:

**1. How much should a company leave in balances to cover its service fees?**

$$\begin{aligned} \text{Average Collected Balance Required} &= \frac{\text{Monthly Fees}}{(\text{ECR} \times \text{No. Days}/365) \times (1 - \text{Reserve Requirement})} \\ &= \frac{1306.67}{(.015 \times 31/365) \times (1 - .1)} \\ &= \$1,139,703.40 \end{aligned}$$

**2. How much of the fees will the balances cover?**

$$\begin{aligned} \text{Earnings Allowance} &= \text{Collected Balances} \times (1 - \text{Reserve Requirement}) \times (\text{ECR} \times \text{No. Days}/365) \\ &= 879,270.08 \times (1 - .10) \times (.015 \times 31/365) \\ &= 1,008.15 \end{aligned}$$

## Negotiating Bank Fees

The best time to negotiate bank fees is when the business is first being awarded because this is when the company has the most leverage and also the most accurate information about competitive pricing. If the services being provided are commodity services, such as balance reporting, there will be very little room to negotiate because these are low margin businesses for banks. If, however, the company is awarding a large amount of business, with some specialized high-margin products, banks will be much more inclined to discuss overall relationship pricing.

At other times, the best way to negotiate fees is to be informed about general market pricing levels. Unless a company has an RFP in process, there is usually very little impetus for performing a pricing review. Banks will certainly not spontaneously offer better pricing, and cash managers are usually extremely busy and don't have time to go on fishing expeditions. There are a couple of ways to keep abreast, however, of where pricing levels are generally.

The first is within peer groups. Most major cities have at least one or more treasury associations where information of this type is freely exchanged informally during networking sessions. Accessing a network of people in the same business can be invaluable in obtaining a reference point on pricing, and, more important, new developments on products and services. Again, banks expend enormous energy developing new business but are not always as diligent in keeping existing customers informed.

The second source is the *Phoenix-Hecht Blue Book of Bank Prices*. Published every year, *Phoenix-Hecht* surveys bank pricing for a wealth of products and services. The survey contains the average price, the average discount, the frequency with which discounts are offered and the increase in list price since the last survey. A summary of their latest survey can be found on <http://www.phoenixhecht.com/TreasuryResources/PDF/BBExecSumm.pdf>. Full details on how to access the survey are provided in the Appendix.

When negotiating pricing, however, it is important to remember the concept of value. The lowest price may not necessarily turn out to be a bargain if the product does not work properly, if the quality of the operations is poor, or if customer service does not answer the phone. The price paid should be a fair one for the product and service levels expected.

## Practical Applications

How many banks does your company do business with? Can you determine which type of relationship each bank has with the company (full relationship, transactional, or special purpose)? Using a recent account analysis for one of your relationship banks, analyze the statement. Do you understand all the charges and categories on the statement? If not, ask your bank to explain the terms or charges with which you are not familiar.

## Summary of Key Points

- Managing banking relationships is increasingly important.
- The Gramm-Leach-Bliley Act (1999) enabled banks to invest in many businesses not previously open to them. This means that the competition for credit dollars is fiercer than ever.
- A company must ensure that it has the appropriate *number* of banks, and the *right* banks, to provide it with all the services it requires.
- Service level agreements should be put in place with major relationship banks and monitored to ensure that the company is receiving the agreed service levels.
- The account analysis is an important tool for managing bank relationships. Cash managers should become familiar with how to read and analyze the account analysis statement.
- Both banks and corporations are looking for relationships that will prove mutually beneficial and for partners who have a shared strategic vision and interest.



# *The Bank Selection Process*

## **Chapter Goals**

This chapter covers the following topics and includes a methodology for the request for proposal (RFP) process and evaluation of the responses:

- Selection of a financial services provider
- Preparing the request for proposal
  - Format of the RFP
  - Critical selection criteria
  - Sample RFP questions
- Analyzing the responses
  - Methodology for evaluating the responses
- The vendor presentation
- Other considerations
  - Should you use a consultant?
  - How to use an RFP template
  - Where to find RFP templates
  - Pricing

## **Introduction**

Today a cash manager is as likely to purchase certain banking services from a nonbank provider as from a bank. The process can be informal or formal. The more important the business being awarded, the more likely a company is to use a formal bidding process. This chapter describes how to select a vendor for cash management services using a request for proposal, shows how to prioritize selection criteria, and illustrates a methodology for evaluating responses and making the final selection.

## **Selection of a Financial Services Provider**

Although the following section refers primarily to the selection of a bank as a financial services provider, we recognize that in recent years a number of third-party vendors have become important niche players,

especially in the areas of technology. Whether the bidders are banks or third parties, however, most of the techniques, principles, and criteria we discuss in this chapter still apply.

There are many reasons why a company may need to initiate a selection process to find a service provider for its cash management business, including:

- Changing internal needs requiring new products, services, or locations
- Existing business that needs to be updated and rebid
- Substantive changes in the market or industry
- Need to update technology
- As part of a treasury reorganization
- Restructuring of the banking network
- Reducing overall costs

There are a number of ways in which the selection process can be approached. A company may choose to award any new business to its existing relationship banks, or, as is sometimes the case with leading edge products, it may select a vendor based on past calling efforts and knowledge of the provider's expertise, without going through a formal bidding process. When selecting a partner for a significant amount of business, however, most companies elect to go through a competitive bidding process, referred to as the *request for proposal* (RFP) process.

## The RFP Process—Step 1: Prepare the RFP

The preliminary step is the request for information (RFI), which allows a company to prescreen potential service providers, some (or all) of whom will be asked to bid on the RFP. When products or services are new, the RFI helps identify which service providers have the requested capability and provides general information about the service offering. The RFI is useful in helping to limit the number of providers to whom the RFP should be sent. Because the RFP process can be very labor intensive, the company will want to analyze no more than four or five responses and thus needs to ensure that the RFP has been sent to the best candidates.

### *Treasury Tip: The Importance of Rebidding*

Use the RFP to rebid all important business on a regular basis. Because of the enormous effort involved in going through an RFP process and the ensuing implementation process if a change is made, many companies become complacent and do not bother to rebid their cash management business unless there has been a persistent recurring problem or substantive changes in the industry (or their needs). The introduction of the euro is a good example of a significant change that necessitated a reevaluation of existing cash management arrangements. What many treasurers found was that during the intervening years since last awarding the business, not only had the industry made significant progress but their incumbent banks had not even made them aware of some of these changes and new services. Through the RFP process companies are able to determine what the current state of the art is and especially what their existing banks are able to offer.

## Format of the RFP

Exhibit 17.1 is a checklist of general areas that should be covered in the RFP and what to look for in the responses received from the banks.



**EXHIBIT 17.1**  
**Checklist for the RFP**

<i>What to Include in the RFP</i>	<i>What to Look for in the Response</i>
<ul style="list-style-type: none"> <li>• <i>Background information.</i> Description of the company, nature of the business, locations, and current banking structure.</li> <li>• <i>Required solutions.</i> Explanation of the services required and expected results.</li> <li>• <i>Volumes.</i> Estimated transaction volumes by location, average balances, and credit requirements.</li> <li>• <i>Time frames.</i> Deadlines for submission of response and targeted implementation dates.</li> <li>• <i>Special requirements.</i> Customer service needs, the selection process, and service level agreements (SLAs) required.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Solutions.</i> Has the bank understood your requirements and offered detailed functional and technical information on its solutions?</li> <li>• <i>Pricing.</i> Has a cost-benefit analysis been provided? Has a proforma account analysis been included? Is the pricing bundled and does it cover all aspects of the services (correspondent charges are sometimes not explicit)? Is it tiered by volume, and for how long will it be held at those levels?</li> <li>• <i>Credibility.</i> Is the bank capable of providing these services? How long has it been offering them? How many customers are using these services, and can the bank provide references?</li> <li>• <i>Commitment.</i> Is the bank committed to providing these types of services? What is its investment in the area? Where does the group that provides the services report to within the bank's organization? What is the staff count and turnover?</li> <li>• <i>Completeness.</i> Has the bank answered all of the questions (often you can glean significant information from what has not been answered)? Has it mentioned the documentation that will be required to implement the service?</li> </ul>

### Critical Selection Criteria

At this stage the company should also determine the critical selection criteria to include in the RFP. These can be qualitative or quantitative elements, a sample of which is given in Exhibit 17.2. Whereas the solutions and products may be similar from one vendor to another, the differentiation between vendors occurs on the relative importance and weighting of these criteria by the company.

**EXHIBIT 17.2**  
**Sample Selection Criteria**

<i>Criteria</i>	<i>Description</i>
Knowledge of the company	One of the most important criteria for many companies. Knowing the company, its business, and its culture ensures a better understanding of the company's needs.
Products and services	Does the provider have the capability to deliver the products and services needed today, and are they continuing to invest in the products to deliver the services the company will need tomorrow? Larger companies will also want to know if the provider is willing to customize products if necessary. <span style="float: right;"><i>(Continued)</i></span>

**EXHIBIT 17.2 (Continued)**

<i>Criteria</i>	<i>Description</i>
Credit	Because nearly all cash management products have some credit implications, is the provider prepared to extend the credit facilities necessary for smooth operation of the product? In the middle market, this is particularly important.
Commitment to cash management	Is the provider a long-term player in providing cash management services? Does it continue to invest in new product development? Are its cash management services regarded as a core product offering? A company does not want to implement a product with a provider who decides to get out of the business a year or so later.
Commitment to the company's industry	Certain banks have a reputation for servicing certain industries. Others avoid doing business with some industry sectors. It is important that the provider has a long-term commitment to serving the company's industry, although bank mergers and acquisitions can make this difficult to ensure.
Operational quality	Even if the service costs nothing, it will prove expensive to the company if it does not work. For example, the consequential damages can be high if the bank's wire transfer area does not have high operational quality and consistently delays or misroutes payments.
Quality of staff and customer service	Also important is a bank's responsiveness to the company's needs and the quality of its staff. Is the staff knowledgeable, credible, reliable, responsive, and able to handle your business? This includes relationship managers, sales staff, customer service, and product support. It is usually worth paying a small premium for a provider with lower staff turnover and a reputation for hiring and training excellent employees.
Backup and recovery	Does the vendor have fully redundant backup capabilities? In the event of a disaster, how long would it take to become operational again?
Pricing	Domestic cash management products are mature and largely commoditized. Although the pricing may be presented differently from bidder to bidder, overall there will usually be very little variance in the bottom line price. Fighting for the lowest price often turns out to be a false economy if one also wants high-quality products and service.
Financial strength	The trend over the past 10 years has been to consolidate business with fewer relationship banks. It is, therefore, important to consider the financial strength of the providers with which significant cash flows are to be concentrated. It should be noted, however, that there have been few incidences of bank failure in the United States in the past 15 years.
Geographic considerations	Some state regulations may require that certain services be provided by a local financial institution (for example, employee payroll). Some industries require local services for cash and coin operations. As a company expands overseas, it may seek new providers who can offer services in the local market.

It is also helpful to determine the relative importance of each criterion. Trade-offs will inevitably have to be made because no one provider is likely to perform flawlessly on every item.

### Sample RFP Questions

The RFP will usually ask a combination of both general questions (to determine suitability of the institution as a provider) and product-specific questions (to ascertain whether the products offered will in fact provide an appropriate solution for the company). Exhibit 17.3 provides a sample of the type of questions that should be asked. Exhibit 17.4 provides some cash management-specific questions.

<b>EXHIBIT 17.3</b> <b>Sample General RFP Questions</b>	
<i>Issues</i>	<i>Questions</i>
Creditworthiness	<ul style="list-style-type: none"> <li>• Provide the ratings for the bank from two major credit rating agencies.</li> <li>• Provide other key ratios that measure the bank's financial strength.</li> <li>• Provide the last annual report and latest quarterly earnings report.</li> </ul>
Commitment	<ul style="list-style-type: none"> <li>• How much has the bank invested in the specific products in the past five years?</li> <li>• How long has the bank been offering these services?</li> <li>• How does the bank differentiate its products from those of the competition?</li> </ul>
Organization	<ul style="list-style-type: none"> <li>• Where does the product and service area report in the bank?</li> <li>• Is the product and service operation viewed as a core competency?</li> <li>• Ask for the names and contact details for key personnel who will be working with the company. Request brief biographies for key contact staff.</li> <li>• Will there be one or more key primary contact officers? If more than one, how will duties be split between them? What is the escalation procedure?</li> </ul>
Disaster recovery and contingency plans	<ul style="list-style-type: none"> <li>• Has the bank ever been through a major disaster and how did it respond in the situation?</li> <li>• What disaster recovery facilities are in place? Where are they located? Are they operated by the bank or a third-party provider?</li> <li>• Does the bank have a process for working with customers in developing contingency and disaster recovery plans? Are these tested? How often are they reviewed?</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Does the bank have any formal quality program, such as Six Sigma, in place?</li> <li>• How does the bank monitor quality standards and performance against those goals?</li> <li>• How does the bank share this information with its customers?</li> </ul>
References	<ul style="list-style-type: none"> <li>• Ask for at least three references from customers in the same industry who use similar products to those requested in the RFP.</li> <li>• Request contact details for at least two customers who ceased using the bank's products and services in the past two years.</li> </ul>

**EXHIBIT 17.4**  
**Sample Cash Management-Specific RFP Questions**

<i>Product</i>	<i>Questions</i>
Automated Clearing House (ACH)	<ul style="list-style-type: none"> <li>• What procedures does the bank use to ensure accurate and secure receipt of transmissions?</li> <li>• Does the bank offer <i>ACH debit blocks</i> (blocking of ACH debit transactions to unauthorized accounts)?</li> <li>• Does the bank automatically redeposit items returned for insufficient or uncollected funds?</li> <li>• Does the bank offer international ACH payments, debits, and credits?</li> </ul>
Controlled disbursement	<ul style="list-style-type: none"> <li>• What is the published cutoff time for notification to customers of their daily clearings?</li> <li>• What was the average time for daily notification in the past three months?</li> <li>• How many notifications are made each day?</li> <li>• What percentage of daily clearings (dollar amount and number of items) is reported in the first notification?</li> </ul>
Information reporting	<ul style="list-style-type: none"> <li>• Describe the bank's balance and transaction reporting system. Does the bank provide all the services associated with this product or is any part outsourced to a third party? If yes, who is that third party and what part of the service does it provide?</li> <li>• Is the product available via dial-up access? Internet? Download to treasury workstation?</li> <li>• Does the bank offer international SWIFT message-based multibank reporting?</li> <li>• What online inquiry capabilities does the bank offer? <ul style="list-style-type: none"> <li>– Checks paid?</li> <li>– Checks returned?</li> <li>– Stop payments?</li> <li>– Adjustments?</li> <li>– Check images?</li> </ul> </li> </ul>

***Treasury Tip: RFP Response Format***

You can expect the responses for a complex RFP to be lengthy. Of the dozen or so people in the company who will be involved in the process, not all of them will read the entire response. To facilitate distribution and analysis, request a certain number of the responses in hard copy but also ask for the document to be transmitted electronically. This will enable you to send selected sections only to interested parties and will also allow you to download the formatted responses into a spreadsheet for easier comparison and analysis.

## The RFP Process—Step 2: Analyze the Responses

The company can now analyze the responses to the RFP and select a short list of two or three providers to present their proposals in person. In reality, there is frequently very little to differentiate between the proposals. In an area such as cash management where many of the products are commoditized, the solutions will be similar and while the structure of the pricing may vary, the bottom lines will often be very close. The important areas to consider are where there will be differentiation in operational quality and customer service responsiveness. This is why it is extremely important to check references, making a site visit if possible and preferably speaking to the people who actually use the service, not the person who made the original purchasing decision.

### *Treasury Tip: Following Up on References*

Unless the bank has not carefully screened the references provided, it is unlikely that it will provide the names of customers who are not satisfied with its products. It is, nevertheless, very important to follow up on all references, preferably making a site visit and speaking to the people who actually use the product. The contact person is probably the person who made the original purchase decision and may have a vested interest in promoting the decision for which he or she is responsible. Another good source of informal information is the local industry association. Many of your peers are likely to have experiences they are prepared to share about the banks in contention that can help determine the true capabilities and quality of at least some of the banks.

### Methodology for Evaluating Responses

In order to decide which banks to invite back for the presentation stage, you will need to evaluate and analyze the information provided in the responses. Although certain qualitative data needs to be assessed, much of the data contained in the responses to the RFP can be analyzed on a single spreadsheet.

Using the weighting that was assigned to the selection criteria when preparing the RFP, start by scoring each bank's responses and weighting the raw score. For example, a company's RFP for information reporting may assign a relative weighting reflecting the company's prioritization of each individual element, as illustrated in Exhibit 17.5.

Exhibit 17.5 shows that the company has ranked security as its top priority and most important criteria. Each proposal is then assigned a score from 0 (if the provider does not offer the capability) to 10 (if the offering is state-of-the-art) on each criterion and the results are tabulated and weighted, as in Exhibit 17.6.

The tabulation will quickly highlight any proposals that are out of line and the company has the option of further adjusting weights and scores in the light of subsequent discussions. The results of the tabulation should be considered together with the results of the qualitative analysis.

## The RFP Process—Step 3: The Presentation

The presentation is an opportunity to ask further questions about service quality, to negotiate final pricing, and to assess the level and competence of staff that the bank will assign. Banks often feel that the business is won or lost on how well they respond to questions rather than on the details about the service itself.

**EXHIBIT 17.5**  
**Weighting the Criteria**

<i>Requirement</i>	<i>Weight</i>
Security of the system	20%
Image capabilities	15%
Same-day transaction detail	15%
Internet reporting	10%
Managed in house	10%
Multibank reporting	10%
24-hour access	5%
Pricing	5%
Stored history	5%
Formats for information retrieval	5%
<b>Total</b>	<b>100%</b>

**EXHIBIT 17.6**  
**Evaluating the Score for Each Proposal**

<i>Requirement</i>	<i>Weight</i>	<i>Bank A</i>		<i>Bank B</i>		<i>Bank C</i>	
		<i>Raw Score</i>	<i>Weighted Score A</i>	<i>Raw Score</i>	<i>Weighted Score B</i>	<i>Raw Score</i>	<i>Weighted Score C</i>
Security of the system	20%	5	1.00	8	1.60	6	1.20
Image capabilities	15%	8	1.20	3	0.45	6	0.90
Same-day transaction detail	15%	0	0.00	8	1.20	7	1.05
Internet reporting	10%	3	0.30	6	0.60	4	0.40
Managed in house	10%	5	0.50	4	0.40	4	0.40
Multibank reporting	10%	0	0.00	4	0.40	8	0.80
24-hour access	5%	8	0.40	4	0.20	2	0.10
Pricing	5%	5	0.25	8	0.40	6	0.30
Stored history	5%	5	0.25	8	0.40	6	0.30
Formats for information retrieval	5%	0	0.00	8	0.40	6	0.30
<b>Total</b>	<b>100%</b>		<b>3.90</b>		<b>6.05</b>		<b>5.75</b>

After all the presentations are made, the company will make its selection. Each party should be informed of the decision. It is usual and helpful, especially if one wants to maintain a good relationship, to provide the unsuccessful candidates with an assessment of their strengths and a straightforward explanation as to why they did not get the business. This will encourage them to bid again for future business.

## The RFP Process—Other Considerations

### Should You Use a Consultant?

Some companies hire a consultant to assist them with the RFP process. A consultant who is familiar with the process, the industry, and your company can supplement scarce resources and compress the learning curve. The consultant will help the company focus on its objectives, prepare the RFP, and structure the review and selection process. Consultants have the added advantage of having a much broader knowledge than the company would have of what service providers are offering and what constitutes the state of the art, thereby enlarging a company's perspective on what should be offered. When the responses are received, the consultant will prepare the analysis and recommend a short list. Although some may argue that consultants bring an objective viewpoint, they often, however, have their own preferences and experiences, which can color their recommendations. In the final analysis, the company should always make the final decision.

### How to Use an RFP Template

Using standardized RFPs has proven to be a benefit and a hindrance. On the one hand, they provide a comprehensive checklist of all the possible areas that should be addressed in an RFP, but on the other hand, they include a lot of extraneous questions that are sometimes inappropriate to the situation or reflect selection criteria that are unimportant to the company. In self-defense, faced with boilerplate voluminous RFPs, the banks reply with standardized responses that provide an abundance of information (whether relevant or not) and it is not always tailored to the needs of the particular client. The response will be extremely difficult and time-consuming to analyze and can obscure the differences between the respondents.

The most useful way to use an RFP template is to edit it rigorously and ask only those questions that affect your final selection. In addition, allow the RFP respondents an opportunity to demonstrate their creativity and views, which may also uncover issues you may not have considered.

Many excellent sources of RFP templates are listed in the Appendix.

### Pricing

As mentioned previously, domestic cash management products are at the mature stage of the product cycle and have become largely commoditized. Although pricing may be difficult to compare from one proposal to the other because of the different ways in which banks bundle their products, it would be unusual to find significant variations in total pricing between the providers. Many companies ultimately decide that other criteria (such as operations quality or customer service) are more important than pricing.

#### ***Treasury Tip: Benchmarking Pricing***

For those interested in learning more about detailed pricing levels in the U.S. market, every year Phoenix-Hecht publishes its *Blue Book of Bank Prices*, which provides a comprehensive analysis of the average standard tariff for cash management services, the average increase or decrease over the past year, the frequency with which the service is discounted, and the average discount percentage.

## **Practical Applications**

Find a recent RFP that your company issued. Identify the selection criteria that were used. Can you determine the order of priority of these criteria? What method of analysis was used to determine the selected vendor? Can you suggest any improvements to the process that was used?

## **Summary of Key Points**

- Although there may be instances in which a company awards new business without going through the RFP process, it is usually a prudent practice if the business is significant.
- One of the dangers of not going through a bidding process is that you may remain unaware of what products and services are now available and where pricing levels are currently.
- Many sources are available to help with the preparation of an RFP.
- Even when there is no new business involved, many companies routinely bid out their business every few years to ensure that their services are still competitive and fairly priced. This is also a way to ensure that the incumbent vendor does not become complacent.
- A company should not underestimate the time and effort involved in going through an RFP process and the potential pain in switching vendors at the end.



# 18

## *The Treasury Structure*

### Chapter Goals

This chapter covers the following topics and provides templates for developing a corporate treasury policy:

- Organizational design
- Centralized versus decentralized treasury
- Corporate control and treasury governance
  - Drafting treasury policy and procedures
  - Roles and responsibilities
  - Authority limits
  - Management reporting
  - Key treasury controls
  - Measurement and management
  - Code of conduct for treasury
  - Treasury audit
- Conducting a treasury audit
- Performing a treasury review

### Introduction

There are many factors that influence the way in which a company chooses to organize its treasury function. Some of the major ones include:

- Size of the company
- Industry practices and nature of the business
- Company culture
- Whether the company is growing or consolidating
- Geographic concentration of the business
- How technology is deployed
- What the competition is doing

To benefit from economies of scale and better liquidity management, the current trend is toward centralization of the treasury function. There are many reasons, however, why a company might choose to remain decentralized, for example, to better control and manage on a regional or business-line basis. It is also easier to remain decentralized if a company is frequently acquiring and assimilating new businesses. This chapter looks at the advantages and disadvantages of both structures.

## Organizational Design

Issues that will influence your choice of organizational structure for treasury are:

**Size.** How much segregation of duties can the company afford? What is the magnitude of the cash flows? How much treasury expense can the company tolerate?

**Industry.** Certain industries lend themselves to centralized treasury, such as those where sales are primarily through centralized distribution rather than local manufacturing, such as the software industry. In industries with heavy on-the-ground manufacturing plants, it is more difficult to centralize the treasury function.

**Culture.** Does the company promote, support, and reward centralization or more decentralized entrepreneurial activities? If fraud prevention is important to the company, it will favor a centralized treasury operation.

**Environment.** During times of heavy acquisition it is sometimes easier to allow a decentralized structure, at least temporarily.

**Competition.** How are the competitors structured? Are they gaining any competitive advantage through economies of scale from centralization?

**Geographic concentration.** Global companies find there are many more challenges to centralizing successfully, such as different system platforms, local office autonomy issues, time zone differences, and local regulatory considerations. As a result, many companies opt for a regionalized approach instead.

**Deployment of technology.** Without a single platform and system that link all the operating units, the benefits of centralization cannot be fully achieved.

When designing the treasury structure for your company, be sure to consider the factors that motivate or demotivate staff:

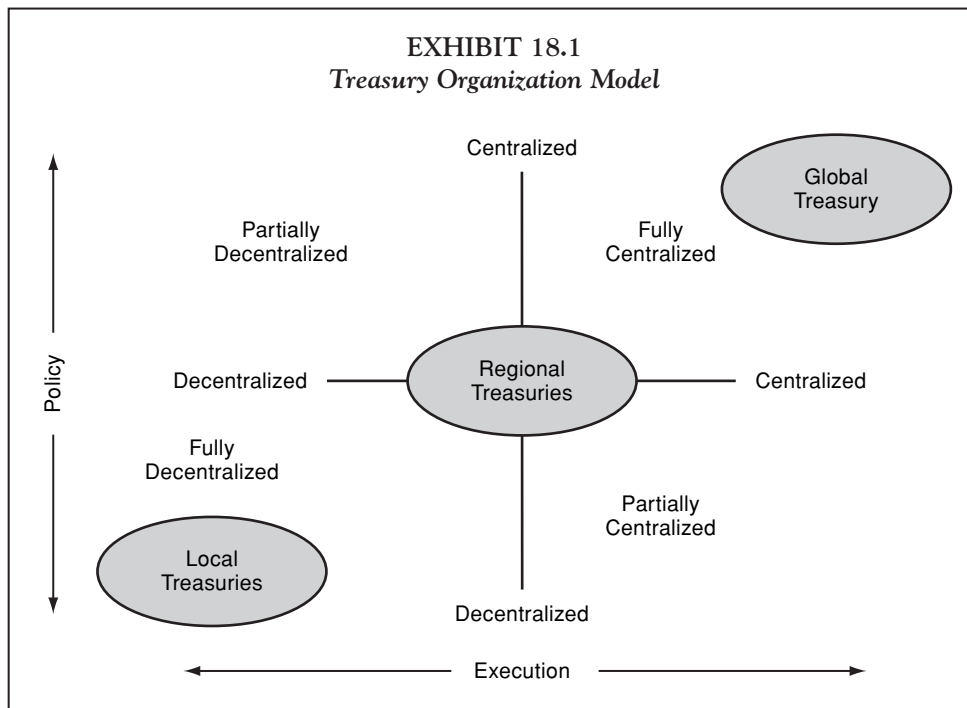
- Motivators
  - Environment conducive to achievement
  - Timely recognition
  - Satisfying work
  - Responsibility commensurate with the role
  - Opportunity for advancement
  - Personal and professional growth
  - Empowerment to do the job
  - Compensation commensurate with performance and achievement of company or division objectives
  - Being considered competent and successful

- Demotivators
  - Excessive or unnecessary supervision
  - Undefined or poorly defined goals
  - Seemingly arbitrary company policy and procedures
  - Poor working conditions
  - Inconsistent compensation practices
  - Poor peer relationships
  - Concerns about job security

## Centralized versus Decentralized Treasury Organization

Treasuries can be organized in any number of configurations along the spectrum from fully decentralized to fully centralized. Centralization or decentralization can also occur on more than one axis such as geography, business unit, policy making, and execution. Exhibit 18.1 illustrates a model in which centralization is defined on the parameters of policy making, and execution. In a fully decentralized model all decision-making and execution authority lie at the local level. A company organized in this way is highly autonomous and likely to be comprised of unrelated businesses. In a fully centralized organization both policy and execution are performed at a central treasury level. This type of company is likely to have very complementary or synergistic businesses that benefit from full centralization.

As a matter of practice, very few companies organize their treasuries on a fully centralized basis for a number of reasons, logistics and systems requirements being among the major ones. The nature of the business and the culture of the company are influencing factors. Companies going through rapid expansion will often allow newly acquired units to operate with a fair degree of autonomy, until such time as management



feels that it understands the new entity well enough to begin to consolidate some of the functions. The general current trend, however, is toward centralization, whether it be by geography, business line, or by functional area. Centralization is especially important for companies with overseas operations where inter-company transactions and foreign exchange requirements may result in huge liquidity management inefficiencies and increased FX exposure if the process is not centralized.

Having recognized that there are degrees of centralization, Exhibit 18.2 compares the advantages of the two extreme cases, fully centralized and fully decentralized treasury organizations.

<b>EXHIBIT 18.2</b>		
<i>Advantages of Centralized and Decentralized Treasury Organizations</i>		
<i>Function</i>	<i>Centralized Treasury</i>	<i>Decentralized Treasury</i>
Liquidity management	<ul style="list-style-type: none"> <li>• Visibility of total cash positions</li> <li>• Optimized balances</li> <li>• More timely information and more accurate forecasting on a consolidated basis</li> <li>• Consolidation of excess cash</li> <li>• Greater interest income</li> <li>• Reduced external borrowing</li> <li>• Less interest expense</li> <li>• Less duplication of treasury functions</li> </ul>	<ul style="list-style-type: none"> <li>• More timely, more detailed information about cash flows at the local level</li> <li>• Stronger local vendor relationships</li> </ul>
Funding	<ul style="list-style-type: none"> <li>• Leverage to negotiate more advantageous terms and rates</li> <li>• Consolidation of borrowing with core banks improves relationship</li> <li>• Debt terms will be more standardized, allowing easier compliance with covenants</li> </ul>	<ul style="list-style-type: none"> <li>• Local market may get preferential rates</li> </ul>
Risk management	<ul style="list-style-type: none"> <li>• More overall control and information on exposures</li> <li>• Consolidated cash position provides more control over FX, interest rates, and commercial and commodity risks</li> <li>• Economies of scale can provide better pricing for hedging transactions</li> </ul>	<ul style="list-style-type: none"> <li>• Local team may be able to monitor and react faster to a change in exposure</li> </ul>

*(Continued)*

<b>EXHIBIT 18.2 (Continued)</b>		
<i>Function</i>	<i>Centralized Treasury</i>	<i>Decentralized Treasury</i>
Banking relationships	<ul style="list-style-type: none"> <li>• More leverage</li> <li>• Negotiate favorable “bulk” pricing</li> <li>• Lowers fees through use of fewer banks</li> <li>• Less administrative burden</li> <li>• Fewer electronic platforms, perhaps even a single one</li> </ul>	<ul style="list-style-type: none"> <li>• Access to local services</li> <li>• Preferential treatment for local staff</li> <li>• Local knowledge and expertise</li> <li>• Easier communication at local level</li> <li>• Faster resolution of problems or disputes</li> </ul>
Corporate governance	<ul style="list-style-type: none"> <li>• Corporate treasury policy is set centrally</li> <li>• Consistency in approach to company’s exposures and how they should be managed</li> <li>• Standardized procedures and documentation</li> <li>• Improved reporting and control</li> </ul>	
Technology	<ul style="list-style-type: none"> <li>• Reduced cost from leveraged investment in technology</li> <li>• Standardization of electronic banking platform</li> <li>• Opportunity to benefit from <i>payment factories</i> (a centralized payment function within a company), shared service centers, and outsourcing</li> </ul>	

Although one might conclude from the above that centralization is a better organization for the treasury function, there are, however, some drawbacks, which include:

- Loss of autonomy in the local unit, resulting in less ownership of the results
- Increased float costs due to inefficiencies in collections and disbursements
- Vendor and bank relationships possibly suffering if the relationships with the company are primarily local
- Increased head office costs for staff and technology
- Need for greater coordination between central treasury and field locations
- Lowered morale at local entities because of reduced responsibilities and concerns about job losses

Most companies end up with an organization that is a compromise between the needs of treasury and the interests of the local business unit, thus the many hybrid organizations that are neither fully centralized nor decentralized.

Fully centralized treasury operations are most appropriate for companies in which:

- There already exists some degree of centralization, such as having a shared service center or a payment factory.
- There are high levels of automation and systems deployed in other areas throughout the company.
- The nature of the business is wholesale rather than retail.
- The majority of collections and disbursements are electronic.
- There are low requirements for local cash and coin.
- There is a high priority on control and information at the head office.
- There is a priority to contain and reduce costs.
- There is a need to manage corporatewide liquidity.
- The operations are relatively concentrated and not too geographically dispersed.

Fully decentralized treasuries, on the other hand, are more suited to companies in which:

- The operations are geographically dispersed (especially internationally).
- Payments and collections are performed mainly by check.
- There is a requirement for cash and coin locally.
- The nature of the business is retail.
- Strong local relationships are necessary.
- The internal systems and technology are weak or not deployed throughout the company.

In today's world, however, the reporting requirements of Sarbanes-Oxley make it difficult to comply with the law unless there is a high degree of centralization on the policy-making and information levels. If a company's senior officers are to be held personally accountable for the accuracy and completeness of financial information, a very strong case can be made for having a centralized treasury function. The difficulties with complying in a decentralized structure are just too formidable.

## Corporate Governance and Internal Control

One of the primary considerations when determining a treasury structure is the issue of internal control because in every company corporate treasury is a high-risk activity. Any losses from unhedged exposures or poor financing decisions are both very evident and easily quantifiable. Every company must put in place a robust system of governance that ensures that the operations are being well controlled and managed at all levels. It is important that the controls and procedures are appropriate to treasury and that each level of management has a relevant and effective role in this process. One of the most important elements in developing an effective corporate control process for treasury begins with drafting a treasury policy.

### Drafting Treasury Policy and Procedures

The company needs to identify specific policies and procedures to support its objectives of control of the treasury function. The statement identifies best practices, corporate policy, and reporting requirements (timing, content, format, and distribution). The treasury policy should reflect the operational requirements of the business. The areas that specifically need to be addressed include:

- Management of banking relationships
- Management and reporting of cash balances and position

- Credit facility management
- Investment management
- Cash forecasting
- Accounts receivables and collection
- Accounts payable and disbursement, including payroll
- Wire transfers
- Management of foreign exchange (FX), commodity, and commercial risks
- Trading activities

In today's environment, particular attention should be paid to the area of risk management, of which the key areas to cover are:

- Financial risk
  - Interest rate risk
  - FX risk
  - Commodity price risk
  - Credit and counterparty risk
  - Cash flow risk
  - Market liquidity and funding risk
- Operational risk
  - Human error risk
  - Fraud risk
  - Business continuity risk
- Legal risk
  - Covenant risk
- Systems risk
- Banking relationship risk

To be useful, the policy must be detailed enough to act as a reference guide and describe how treasury will cope with the risks facing the company. The statement concerning credit facilities management might include the following:

- Approved financing vehicles
  - Which instruments the company approves for financing
  - Targets for percentage of long-term versus short-term debt
  - Policy on derivatives
- Parameters for borrowing
  - Approved funding currencies
  - Cost of funds target
  - Fixed rate versus floating rate
  - Policy on securing loans and selection of collateral
  - Limits on exposure, counterparty, currency, and the like

- Approved counterparties
  - A list of the dealers, banks, and intermediaries with whom the company has approved doing business
  - Type and amount of business that can be done with each counterparty
  - Management of relationship with rating agencies

In the following sections, we describe the level of detail that a treasury policy requires to be effective. Once approved by the board, it then should be monitored to ensure that it continues to meet the needs of the business.

### Roles and Responsibilities

The roles and responsibilities for each level of management should be specified, together with the decision-making and approval process, as outlined in Exhibit 18.3.

<b>EXHIBIT 18.3</b> <b>Sample Roles and Responsibilities</b>	
<i>Function</i>	<i>Roles and Responsibilities</i>
Board of directors	<ul style="list-style-type: none"> <li>• Approves the control process</li> <li>• Monitors adherence to policy and processes</li> <li>• Reviews and approves treasury strategy and policy</li> <li>• Reviews treasury performance</li> <li>• Approves major treasury relationships/initiatives/transactions requiring highest authority level</li> </ul>
Chief financial officer	<ul style="list-style-type: none"> <li>• Responsible for line management of the finance and treasury functions</li> <li>• Reviews and approves submissions and reports from treasury to the board</li> <li>• Briefs the board on treasury performance and activity</li> <li>• Approves treasury strategy</li> <li>• Approves treasury initiatives and transactions within authority levels</li> </ul>
Treasurer	<ul style="list-style-type: none"> <li>• Responsible for managing the treasury function</li> <li>• Develops policy and control procedures</li> <li>• Determines treasury strategy and implementation</li> <li>• Recommends bank relationship management strategy</li> <li>• Approves treasury initiatives and transactions within authority levels</li> <li>• Prepares briefings for the board on treasury performance</li> </ul>
Treasury department	<ul style="list-style-type: none"> <li>• Provides day-to-day treasury services</li> <li>• Provides input to treasurer on both tactical and strategic issues</li> </ul>
Cash manager	<ul style="list-style-type: none"> <li>• Provides day-to-day cash positioning</li> <li>• Manages cash and liquidity</li> <li>• Initiates payments and transactions</li> <li>• Effects short-term investments and borrowing</li> <li>• Provides input on collection and disbursement practices</li> </ul>



### Authority Limits

For each type of treasury activity, there should be a clear statement as to what level of authority is required to initiate a transaction and to approve it. Different levels of management may be assigned different limits on their power to approve transactions. For example, certain clerical levels are authorized to sign checks up to a \$5,000 maximum. For amounts over \$5,000 up to \$20,000, two signatures are required. Anything over \$20,000 requires the signature of a vice president. Exhibit 18.4 provides a sample of the types of transactions for which a policy and authority limits will be needed.

<b>EXHIBIT 18.4</b> <b>Transactional Authority Limits</b>		
<i>Transaction Group</i>	<i>Transaction Type</i>	<i>Authorization Limits by:</i>
Payments	<ul style="list-style-type: none"> <li>• Wire transfers               <ul style="list-style-type: none"> <li>– Freeform</li> <li>– Semirepetitive</li> <li>– Repetitive</li> </ul> </li> <li>• Other electronic and ACH               <ul style="list-style-type: none"> <li>– Credit transactions</li> <li>– Debit transactions</li> <li>– Payroll</li> </ul> </li> <li>• Other payment types               <ul style="list-style-type: none"> <li>– Checks</li> <li>– Purchasing card</li> <li>– Credit and charge card</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Transaction type</li> <li>• Amount</li> <li>• Timing and urgency</li> <li>• System-generated</li> <li>• Exception processing</li> </ul>
Investments*	<ul style="list-style-type: none"> <li>• Short-term (less than one year)               <ul style="list-style-type: none"> <li>– Government and agency instruments</li> <li>– Bank instruments</li> <li>– Corporate instruments</li> <li>– Overseas investments</li> <li>– Derivatives</li> </ul> </li> <li>• Long-term (greater than one year)               <ul style="list-style-type: none"> <li>– Government and agency instruments</li> <li>– Bank instruments</li> <li>– Corporate instruments</li> <li>– Overseas investments</li> <li>– Derivatives</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Transaction Type</li> <li>• Amount</li> <li>• Maturity date</li> </ul>

*(Continued)*

<b>EXHIBIT 18.4 (Continued)</b>		
<i>Transaction Group</i>	<i>Transaction Type</i>	<i>Authorization Limits by:</i>
Borrowing	<ul style="list-style-type: none"> <li>• Short-term (less than one year)               <ul style="list-style-type: none"> <li>– Commercial bank loan</li> <li>– Line of credit</li> <li>– Asset sales</li> <li>– Reverse repurchase agreements</li> <li>– Commercial paper</li> <li>– Asset-based borrowing</li> <li>– Banker's acceptance</li> </ul> </li> <li>• Long-term (greater than one year)               <ul style="list-style-type: none"> <li>– Capital markets</li> <li>– Term loans</li> <li>– Long-term bonds</li> <li>– Project financing</li> <li>– Securitization</li> <li>– Off-balance-sheet financing (leasing)</li> <li>– Secured lending</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Transaction type</li> <li>• Initiation of debt facility</li> <li>• Drawdown on lines</li> <li>• Repayments</li> </ul>
Foreign Exchange	<ul style="list-style-type: none"> <li>• Spot</li> <li>• Short-term hedging (less than one year)</li> <li>• Long-term hedging (greater than one year)</li> <li>• Hedging translation exposure</li> </ul>	<ul style="list-style-type: none"> <li>• Transaction type</li> <li>• Counterparty authorization</li> <li>• Amount</li> <li>• Maturity</li> </ul>
Bank Selection	<ul style="list-style-type: none"> <li>• Relationship bank</li> <li>• Transactional bank</li> </ul>	<ul style="list-style-type: none"> <li>• Transaction type</li> <li>• Nature and size of proposed relationship</li> <li>• Account opening and approval</li> </ul>

\*See investment policy guidelines in Chapter 12.

### Management Reporting

Determine what level of information and reporting is required at each management level. The most important reports produced by treasury are:

- Liquidity reports
  - Cash flow forecasts
  - Debt position
- Risk reports
  - FX exposure
  - Interest rate risk

- Commodity risk
- Derivative reports
- Value at risk reports
- Compliance reports

Exhibit 18.5 provides some examples of the type of information each level might require.

### Key Treasury Controls

Senior management must be assured that for each area of treasury operation there are key controls identified and in place, and that adherence to the policies and procedures is being monitored. Specifically, management is concerned about controls in the following areas:

- Implementation of approved treasury strategies
- Fraud prevention (internal and external)
- Security of systems (internal and external)
- Risk minimization
- Contingency planning
- Adherence to corporate policies and procedures
- Following best practice standards
- Operational quality (preventing and detecting errors)
- Segregation of duties (definition of responsibilities and levels of authority for each)
- Timely, accurate management information
- A framework for monitoring and ensuring compliance and adherence to policy and controls
- Appropriate internal and external audit procedures

<b>EXHIBIT 18.5</b> <i>Management Reporting</i>	
<i>Management Level</i>	<i>Reporting Requirements</i>
Board of directors	<ul style="list-style-type: none"> <li>• Treasury policy and corporate control process</li> <li>• Treasury strategy (reviewed annually)</li> <li>• Annual performance review, including major initiatives and plans</li> <li>• Quarterly transaction report and variance analysis</li> </ul>
Chief financial officer	<ul style="list-style-type: none"> <li>• Treasury policy and corporate control process</li> <li>• Treasury strategy (reviewed semiannually)</li> <li>• Quarterly performance review, including major initiatives and plans</li> <li>• Monthly transaction reports and variance analysis</li> <li>• Monthly operations quality report (how treasury is performing against agreed benchmarks)</li> <li>• Weekly exception reports</li> </ul>
Treasurer	<ul style="list-style-type: none"> <li>• Weekly operations quality report</li> <li>• Daily exception reports</li> </ul>

## Measurement and Management

This step results in a clear statement of how performance will be measured and managed. The statement will specify what measures, benchmarks, and targets will be used, by whom and when, and to whom they will be reported and with what frequency. It should also define who, and at what level, is responsible for reviewing and approving the corporate control policy.

Exhibit 18.6 illustrates how parameters are established for treasury to use in measuring and managing performance. The benchmarks used are for illustrative purposes only.

## Code of Conduct for Treasury

The code of conduct establishes the rules for what is considered to be appropriate behavior in transacting normal business activities with both internal and external parties. The code of conduct should state clearly what conduct will and will not be tolerated, as well as the consequences for not complying. The code of conduct should be relevant for the company's particular business or industry and should include:

- A statement of the company's expectations with regard to ethical conduct in the treasury function, especially in its dealings with third parties
- Personal conduct of employees, both professionally and personally
- Safeguarding of confidential company information and nondisclosure to any outside party, including family members
- Avoiding potential conflicts of interest

<b>EXHIBIT 18.6</b>		
<b>Sample Performance Benchmarks and Measures</b>		
<i>Function</i>	<i>Benchmark/Target, Short Term</i>	<i>Benchmark/Target, Long Term</i>
<b>Cash balances</b>		
• Domestic	• 80% ZBA	• 100% ZBA
• International	• 50% ZBA	• 75% ZBA or pooled
<b>Interest rates</b>		
• Investment	• 3-month T-bills + 25 basis points <sup>1</sup>	• 3-month T-bills + 50 bp
• Borrowing	• LIBOR + 50 bp	• LIBOR + 25 bp
<b>Foreign exchange rates</b>		
• Active currencies	• Within 20% of forecast, 60% hedged	• Within 10% of forecast, 50% hedged
• Exotic currencies	• Within 25% of forecast, 80% hedged	• Within 10% of forecast, 75% hedged
<b>Commodity prices</b>		
	• Within 25% of forecast, 75% hedged	• Within 15% of forecast, 60% hedged
<sup>1</sup> A basis point (bp) is 1/100th of 1 percent or 0.01% or 0.0001.		

- What external activities employees are allowed to engage in
- Any external activities that must not conflict with the employee's primary job
- Redress in case of noncompliance with the code of conduct

An extract from The Association of Corporate Treasurers' ethical code is provided in the Appendix.

### Treasury Audit

This final element of the control framework covers process and timing for the internal audit, external audit, and management audit. Since July 2002 the Sarbanes-Oxley Act has imposed corporate governance and reporting guidelines on all large, publicly traded companies. In the current environment, with heightened awareness of the need for corporate control and governance, it is increasingly common for the treasury function to be more closely scrutinized.

Audits are conducted to satisfy:

- The regulators that procedures are appropriate, in place and in compliance.
- The investors that the company has control over internal activities.
- Senior management that internal efficiencies are being pursued and risk is being managed.

Even from the perspective of best practices, companies should conduct regular, comprehensive reviews, especially of their treasury systems. This will require auditors with expertise in corporate treasury, treasury practices, services, and regulations. If such expertise is not available internally, conducting a treasury audit using a third party should answer the important questions that will identify any weaknesses or potential problem areas and result in strengthened controls. Exhibit 18.7 provides a guide as to the scope of a treasury audit and the answers the audit should provide.

<b>EXHIBIT 18.7</b> <b>Treasury Audit Scope</b>	
<i>Reason for the Audit</i>	<i>Answers the Audit Should Provide</i>
Senior management comprehension and assurance	<ul style="list-style-type: none"> <li>• Does senior management understand the treasury functions?</li> <li>• Do they have the right information to comprehend what is happening in the treasury area?</li> <li>• Do audits show that the treasury area is functioning properly?</li> </ul>
Review of treasury	<ul style="list-style-type: none"> <li>• When was the last time treasury was comprehensively reviewed?</li> <li>• Were the recommendations from the last audit implemented? If not, why not?</li> <li>• Has anything (such as regulatory, competitive, or internal changes) occurred since the last audit that might require a major change in the organization, function, or controls in the treasury area?</li> </ul>
Treasury effectiveness	<ul style="list-style-type: none"> <li>• Is treasury maximizing corporate liquidity?</li> <li>• What benchmarks are in place for measuring performance?</li> <li>• Is treasury maximizing its contribution to the company's bottom line?</li> <li>• What else should treasury be doing?</li> </ul>

*(Continued)*

<b>EXHIBIT 18.7 (Continued)</b>	
<i>Reason for the Audit</i>	<i>Answers the Audit Should Provide</i>
Financial exposure	<ul style="list-style-type: none"> <li>• Does treasury recognize, quantify, and monitor the extent of financial exposure?</li> <li>• Is there a strategy or policy for minimizing risk?</li> <li>• Is that policy implemented and being followed?</li> <li>• What internal controls are in place?</li> <li>• Do any controls need to be added or amended?</li> </ul>
Technology and systems	<ul style="list-style-type: none"> <li>• Is the treasury area using technology that is appropriate for attaining its objectives and compatible with corporate systems?</li> <li>• Are there new developments in systems that treasury should consider?</li> </ul>
Best practices	<ul style="list-style-type: none"> <li>• Is treasury employing best practices for managing the company's cash?</li> <li>• Is the collection system still appropriate?</li> <li>• Is the disbursement system appropriate and are adequate controls in place?</li> <li>• Does the company have the appropriate number of banking relationships in order to minimize risk, contain costs, and obtain all the services it needs?</li> <li>• In light of industry changes, are there other functions that treasury should be performing or taking into consideration?</li> </ul>

Properly conducted, the treasury audit plays an important role in managing risk by:

- Ensuring that treasury policies have been implemented and are being adhered to.
- Monitoring whether treasury operating procedures are being followed.
- Examining whether approved limits are in place.
- Ensuring that where possible, the appropriate level of segregation of duties is in place.

Irregular and spot audits are more successful at catching fraud because regular audits can be anticipated and circumvented.

## Performing a Review of the Treasury Function

The treasury audit is one part of an overall review of the treasury function. It is important to also perform a periodic review of the treasury organization and procedures to ensure that treasury operations are performing at optimal efficiency. Exhibit 18.8 highlights the major areas that should be addressed in such a review.

## Practical Applications

This exercise is one of discovery. Find out what policies and procedures exist within your company and then familiarize yourself with them. What is the policy-making procedure for the treasury function? Does a formal policy exist for treasury? If yes, for which areas? If not, why is that? How is treasury performance mea-

**EXHIBIT 18.8**  
**Reviewing the Treasury Function**

<i>Area</i>	<i>Items to Address</i>
Organization	<ul style="list-style-type: none"> <li>• Is there a current organization chart for the treasury function?</li> <li>• Is it up-to-date and complete?</li> <li>• Is the current structure still appropriate?</li> <li>• In which direction is the company moving—centralized or decentralized?</li> <li>• Where the function is decentralized, are all the relevant relationships identified and recorded?</li> <li>• Are there opportunities to centralize certain functions, use a shared service center, set up a payment factory, or manage liquidity across the operating units?</li> <li>• What are the major challenges and obstacles to making changes to the current structure?</li> </ul>
Policies and procedures	<ul style="list-style-type: none"> <li>• Is there a current procedures manual for treasury?</li> <li>• Does it cover all major treasury operations?</li> <li>• Are policies in place for high-risk activities such as short-term investing, borrowing, risk management, and wire transfers?</li> <li>• Is there a policy manual?</li> <li>• Is there a policy for managing banking relationships?</li> <li>• Is a contingency plan in place? Has it been tested lately?</li> <li>• What procedures are in place to protect the confidentiality of information and documentation?</li> </ul>
Documentation	<ul style="list-style-type: none"> <li>• Are there job descriptions, performance measures, and a review process for all treasury positions?</li> <li>• What performance measurements or benchmarks are being used for treasury?</li> <li>• What management information reporting is required?</li> <li>• Are all the bank account opening documents, letters of instruction, and contract documents available?</li> <li>• Is the list of authorized signers up-to-date and do all the banks have a copy?</li> <li>• Where documentation is in a foreign language (such as overseas bank account opening forms), is an English language version available?</li> </ul>
Banking relationships	<ul style="list-style-type: none"> <li>• Is there a database for: <ul style="list-style-type: none"> <li>– All banking contacts</li> <li>– Services used</li> <li>– Fees and compensation paid</li> <li>– Credit facilities</li> <li>– Borrowing levels</li> </ul> </li> <li>• Is the account analysis reviewed promptly for accuracy?</li> <li>• Is bank performance measured?</li> <li>• Are any changes planned in banks or services used?</li> </ul>

*(Continued)*

## EXHIBIT 18.8 (Continued)

<i>Area</i>	<i>Items to Address</i>
Technology	<ul style="list-style-type: none"> <li>• What systems are being used in the company and which ones interface with the treasury systems?</li> <li>• Are any changes being planned to either company or treasury systems?</li> <li>• Are there any opportunities to leverage new developments in technology?</li> <li>• Is treasury included in technology and systems discussions?</li> </ul>
Environmental review	<ul style="list-style-type: none"> <li>• Are there any big changes planned at the company?</li> <li>• Have there been any major changes in the industry or the competition?</li> <li>• Are you up-to-date with changes and trends in the banking industry?</li> <li>• Are there any changes in the regulatory environment that would necessitate changes in the treasury functions (for example, the impact of Check 21)?</li> </ul>

sured? Are there any benchmarks for performance? If so, what are they and are they appropriate? How often are they reviewed? Is the treasury area audited? If the answer is yes, how often? Does the company have a written code of conduct?

### Summary of Key Points

- There is no single best way to organize a treasury function. The organization will depend on many factors, including the type of business and the culture at the company.
- The trend, however, is very definitely toward centralization.
- This was initially because of the economies of scale that can be achieved, but is increasingly due to the pressures of Sarbanes-Oxley to provide complete and accurate reporting of financial information and control over the operations.
- Whatever organization is selected, however, the company will need to put in place a structure to provide for corporate governance and control.
- An important part of the control will be provided by a regular review of the treasury function.
- What is essential, however, is to find the best fit between the organization's structure, its size, its technology, the requirements of the corporate environment, and the company's customers.



# 19

## *Outsourcing Treasury*

### Chapter Goals

This chapter covers the following topics and provides a template for outsourcing treasury functions:

- Progressive centralization of treasury
- Shared service centers
- The in-house bank
- Outsourcing
  - Why outsource?
  - What to outsource?
  - The virtual treasurer
- Selecting an outsourcing partner
- Drawbacks of outsourcing
- How to outsource successfully

### Introduction

As we saw in the last chapter, centralization of the treasury function can bring many benefits in terms of greater efficiencies, economies of scale, and greater control over operations. Centralization, to a greater or lesser extent, becomes inevitable. The first steps toward centralization are usually to consolidate common functions, such as payments, internally before beginning to outsource specific areas such as accounts payable, accounts receivable, and, more recently, investment management. Today, the decision is whether to insource treasury by centralizing functions internally or whether to outsource whole functions or even the entire treasury. Although outsourcing might make economic sense, there are many other considerations that influence the decision, such as determining the core competencies or sensitive areas that should be retained in-house. In this chapter, we examine the options available for centralizing treasury and the factors that influence the selection process of finding an outsourcing provider.

### Progressive Centralization of Treasury

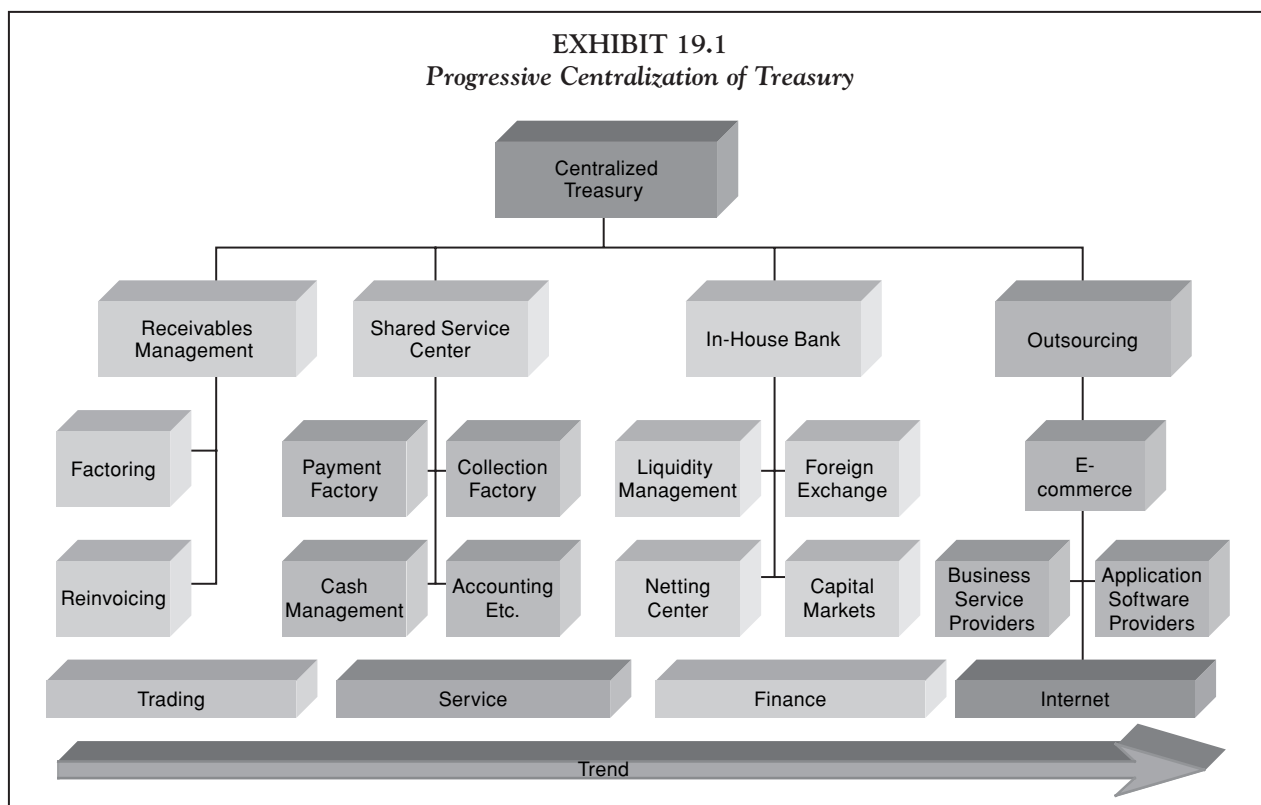
While centralization may be inevitable, outsourcing is not. A number of circumstances can prompt a review of how treasury is organized to identify a more efficient structure, including:

- Increasing demands for control and governance caused by the Sarbanes-Oxley Act
- The impact of mergers, acquisitions, and spin-offs
- The need to invest in and upgrade technology
- Internationalization and global expansion
- Loss or acquisition of key people
- The need to increase efficiency and decrease costs
- Internal and external audit findings

The treasury review will indicate how the current structure can be improved and what degree of centralization is appropriate for the company at that time. As illustrated in Exhibit 19.1, centralization of a treasury function occurs progressively. Initially, certain specific functions are isolated and chosen to be centralized. As efficiencies are realized, there is a move to centralize further and a company might establish a shared service center (an internal unit that undertakes common functions, such as payables, on behalf of the operating units) to undertake more treasury transactions.

The move to centralize all banking functions into an in-house bank is a larger and more expensive decision. The implications of establishing an in-house bank (in which a separate entity is established within the company to undertake all of the banking functions for the operating units) move beyond centralization of transactions and also imply centralization of policy and decision making. This step is not undertaken lightly because it requires extensive systems and internal structural changes. Having already achieved the benefits of centralization through internal restructuring, outsourcing the treasury function is a step that many companies choose not to take. There are, however, increasingly compelling financial arguments for considering such a step, which we discuss in this chapter.

Exhibit 19.1 illustrates how a company might progress on its path toward full centralization. It shows the preliminary steps, beginning with introducing functions that can bring greater efficiencies to receivables



and liquidity management, such as factoring and re-invoicing. These should be performed on a company-wide basis. The next step starts to consolidate whole functions for the company through a shared service center. Some of the first treasury areas to be placed in a shared service center are payments, collections, accounts receivable, and accounts payable.

The next step toward an in-house bank is not always taken. It is a very big commitment and an expensive step to take. In-house banks are usually established by large companies that have the volume to warrant the creation of the necessary infrastructure. Medium and smaller-size companies, however, can still access the economies of centralization through outsourcing either certain transactional areas or whole functions. This option has only become a viable alternative relatively recently with the growth of affordable Internet services through business service providers, application software providers, and bank outsourcing services, such as integrated payables and investment management. The bottom line is that companies will seek to increase the degree of centralization, and this can be done progressively.

## Shared Service Center

A shared service center (SSC) is an entity within an organization that provides services to a number of different groups. Those services can range from performing a single function (such as a payment factory) to providing all back office and front office services. Generally, the SSC undertakes high-volume, low-value transactions whereas treasury retains the low-volume, high-value functions. The reasons for considering an SSC include:

**Achieving economies of scale.** By concentrating all similar activities performed within the company, there is an opportunity to benefit from economies of scale, such as maintaining a single payment system, negotiating better pricing (because of higher volumes), and obtaining better investment returns from consolidated balances.

**Decreasing costs.** By centralizing activities within a single location, treasury should be able to realize lower operating costs and reduce staff, space, and systems diversity by eliminating duplicate functions. Companies that have successfully outsourced report that cost savings can be in the region of 40 percent, depending on the size of the company.

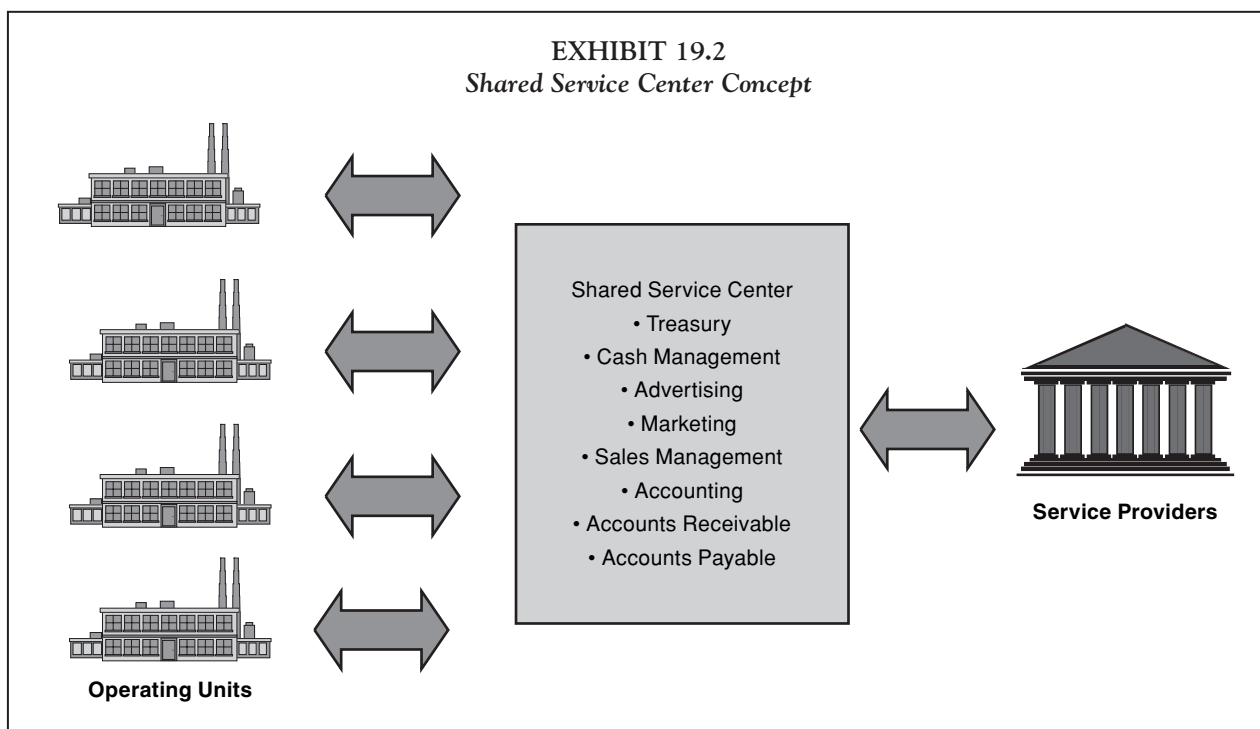
**Developing centers of excellence.** The consolidation of activities in the SSC allows for greater efficiency, with the staff being specialists in the tasks performed. The activities become the core competencies of the SSC.

**Improving control.** Once centralized, the treasury will be better able to control activities while utilizing fewer processes.

Exhibit 19.2 illustrates the concept of the shared service center. The shared service center consolidates the transactions for all the operating units and is the sole interface for those transactions to the service providers. It can be used for a variety of treasury functions as well as other functions such as advertising and marketing. Communications with the operating units is two-way. After consolidation of the transactions, the shared service center is responsible for confirming the transactions back to the operating unit level.

Historically, companies initially established SSCs for functions such as legal services, information technology (IT), human resources, advertising, customer service, and travel. Only recently has the treasury function been considered as a candidate for an SSC. The typical treasury and financial functions performed by an SSC include:

- Accounting
- Receivables and payables



- Invoicing
- Payroll
- Benefits management
- Foreign exchange (FX) processing
- Trade finance
- Financial reporting
- Taxes

Usually, a company should have at least \$300 million to \$400 million in sales to justify investing in an SSC. Additionally, certain conditions must exist within the company, namely:

- Senior management must be committed to centralization.
- Buy-in from the affected units must be obtained.
- The company should have excellent communication systems and a sophisticated technology platform.
- The internal control environment should be well developed.
- Managers of data must be capable of becoming managers of information and processes.
- A tightly controlled implementation plan should be in place.

The major drawbacks or challenges are:

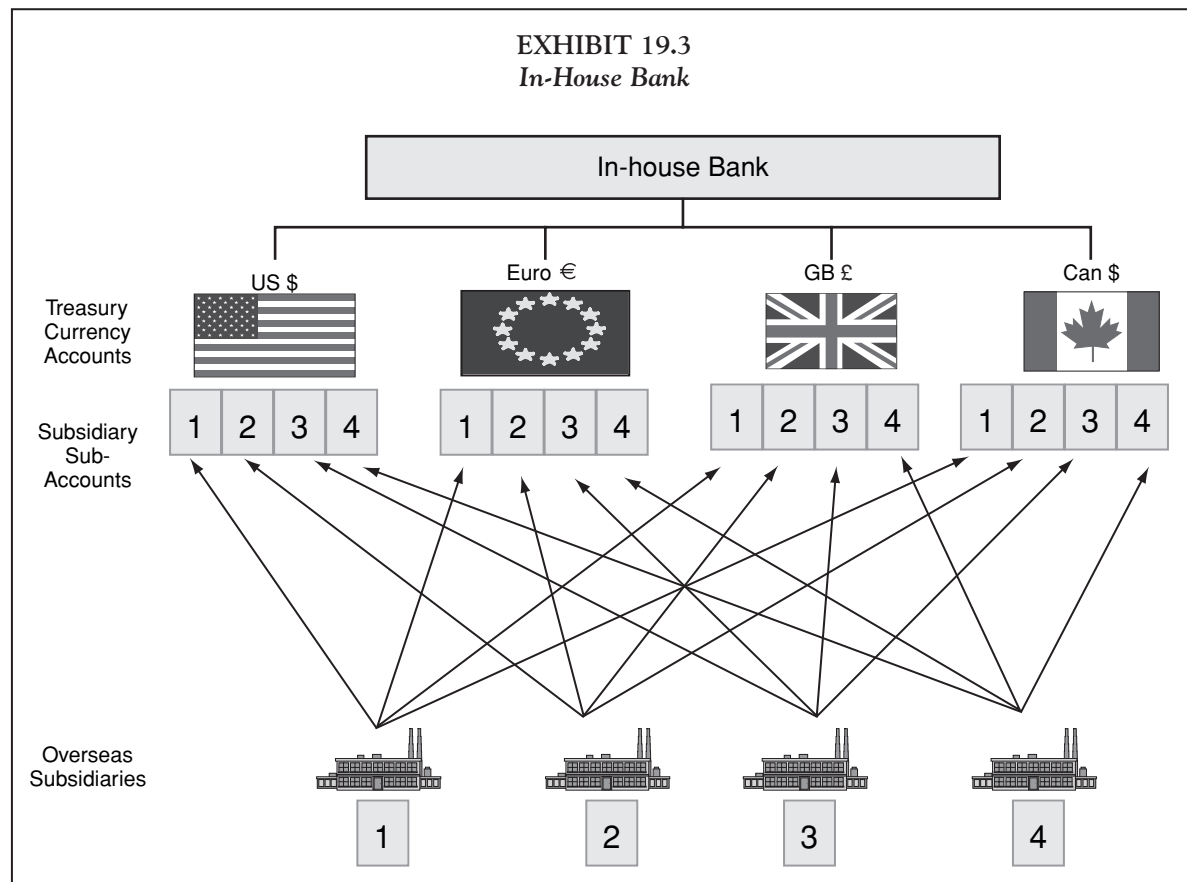
- Individual business units lose accountability.
- The expected cost reductions do not materialize or cannot be measured.
- The quality of service levels and responsiveness the SSC provides is unsatisfactory or perceived to be lower than that provided by the previous structure.
- Systems costs are high.

Although there may be a number of benefits from centralization, the principal measure of success is if the SSC performs at least as well if not better than the operating units were able to function individually. If this is not the case, the local units will quickly find ways to bypass the SSC and reestablish their own capability.

## The In-House Bank

An in-house bank is the primary provider of banking services to the operating units. Regulations usually require that it deals with these units on an arm's length basis, that is, as if dealing with a third party and therefore treating all units equally and at market rates. Although, by definition, an in-house bank provides a central banking function for a company, its scope varies according to the size, nature, and needs of the company. The in-house bank can operate purely as an execution center, or it can be part of a totally centralized treasury operation. Some of the large multinational companies, such as BP and Intercontinental Hotel Group, run regional in-house banks to optimize the local banking operations.

Exhibit 19.3 illustrates the workings of an in-house bank. Each subsidiary is required to open up accounts with the in-house bank. In the case of global companies, the subsidiaries will open an account with the in-house bank in each currency in which they pay and receive. Thus, if subsidiary 1, which is located in Switzerland, pays or receives in U.S. dollars, the in-house bank establishes a subaccount in subsidiary 1's name. When subsidiary 1 needs to make a payment in U.S. dollars, it sends instructions to the in-house bank, which then effects the transaction on behalf of the subsidiary. Similarly, any U.S. dollar receipts for subsidiary 1 are directed to the subaccount at the in-house bank. The in-house bank then confirms transaction details to subsidiary 1 and renders the bank statement on its account.



Local banks continue to provide local banking services to the subsidiaries, but the in-house bank is used for all intercompany or cross-border transactions. The in-house bank undertakes all accounting for the subsidiary accounts, makes and receives payments on their behalf, and renders the statements for the subaccounts. Some of the functions in-house banks typically perform are:

- Payments and collections on behalf of the group
- Cash management
- FX and exposure management
- Intracompany netting and notional pooling, in which balances are notionally offset for the purposes of reducing borrowing costs and increasing investment revenue
- Re invoicing and factoring for liquidity management
- Investment management
- Funding management

The efficiencies arise from:

- Reducing banking costs by maintaining only a single account per currency
- Consolidating all payments through a single bank account per currency
- Netting intracompany balances (which creates an informal currency pool and therefore lowers the cost of borrowing and improves investment returns)
- Concentrating the treasury expertise in a single location
- *FX matching*, in which the currency needs of one subsidiary are offset against the currency surpluses of another (which reduces FX commissions)
- Leveraging banking relationships

To run an in-house bank effectively, the treasury group should have a powerful system that is capable of multibank reporting, cash forecasting, funds transfer, treasury management, and bank accounting for statement rendition. It will also need to be linked into the general ledger and the company's accounts payable and receivable systems. This is one reason why in-house banks are only established once a company has implemented an enterprise resource planning (ERP) system.

Among the challenges and drawbacks to running an in-house bank are:

- High systems expense to implement companywide communication and reporting systems
- Making appropriate cost allocations
- The need to undertake additional accounting and recording functions
- Companywide communication and reporting systems
- The need for an appropriately-sized staff to manage the in-house bank
- Resistance from the local operating units because of their loss of control
- Dissatisfaction from the local banks at the loss of business

## Outsourcing

Outsourcing treasury entails having a financial institution or third party, competent in treasury management, handle day-to-day cash management, debt management, investment management, foreign exchange, and other treasury functions for the business. Based on guidelines provided by the company, the outsourcer will consolidate the daily cash position to maximize returns and minimize borrowing costs and provide

general ledger upload files, sophisticated reports, and valuable consultative advice. The typical activities performed by an outsourcing partner are:

- Information collation
- Deal execution (competitive bidding) within the company's stated parameters and guidelines
- Confirmation, settlement, reconciliation, and monitoring
- Investigation and escalation for problem resolution
- Documentation
- Reporting and accounting
- Backup and recovery services

For companies that cannot justify the cost of systems and other internal investments necessary to establish an in-house bank, outsourcing may provide an alternative solution. Because outsourced functions are considered noncore to a company and are handed over to a third party so that they may be performed more cost effectively and with more expertise, many of the functions that lend themselves to shared service centers and in-house banks are also good candidates for outsourcing.

### **Why Outsource?**

The decision to outsource often results from the evaluation of the following factors that occur as part of a significant business change, such as a major expansion, spin-off, or treasury reorganization:

- Improving the balance sheet by keeping only strategic activities within the company
- Returning the company to core competencies
- Constraints on key resources within the company
- Desire to share risk with a trusted partner
- Reducing costs and taking expensive systems and staff off the books
- Eliminating the need for the company to keep up with technology changes
- Improving internal efficiency and performance
- Business changes and growth that make it difficult to integrate new units swiftly and smoothly into existing internal systems
- Difficulty and cost of acquiring new skills and capabilities

What types of companies are outsourcing their treasuries? The following are some of the major characteristics of companies in which outsourcing has proven successful:

- Large companies (sales in excess of \$5 billion), such as Whirlpool, Johnson Controls, and Eaton Corporation
- High-growth-rate companies
- Decentralized decision-making organizations
- Short product-to-market life cycle businesses
- New to market firms that have recently completed an initial public offering (IPO)
- Companies that have been spun off and have lost access to corporate treasury resources

In addition to the benefits that accrue from centralization in general, the additional benefits achieved by outsourcing include:

- Enables a focus on strategy not process
- Reduced operating overhead costs
- Freeing up capital and other scarce internal resources, including IT support
- Higher leverage of technology investment, shared between subsidiaries
- Accessing expertise not available inside the firm
- Access to more and better cash management products
- Access to world-class capabilities, expertise, and experience
- Leading-edge solutions provided by the outsourcing partner
- Responsiveness to changing situations, such as acquisitions, mergers, and spin-offs
- Maintaining a competitive edge through better products and lower cost structure
- Flexibility in meeting customer demand through increased ability of the outsourcing partner to customize
- Plug and play, turnkey solutions, in which a treasury can be up and running in a fraction of the time needed to establish a new treasury team
- Separation of responsibilities and additional control
- Robust quality service levels (often with a formal service-level agreement)
- Reduced exposure to technology shifts and market changes
- Assured continuity and reduced risk with off-site backup and recovery processes

The major concerns that face a company that is outsourcing its treasury function include:

- Determining the core competencies to be retained
- Some of the functions that have been outsourced may affect the company's clients
- Job security
- Possible deterioration of relationship with subsidiaries and business units
- Organizational resistance to change
- Does the outsourcing provider understand the business?
- Giving up control to a third party
- Outsourcing may force a level of standardization that does not allow for extensive customization
- Management of internal and external version control. How will the provider upgrade systems and technology?
- Risks of nondelivery or nonperformance of agreed services
- Fear of becoming dependent on an outside partner, that is, loss of control over data or direction of technology enhancements or upgrades

### What to Outsource?

The decision to outsource is not all or nothing. The following are some examples of the basis on which a company can decide to retain or outsource functions, processes, or systems:

**Transactions.** Specific treasury tasks, such as FX and printing of invoices or payments.



**Systems.** Using *application software providers* (ASPs) for the management and delivery of systems, such as netting.

**Function.** Using *business service providers* (BSPs) to undertake complete systems and transactional support for a function such as investment management.

**Geography.** For example, putting in a regional treasury center in Europe and the United States but retaining control in-house of Latin America and Asia.

The cash management and treasury-related functions that are most often outsourced are processes such as:

- Printing of invoices and checks
- Cash collection and receivables reconciliation
- Disbursements and payables management
- Liquidity management, pooling, and concentration
- Netting
- Backoffice functions
- Foreign exchange deal execution and exposure management
- Investment management
- Intercompany loan management
- External group funding
- Treasury reporting
- Derivatives and hedging administration and reporting
- Internal banking functions
- Accounting and reporting
- Risk management and reporting
- Business continuity and backup

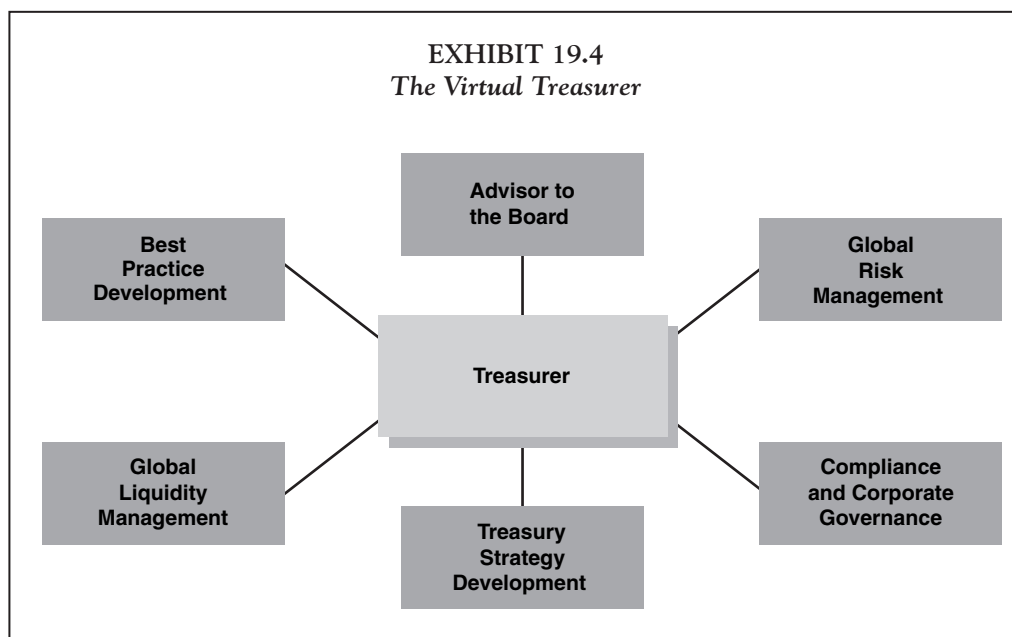
### The Virtual Treasurer

If a treasury has been outsourced, what role is left for the treasurer? In fact, if the outsourcing has been well positioned, the treasurer is now situated to manage the transactional functions remotely, as a “virtual” treasurer, thereby freeing up time to undertake the more important role of strategic advisor to senior management, as illustrated in Exhibit 19.4. Facilitated by Web access, the treasurer, even with outsourced services, retains access to and control of real-time information.

## Selecting an Outsourcing Partner<sup>1</sup>

Having decided to outsource and selected those activities which are non-core to treasury, the next step is to select a provider that will fill the role of strategic partner. The decision should be made carefully because the relationship is likely to be long term and the process of outsourcing is expensive and time-consuming to implement. Neither the company nor the provider will wish to terminate the arrangement after a short

<sup>1</sup>This section is based on information provided by *Guide to Treasury Best Practice* by [amurphy@fti.ie](mailto:amurphy@fti.ie) and [wucp.net](http://wucp.net).



time. Broadly speaking, there are two types of provider, banks and nonbanks (who may often be software providers). Each offers different benefits:

- Banks
  - Larger scale and size of balance sheet and greater staying power.
  - Deep pockets and money to invest in technology.
  - Know the customer, the business, and the industry.
  - Longer history and relationship with the company.
  - Understand the cash management business.
- Nonbanks
  - Outsourcing services is a core business.
  - Are more objective in selection of banking services and providers, for instance, when obtaining FX rates.
  - Are generally more responsive to market changes.
  - Can be more innovative in managing processes because there is less of a hierarchy and bureaucracy to work through.
  - The company might be treated as more of a valued client with a nonbank specialist provider than with a larger bank provider.
  - Often are more technologically advanced.

There are, however, issues and concerns with selecting either option. A company might be concerned about its relationship banks knowing too much about its internal affairs. Firewalls are not always as well maintained as they should be, and hackers can still sometimes gain access to information. Companies might also have legitimate concerns about bank staff not having the latest, most up-to-date technical expertise. With a third-party provider, on the other hand, the issues might be: Does it really understand the treasury

business? How will the relationship banks react to the provider? And most important: Will the independent providers have the same staying power as a bank to remain in the business?

The following is a checklist of steps and questions to help ensure that the correct provider is selected:

- Make sure the decision to outsource is fully supported by senior management.
- Be sure what tasks and functions are to be outsourced and know the rationale for outsourcing them.
- Are you planning to reengineer any of the outsourced functions, and if so, are you clear as to how you want them to operate going forward?
- Determine how you want the outsourced functions to be managed, and specifically what operations you expect the provider to perform.
- Are you prepared to use an off-the-shelf product or do you require customization?
- Prepare a selection criteria scorecard (see the sample scorecard in Chapter 17), making sure that the weightings are appropriately balanced between product features, price, and quality of service. Some of the criteria might include:
  - Track record: How many satisfied clients does the provider currently service?
  - Performance running a treasury: What benchmarks does the provider use for measuring performance and are they appropriate for the company?
  - Preference for a bank or nonbank provider.
  - Resources being devoted to the business by the provider.
  - Expertise of the provider's staff.
  - Existing relationship, history, or experience with the provider.
  - Delivery channels: Is Internet access offered?
  - Coverage and footprint: Does the provider have the right coverage in terms of geography, services, currencies, and so forth?
  - Location: Is the provider in a location that is required by the company?
  - Economies of scale that can be achieved.
  - Treasury system used: Is it state-of-the-art?
  - Is the provider focused on strategy or transaction-processing efficiency?
  - Contingency and recovery capabilities.
  - Fees and charges, both initial and recurring.
  - Internal costs to the company of implementation and ongoing maintenance.
  - Future vision: Is the provider already thinking forward about the future needs of the company?

There will always be tradeoffs, so be sure you are aware which ones you are prepared to make as you go through the selection process:

- Draw up a short list of providers who have the capabilities you seek. Although the services offered may be similar, some providers will be more process oriented, whereas others may be more consultative and strategic. There will be a price difference. The consultative approach will be more expensive. It is important to think ahead of time about what type of partner you require.
- Issue the RFP and send it to no more than four or five vendors. Put a time limit on receiving the responses and specify the format in which you wish to receive the responses (see Chapter 17 on the RFP process).

- Analyze the responses and for the viable candidates, follow up on references, make site visits to existing clients, make a list of additional questions concerning service and implementation, and list the weaknesses of each provider.
- Meet with all the viable providers, ask the remaining questions, and satisfy yourself about any perceived weaknesses.
- Select the vendor that appears to be the best fit as a partner. Walk through every process in detail. Do not be satisfied until you understand exactly how the provider intends to deliver the service and perform to your requirements.
- Agree on a service level agreement (SLA) (see Chapter 16 for more information on drawing up SLAs) and timetable for implementation. Allow sufficient time for the conversion to be completed, without putting unrealistic deadlines on the vendor and compromising the quality of the implementation. This is a long-term decision, and implementation should be done carefully to avoid any future problems.

An RFP template specific to finding an outsourcing partner follows:

**General company overview.** Include a short summary of the company's operations, lines of business, sales volumes, and geographic spread as applicable. This should be a brief overview. Refer the supplier to the company Web site if more information is required.

**Treasury structure.** Provide a brief overview of how treasury or finance operations are structured. Give details if more than one location is involved and state how the responsibilities are allocated.

**Statement of purpose.** State the parameters on which you are requesting the supplier to quote and the reasons for considering outsourcing. State response date, number of copies required, and any confidentiality rules or agreements to be signed by the supplier as part of the response.

**Company contacts.** List key company contacts that can be reached for additional information or to answer questions about the RFP. Include mailing addresses, telephone numbers, and e-mail addresses as applicable.

**Decision process.** Indicate as clearly as possible when and on what basis the decision will be made.

**Scope of activity.** Explain the specific functions that you are going to be outsourcing and what level of service you require in terms of products and reports. This section should contain all the detail as to the requirements.

**Implementation.** How long will the whole process take including document preparation? How much will it cost? What commitments in terms of time and resources will be required from the company?

**Ongoing costs.** What level of recurring costs can be expected? Will this include ongoing support, upgrading, and technical assistance?

**Customer service.** How will the company be supported? How will the outsource provider ensure you have all the information you need, when you need it? Explain what information you will need in detail.

**References.** Ask for the names of several clients, preferably in similar industries or businesses.

**Contract term.** State the length of time for which you are prepared to enter into a contract. Because these decisions are long-term, the term should be at least two or three years.

## Drawbacks of Outsourcing<sup>2</sup>

Although an outsource solution may present less risk than an in-house bank in terms of using best practices, senior management will be more concerned should problems arise. The decision to outsource is often perceived as being the riskier choice. Some of the ways to mitigate or minimize those perceptions are:

- Make sure that the relationship with the provider is as an agent, not as a principal of the company.
- Do not allow the provider access to the company's funds.
- Insist that all transactions be conducted in the company's name, with the provider acting as agent only.
- Put in place special procedures (such as allowing repetitive transfers only) if the outsourcer will be making any third-party transfers.
- Document the authority that the provider has, who within the outsourcing provider has that authority, limits on the authority, and the company policies to which the provider must adhere.
- Communicate the authority and policies to the banks that will be dealing with the provider.
- Ensure that the provider has in place effective controls and procedures and has segregated duties to eliminate the opportunity of internal fraud.
- Check that the provider is using state-of-the-art technology and that all the interfaces work smoothly.
- Verify that the provider has adequate staffing levels to support existing customers as well as planned new business.
- The SLA should identify and specify:
  - Exactly how the operation is to be managed
  - The professional insurance that is required
  - Compliance with regulatory requirements
  - Internal and external audit requirements
  - Contingency plan in case the contract is terminated by either party

## How to Outsource Successfully

The success of an outsource operation will depend on a number of factors, namely:

- Ensuring that only noncore functions are outsourced.
- An agreement as to whether the company or the provider will be dealing with the company's customers and under what circumstances.
- A clear contract setting out the division of responsibilities between the parties.
- An SLA that identifies procedures, policies, and performance criteria for functions to be outsourced.
- The appointment of senior people on both sides to be the primary contact.
- A clear escalation process for problem resolution.
- The buy-in of affected units. They all need to understand how outsourcing will affect them.
- Frequent communication with business units and the outsourcing partner, including regular reports and performance analyses.
- A robust, creditworthy partner that is experienced in the business.

<sup>2</sup>Ibid: *Guide to Treasury Best Practice* by amurphy@fti.ie and wwcp.net.

## Practical Applications

What is your firm's attitude toward outsourcing generally? What areas and functions are centralized in your company today? Are any of the treasury functions centralized? Is centralization done by function, application, task, or region? Which of the functions discussed in this chapter might be most suited for outsourcing by your company? How should the outsourcing be structured?

## Summary of Key Points

- Centralization is an important concept for any company to consider. Without some level of consolidation the treasury function will be suboptimized.
- Once a company has embraced centralization, it becomes a matter of degree: How much centralization, which tasks, which functions, which units, and which regions?
- Undertaking centralization in-house puts enormous pressure on a company in terms of cost, resources, systems, and integration.
- SSCs provide control and minimize technology integration problems.
- An in-house bank offers a more customized approach, allowing the treasury to maximize economies of scale and effectively manage liquidity.
- Outsourcing, on the other hand, provides even greater opportunities for cost reductions, leveraging technology, and quick response to market conditions. But the solution offered by outsourcing may not be as closely tailored as the company requires.
- Each company must determine the right level of centralization to suit its business needs and culture.
- Centralization is a journey, not a destination.

# 20

## *The Way Forward*

### Chapter Goals

This chapter covers the following topics and provides best practices for enhancing corporate cash:

- Issues facing treasury
- Summary of treasury best practices
  - Company financial structure
  - The banking environment
  - Optimizing liquidity
  - Collections and concentration
  - Payments
  - Fraud prevention
  - Doing business internationally
  - Banking structure
  - Treasury structure
  - Technology
  - Your role as a financial professional

### Introduction

In this book we have described how important it is to manage cash effectively and how to do so in the current environment. We have also suggested how processes and structures may change in the future. We have identified best practices and provided worked examples, templates, and checklists to help the accountant who may be unfamiliar with the treasury area. The Appendix includes additional sources of reference.

In this last chapter we summarize the major trends in direction as well as some of the best practices for ensuring success in enhancing the management of company cash.

### Issues Facing Treasury

By far the biggest issue facing the treasury function today is that of corporate governance, primarily as a result of satisfying the requirements of the Sarbanes-Oxley Act. The additional burden in terms of reporting

and compliance means that the treasury department is under constant pressure to do more with limited staff resources.

This has prompted a search for the greater efficiencies offered through technology and automation. The largest firms are looking to enterprise resource planning (ERP) systems and integrating treasury functions into a single corporatewide platform. Smaller companies are looking to utilize treasury workstations, to outsource where appropriate, and to otherwise automate processes that were previously performed manually. Automation has been recognized as a key component of making operating processes more efficient. It is no surprise, therefore, to find that providers of treasury services are increasingly nonbank providers. Cash managers need to expand their view of acceptable financial services providers to include companies with specialist technology that offer acceptable, cost-effective service solutions.

Before technology can deliver on its promise to provide greater efficiencies, however, the treasury function needs to rationalize its internal structure. Although centralization is not possible for all companies, without some degree of consolidation the function of cash management will remain suboptimized. Centralization can occur on a regional or business basis or it can incorporate either policy and execution, whichever the corporate culture prefers. But without it, functions will be duplicated, technology will be fragmented, and profitability will suffer.

Another high-profile issue is that of globalization. There is hardly a company today that is not in some way affected by international business. In addition to the inherent risk and exposure resulting from global operations, the additional demands of Sarbanes-Oxley have rendered it increasingly difficult to move money across borders, open new accounts, and ensure the required visibility of operations. Heightened emphasis is being placed on enterprisewide risk management. Increased visibility of information is one area in which the banks are accelerating product development and providing viable business solutions.

The rapid growth of Internet banking cannot be ignored as a major trend. Although not as widely accepted by the commercial world as it has been by consumers, the majority of innovation is being developed by banks for this channel. Although security should be a primary concern, companies should accept the trend and apply appropriate measures. Often, companies obsess too much about information distribution vulnerabilities and ignore the absence of effective internal control processes.

The Internet, along with changes in U.S. banking regulations, is accelerating a change in U.S. payment practices. The benefits to the disburser of paying by check are quickly evaporating. The rationale for switching to electronic alternatives becomes very compelling, especially when put in the context of current fraud statistics and the increasing need for reliable forecasting. Switching to electronic payments lays the groundwork for another trend—an evolution in how companies view bank relationships. A highly geographically fragmented structure will soon no longer be necessary to collect efficiently.

Conversely, freed by the provisions of the Gramm-Leach-Bliley Act, banks are also revising how they view corporate relationships. Banks now have more options as to how they use their capital and as a consequence companies may face increased capital rationing. This, in turn, will feed further consolidation of banking relationships as companies scramble to retain leverage with their major credit banks—a trend that has been growing over the past 10 years.

Every company now must have in place contingency and disaster recovery plans, not only for itself, but also for all its major bank providers. In today's integrated business environment, where access to data is paramount to corporate survival, banks and companies must coordinate and test their contingency plans.

This leaves us with the new, evolving role of treasury. Once relegated to the clerical activities of data gathering and transaction initiation, the treasury function has become a full strategic partner, advising the highest level of company management.



## Summary of Treasury Best Practices

The following is a summary of some of the best practices for enhancing the efficiency and profitability of corporate cash.

### Company Financial Structure

- Be aware of your company's key financial ratios because they will have a direct bearing on how the company is positioned competitively. Pay specific attention to:
  - How the ratios change from period to period
  - How they compare to industry standards
  - Any covenants concerning financial ratios that could affect how cash is utilized
- The company's weighted average cost of capital (WACC) is an important benchmark to use when doing a cost-benefit analysis of new products and services.

### The Banking Environment

- Make sure you are up-to-date and aware of the new and proposed legislation at home and abroad that can affect your business, such as the future repeal of Regulation Q, Check 21, and the like.
- Determine how these will affect your business.
- Position your company to take advantage of such changes before they occur.

### Optimizing Liquidity

- Examine the float in the entire financial supply chain, not just the payments and collections area, and search for greater efficiencies in the use of working capital.
- Know what your cash conversion cycle is and be constantly vigilant as to how and where it can be shortened.
- Implement a forecasting system commensurate with the needs of the company, specifically, one that can produce forecasts reliably and within an acceptable degree of accuracy.
- Automate the forecasting process as much as is possible.
- To the extent that the corporate culture permits, try to "own" the cash and look for cash pockets within the company.
- Within the company's investment guidelines, seek instruments with better short-term returns. Sweep accounts may not be the best (or only) option.
- Be prepared to revise the short-term investment strategy once Regulation Q is repealed and banks are allowed to pay interest on corporate demand deposit accounts (DDAs).
- Consider outsourcing the investment function.
- Ensure that the company has sufficient access to unused borrowing capacity.
- Wherever appropriate, plan to borrow with as much notice as possible to obtain the best terms and conditions.

### **Collections and Concentration**

- Encourage customers to pay electronically by offering float-neutral terms.
- Make greater use of Automated Clearing House (ACH) direct debits.
- Look into remote deposit capture as a way to accelerate deposits.
- Avoid offering discounts, except under very competitive or difficult circumstances, because they can be very expensive.
- Reexamine the current collection structure to ensure it takes advantage of the new banking networks.
- Accelerate collection through lockboxes, remote deposit, and image technology.
- Eliminate, if possible, the concentration step in the collection process. If elimination is not possible, automate concentration from collection accounts by using a daily sweep.
- Determine if some of the new Internet functionality, such as electronic invoice presentation and payment (EIPP) and electronic bill presentation and payment (EBPP), might automate and facilitate the collection process.

### **Payments**

- Ensure that you have evaluated the cost of check writing to determine its true cost to the company.
- Brace yourself for the demise of check payments (at least as a primary payment method) and prepare to make payments via ACH.
- Negotiate float-neutral terms with suppliers who want electronic payments.
- Consolidate payments for greater efficiencies by centralizing disbursements, thereby minimizing idle balances. This will not only optimize use of cash but also reduce fraud by eliminating accounts from which disbursements are permitted.
- Consider outsourcing the payments function.
- Investigate whether a P-card would streamline the purchasing and payments process.

### **Fraud Prevention**

- Be familiar with and use the security measures offered by your banks.
- Use positive pay for both checks and ACH payments.
- Address the possibility of both internal as well as external fraud, especially in the new Internet, mobile, and virtual environment. Old fraud prevention techniques may no longer be effective.
- Eliminate all redundant bank accounts, and centralize control over the remaining ones.

### **Doing Business Internationally**

- Become familiar with the payment instruments used to make and receive payments overseas. Do not assume that what is acceptable domestically is acceptable elsewhere.
- Understand how to structure payments as straight-through. This will be much cheaper and faster.
- Investigate the options for international low-value payments. These are becoming increasingly available and can provide a low-cost alternative to international wires.

- Determine when it would be beneficial to maintain foreign currency accounts and where to locate them.
- Make sure you are aware of and can measure and manage all of the additional risks involved with your international business.

### **Banking Structure**

- Because banks are in a position to ration capital, make sure that you have a strategy in place to ensure you have a secure and ongoing supply of credit and banking services.
- Examine the role of each of your banks and be certain both of you know what that role is.
- Make sure that you have the right banks in your relationship group.
- Make sure you have the right banks supplying niche products and services.
- Eliminate all superfluous banking relationships. These are costly and provide a potential avenue for fraud.
- Select new vendors not just on your current needs but also on what you anticipate your business needs will be in five years' time. You will not want to change banks or providers too often.
- Examine the account analyses in detail to determine if they are accurate and whether you still require all the services for which you are being charged.
- Put in place meaningful service level agreements.
- Monitor performance and deal with poor performance immediately. Have a process in place if the situation is not remedied within an acceptable time frame.
- Make sure you are paying a fair price for the value of services received. The lowest price does not always provide satisfactory products and services.

### **Treasury Structure**

- The greatest efficiencies and control are realized in a centralized structure. Accept the loss of some local office autonomy, which is never well received.
- Identify and facilitate ways to provide heightened corporate governance, audit, and reporting (as required by recent legislation).
- Always involve the local operating units if planning major organizational or banking changes.
- Create an environment that supports the business and corporate culture, while optimizing the opportunities for economies of scale, cost minimization, fraud prevention, and liquidity management.

### **Technology**

- Automate as many of the cash management functions as possible.
- Rather than using PC-based platforms, investigate using Internet application software provider (ASP) applications as a cost-effective alternative.
- Ensure that your system can provide you with all of the necessary reports and control features that your company requires.
- Be broad in your approach to potential vendors. The traditional vendors may not be leading-edge; many banking services are now offered by non-bank specialists.

- Make sure that treasury systems are a core competency for your vendor.
- Implement a contingency and disaster recovery plan.

### **Your Role as a Financial Professional**

- Be alert as to how the cash manager's role within the company may be changing. Financial professionals are increasingly asked to undertake a more strategic function, advising senior management on matters of risk and control.
- Make sure you have the right level of technology to perform the role.
- Ensure that you have access to the information you need to develop the new skills and expertise needed to be successful.

### **Practical Applications**

Identify the three most interesting ideas you have encountered in this workbook. Develop action plans for how you will implement each idea. The plans should be detailed, including timing, identification of the resources needed, and challenges to be faced, together with a strategy for overcoming them.

### **Summary of Key Points**

- With the rapid rate of change in today's environment, it becomes increasingly important to stay current with the industry's trends and developments.
- This can be done formally by attending conferences and seminars, or informally by networking with peers and colleagues.
- Never assume that your banks will continue to keep you apprised of their newest product development. If you want to stay current, you need to be proactive in seeking the information.
- Anticipate the adjustments you may need to make as a result of regulatory changes. Talk to your network of peers and providers to see how they plan to meet these challenges.
- Never stop thinking about how to extricate yourself from the transaction-processing business, using technology and outsourcing.
- Prepare to become an important strategic partner and advisor to senior management.

# Appendix 1—Useful Sources of Information

## Reference Manuals

- *Corporate Cash Management Handbook*, Richard Bort, published by Warren, Gorham & Lamont, updated annually.
- *Corporate Liquidity—A Guide to Managing Working Capital*, Kenneth Parkinson and Jarl G. Kallberg, published by Business One Irwin, copyright © 1993.
- *Essentials of Managing Corporate Cash*, Michèle Allman-Ward & James Sagner, published by John Wiley & Sons Inc., copyright © 2003.
- *Essentials of Treasury Management*, D.J. Masson, Peggy Weber, and David A. Wikoff, published by the Association for Financial Professionals, copyright © 2004.
- *The Treasurer's Handbook*, published by The Association of Corporate Treasurers, copyright © 2006.

## Periodicals

- *AFP Exchange*, published by the Association for Financial Professionals
- *Euromoney*, published by Euromoney Institutional Investor, PLC
- *The Treasurer*, published by the Association of Corporate Treasurers
- *Treasury today*, the flagship publication of Treasury Today
- *Treasury & Risk Management*, published by Wicks Business Information, LLC

## Specialist Reports

- *Guide to Treasury Best Practice & Terminology*, Aengus Murphy, and wwcp.net, copyright © 2004.
- *Outsourcing Treasury—A Status Report*, Treasury Today, copyright © 2003.
- *Treasury Management Systems in 2004—Practical Guide*, published by Treasury Today, copyright © 2004.
- *US Cash Management—A Practical Guide*, Michele Allman-Ward, Treasury Today, copyright © 2005.
- *Cash & Treasury Manager's Handbook for the Americas—NL Russell Associates and WorldWide Country Profiles*—published for HSBC, copyright © 2004.

## RFP Templates

The Association for Financial Professionals (AFP) currently offers three excellent volumes of standardized RFPs, which should be used judiciously:

- *Volume I: Standardized RFPs: Effective Tools for Selecting Cash Management Banks, second edition.* Seven RFPs are available electronically for each of the following products:
  - ACH
  - Controlled disbursement
  - Depository services
  - Electronic banking and information
  - Electronic data interchange (EDI)
  - Wholesale lockbox
  - Wire transfer
- *Volume II: Standardized RFPs for Treasury: Effective Tools for Selecting Service Providers.* Six standardized RFPs are available electronically for the following products:
  - Custody services
  - Disbursement outsourcing
  - Merchant card services
  - Purchasing cards
  - Retail lockbox
  - Treasury workstations
- *Volume III: Standardized RFPs for Global Treasury Services.* These RFPs were developed to help companies identify service providers for international treasury services, many of whose features are unique to overseas operations. Among the topics covered are:
  - ACH/bulk transfers
  - Account structure
  - Cash concentration and pooling
  - Clearing systems
  - Credit facilities
  - Depository and collection services
  - Electronic banking and information reporting
  - Foreign exchange
  - International drafts
  - Investments
  - Netting
  - Special payment services
  - Wire transfer

For more information and prices call the AFP Customer Service (301) 907-2862 or check <http://www.afponline.org/>.

Another excellent resource is the book by Kenneth L. Parkinson and Raymond P. Ruzek, *How to Prepare an RFP for Treasury Services, 4th edition (2005)*. It serves as a step-by-step guide for an RFP showing how to:

- Prepare a customized RFP document.
- Evaluate responses
- Deal with vendors
- Manage the RFP process
- Decide which services and questions to include in the RFP

The book contains 37 separate questionnaires with 620 questions about treasury and cash management services compiled from time-tested actual RFPs that have been used by organizations. There is also another volume that covers treasury workstations, purchasing cards, merchant card services, retail lockboxes, and custody services. For more information and pricing contact Treasury Information Services, P.O. Box 99, Hopewell, NJ 08525, telephone 1-888-TIS-Books or fax 609-466-0091.

## Other

Phoenix-Hecht *Blue Book of Bank Prices*. Fifty-six services are covered in tables detailing list prices, average discount price paid, median price paid, frequency of discount, and average discount by region. Some of the services analyzed include:

- Checks paid—regular
- Disbursement maintenance—controlled
- Return item processing—regular
- Branch deposit
- Demand deposit account maintenance
- Incoming wire transfer
- Reconciliation processing—partial
- ACH originated—debit

For more information contact:

Phoenix-Hecht, 68 T.W. Alexander Drive, P.O. Box 13628, Research Triangle Park, NC 27709-3628;  
Tel: (919) 541- 9339; Fax: (919) 541-9026; [www.phoenixhecht.com](http://www.phoenixhecht.com)

A summary of the latest *Blue Book of Bank Prices* is available at the following URL: <http://www.phoenixhecht.com/TreasuryResources/PDF/BBExecSumm.pdf>.





## Appendix 2—Useful Sources for Online Information

<i>Associations</i>	<i>Web Site</i>
American Institute of Certified Public Accountants (AICPA)	<a href="http://www.aicpa.org">www.aicpa.org</a>
American Bankers Association (ABA)	<a href="http://www.aba.com">www.aba.com</a>
Association for Financial Professionals (AFP)	<a href="http://www.afponline.org">www.afponline.org</a>
Association of Corporate Treasurers (ACT)	<a href="http://www.treasurers.org">www.treasurers.org</a>
Bank Administration Institute (BAI)	<a href="http://www.bai.org">www.bai.org</a>
Financial Executives Institute (FEI)	<a href="http://www.fei.com">www.fei.com</a>
Local AFP/cash management associations	<a href="http://www.afponline.org">www.afponline.org</a>
National Association of Corporate Treasurers (NACT)	<a href="http://www.nact.org">www.nact.org</a>
National Automated Clearing House Association (NACHA)	<a href="http://www.nacha.org">www.nacha.org</a>
Treasury Management Association of Canada (TMAC)	<a href="http://www.tmac.ca">www.tmac.ca</a>

<i>Banks</i>	<i>Web Site</i>
AmSouth	<a href="http://www.amsouth.com">www.amsouth.com</a>
Bank of America	<a href="http://www.bankamerica.com">www.bankamerica.com</a>
Bank of New York	<a href="http://www.bankofny.com">www.bankofny.com</a>
BB&T	<a href="http://www.bbandt.com">www.bbandt.com</a>
Citibank	<a href="http://www.citibank.com">www.citibank.com</a>
Comerica	<a href="http://www.comerica.com">www.comerica.com</a>
Deutsche Bank	<a href="http://www.db.com">www.db.com</a>
Fifth Third Bank	<a href="http://www.53.com">www.53.com</a>
Harris Bank/Bank of Montreal (Canada)	<a href="http://www.harrisbank.com">www.harrisbank.com</a>
HSBC	<a href="http://www.hsbc.com">www.hsbc.com</a>
J.P. Morgan Chase	<a href="http://www.jpmorganchase.com">www.jpmorganchase.com</a>
Key Bank	<a href="http://www.keybank.com">www.keybank.com</a>

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<i>Banks (Continued)</i>	<i>Web Site</i>
LaSalle Bank/ABN-AMRO	<a href="http://www.lasallebank.com">www.lasallebank.com</a>
M&T Bank	<a href="http://www.mandtbank.com">www.mandtbank.com</a>
Mellon Bank	<a href="http://www.mellon.com">www.mellon.com</a>
National City Bank	<a href="http://www.nationalcity.com">www.nationalcity.com</a>
Northern Trust	<a href="http://www.ntrs.com">www.ntrs.com</a>
PNC Bank	<a href="http://www.pncbank.com">www.pncbank.com</a>
Regions Bank	<a href="http://www.regions.com">www.regions.com</a>
State Street Bank	<a href="http://www.statestreet.com">www.statestreet.com</a>
SunTrust Bank	<a href="http://www.suntrust.com">www.suntrust.com</a>
U.S. Bank	<a href="http://www.usbank.com">www.usbank.com</a>
Union Bank of California	<a href="http://www.uboc.com">www.uboc.com</a>
Wachovia Bank	<a href="http://www.wachovia.com">www.wachovia.com</a>
Wells Fargo	<a href="http://www.wellsfargo.com">www.wellsfargo.com</a>

<i>General Information</i>	<i>Web Site</i>
Barrons	<a href="http://www.barrons.com">www.barrons.com</a>
Bloomberg	<a href="http://www.bloomberg.com">www.bloomberg.com</a>
Business Finance	<a href="http://www.businessfinance.com">www.businessfinance.com</a>
Business Week	<a href="http://www.businessweek.com">www.businessweek.com</a>
Ernst & Young	<a href="http://www.ey.com">www.ey.com</a>
Forbes	<a href="http://www.forbes.com">www.forbes.com</a>
Fortune	<a href="http://www.fortune.com">www.fortune.com</a>
Global Treasury News (UK)	<a href="http://www.gtnews.com">www.gtnews.com</a>
Gold Sheets	<a href="http://www.loanpricing.com">www.loanpricing.com</a>
Harris Poll	<a href="http://www.harrispollonline.com">www.harrispollonline.com</a>
Institutional Investor	<a href="http://www.iimagazine.com">www.iimagazine.com</a>
Phoenix-Hecht	<a href="http://www.phoenixhecht.com">www.phoenixhecht.com</a>
The Tower Group	<a href="http://www.towergroup.com">www.towergroup.com</a>
Treasury and Risk Management	<a href="http://www.treasuryandrisk.com">www.treasuryandrisk.com</a>
Treasury Today	<a href="http://www.treasurytoday.com">www.treasurytoday.com</a>
Wall Street Journal	<a href="http://www.wsj.com">www.wsj.com</a>
WorldWide Country Profiles (WWCP)	<a href="http://www.wwcp.net">www.wwcp.net</a>

<i>Government</i>	<i>Web Site</i>
The Federal Reserve	<a href="http://www.federalreserve.gov">www.federalreserve.gov</a>
Federal Deposit Insurance Corp. (FDIC)	<a href="http://www.fdic.gov">www.fdic.gov</a>
Federal Reserve Bank of New York	<a href="http://www.ny.federalreservebank.org">www.ny.federalreservebank.org</a>
Office of the Comptroller of the Currency (OCC)	<a href="http://www.occ.treas.gov">www.occ.treas.gov</a>
Securities and Exchange Commission (SEC)	<a href="http://www.sec.gov">www.sec.gov</a>

<i>Service Providers</i>	<i>Web Site</i>
Automatic Data Processing Inc. (ADP)	<a href="http://www.adp.com">www.adp.com</a>
BankLink	<a href="http://www.banklink.com">www.banklink.com</a>
Bellin Treasury Services	<a href="http://www.bellintreasury.com">www.bellintreasury.com</a>
Bolero.net	<a href="http://www.bolero.net">www.bolero.net</a>
Currenex	<a href="http://www.currenex.com">www.currenex.com</a>
ECCHO	<a href="http://www.eccho.com">www.eccho.com</a>
Electronic Data Systems Corporation (EDS)	<a href="http://www.eds.com">www.eds.com</a>
Export-Import Bank	<a href="http://www.exim.gov">www.exim.gov</a>
First Data	<a href="http://www.firstdatacorp.com">www.firstdatacorp.com</a>
FXall	<a href="http://www.fxall.com">www.fxall.com</a>
FXpress Corporation	<a href="http://www.fxpress.com">www.fxpress.com</a>
Gateway Systems Inc.	<a href="http://www.gatewaysystems.com">www.gatewaysystems.com</a>
General Electric Information Services (GEIS)	<a href="http://www.geis.com">www.geis.com</a>
GTE Processing	<a href="http://www.gtedataservices.com">www.gtedataservices.com</a>
Identrus	<a href="http://www.identrus.com">www.identrus.com</a>
Interpay	<a href="http://www.interpay.com">www.interpay.com</a>
JD Edwards	<a href="http://www.jdedwards.com">www.jdedwards.com</a>
Kyriba Corp.	<a href="http://www.kyriba.com">www.kyriba.com</a>
Magnet Communications	<a href="http://www.magnetbanking.com">www.magnetbanking.com</a>
National Data Corp (NDC)	<a href="http://www.ndctech.net">www.ndctech.net</a>
National Processing Company (NPC)	<a href="http://www.npc.net">www.npc.net</a>
Oracle Corp.—PeopleSoft	<a href="http://www.oracle.com">www.oracle.com</a> <a href="http://www.peoplesoft.com">www.peoplesoft.com</a>
Paychex	<a href="http://www.paychex.com">www.paychex.com</a>
Politzer and HANEY	<a href="http://www.ph.com">www.ph.com</a>
Regulus Group	<a href="http://www.regulusgroup.com">www.regulusgroup.com</a>
Reuters America	<a href="http://www.reuters.com">www.reuters.com</a>

(Continued)

<i>Service Providers (Continued)</i>	<i>Web Site</i>
SAP	<a href="http://www.sap.com">www.sap.com</a>
SunGard	<a href="http://www.sungard.com">www.sungard.com</a>
SWIFT	<a href="http://www.swift.com">www.swift.com</a>
Thomson Financial/Selkirk	<a href="http://www.thomson.com">www.thomson.com</a>
Trade Card	<a href="http://www.tradecard.com">www.tradecard.com</a>
Trema	<a href="http://www.trema.com">www.trema.com</a>
World Bank	<a href="http://www.worldbank.org">www.worldbank.org</a>
XRT, Inc.	<a href="http://www.xrt.com">www.xrt.com</a>

## Appendix 3—Lockbox Providers

<i>Provider</i>	<i>Retail</i>	<i>Wholesale</i>
ABN AMRO–LaSalle	√	√
AmSouth	√	√
Bank of America		√
Bank of Oklahoma		√
Bank of New York		√
BB & T		√
California Bank and Trust		√
Citibank	√	√
Comerica Bank	√	√
Commerce Bank	√	√
Compass Bank		√
Deutsche Bank		√
Eastern Bank		√
Fifth Third Bank	√	√
First Express	√	
First Indiana		√
First Natl Bank of Omaha		√
First Tennessee	√	√
Frost National Bank		√
Harris Bank	√	√
HSBC Bank USA	√	√
JPMorgan	√	√
Key Bank		√
M & T Bank		√
Marshall and Ilsley Bank	√	√
Mellon Bank	√	√
Mercantile Safe Deposit		√
National City Bank		√
Northern Trust		√
PNC Bank		√

*(Continued)*

<i>Provider (Continued)</i>	<i>Retail</i>	<i>Wholesale</i>
Regions Bank		√
Regulus	√	√
Southwest Bank of Texas		√
Sovereign Bank	√	√
SunTrust		√
UMB Bank		√
Union Bank of CA		√
Unisys	√	√
US Bank	√	√
Wachovia		√
Wells Fargo	√	√

Not all services offered in all cities.  
Source: Phoenix-Hecht Lockbox Survey participants.  
No responsibility for accuracy.

## Appendix 4—Controlled Disbursement Providers

<i>Bank</i>	<i>Controlled Disbursement Sites</i>
ABN AMRO–LaSalle Bank N.A.	Chicago RCPC
AmSouth Bank	Jasper AL
Bank of America	Asheville NC DeKalb GA Hartford CT Northbrook IL Portland ME Vandalia MO Walnut Creek CA Wichita Falls TX
Bank of New York	White Plains NY Wilmington DE
Bank of Oklahoma	Henryetta OK Wewoka OK
Citibank N.A.	Wilmington DE
Comerica Bank	Ann Arbor MI
Deutsche Bank	Wilmington DE
First Interstate Bank of Commerce	Billings MT
Harris Bank N.A.	Roselle IL
HSBC Bank USA	Utica NY
JPMorgan	Circleville OH Dearborn MI San Angelo TX Syracuse NY Wilmington DE
KeyBank	Albany NY Anchorage AK Portland ME Price UT Vermilion OH

*(Continued)*

<i>Bank (Continued)</i>	<i>Controlled Disbursement Sites</i>
M & T Bank	Ithaca NY Millsboro DE Newburgh NY Wilkes-Barre PA
Mellon Bank N.A.	Boston RCPC Pittsburgh RCPC Wilmington DE
National City Bank	Ashland OH
Northern Trust Co.	DuPage IL
PNC Bank N.A.	Jeannette PA
Regions Bank	Rutherford TN West Palm FL
Sovereign Bank	Braintree MA West Deptford NJ
SunTrust Banks	Charlottesville VA Rome GA Sevierville TN
U.S. Bancorp	Aspen CO East Grand Forks MN Havre MT Memphis MO Miamisburg OH Wausau WI
Wachovia Corporation	Chapel Hill NC Greenville SC Pensacola FL Savannah GA Wilmington DE
Wells Fargo Bank N.A.	Calabasas CA Grand Junction CO Lewistown MT Plano TX Red Wing MN Van Wert OH

*Source:* Phoenix-Hecht Check Clearing Study.  
No responsibility for accuracy.



## Appendix 5—Sample Ethical Code

The following is an extract from The Association of Corporate Capital Treasurers' ethical code.

### Fundamental Principles

The fundamental principles governing the conduct of a member of the Association are:

- Integrity, which includes:
  - Avoiding conflict between the member's private self-interest and that of his employer or clients;
  - Serving his employer, or, where applicable, his professional clients, honestly and in good faith;
  - Acting honestly and in good faith toward all those outside his own organization (in addition to those mentioned above) who deal with him;
  - Fulfilling the duties of trust owed by reason of the actual appointment or appointments held by him; and
  - Upholding, in whatever way is appropriate to the member's occupation or appointment, the standards of integrity and fair dealing required for the honest conduct of business and for the effective functioning of the financial markets in which the member or his employers play a part.
- Independence in making professional judgments and in giving opinions and statements.
- Courtesy and consideration to all with whom he has contact in his professional work.
- Professional competence, which includes:
  - Compliance with the technical and professional standards expected of him not only as a member of the Association, but also by virtue of the seniority and responsibility of his position; and
  - Carrying out his duties with reasonable care and skill, particularly where his failure to do so could adversely affect members of the public, persons, including bankers, dealing with his employer or, where applicable, professional clients.
- Confidentiality, which includes refraining from using for his own purpose, or for some other improper purpose, information obtained in the course of his employment or in the performance of his duties, or which he knows to be of a confidential nature.
- Compliance with the laws, regulations and conventions of the countries and markets in which he transacts business, including company law, tax law, exchange control regulations, and regulations to protect the interests of the public dealing in financial and similar markets.
- Compliance with the codes and rules of other professional bodies to which the member belongs.

*(Continued)*

*(Continued)*


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### Relationships and Duties

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A member who acts as a treasurer or who manages the treasury function has duties to a number of different classes of people.

- The first such class is his own employer. The nature of the treasurer's employment can breed conflicts of interest, especially where other parties place special trust in the integrity of the treasurer by virtue of his membership and professional standing. The member must avoid misleading those parties not only by misstatements, but also by omitting material information. Where this type of conflict of interest causes difficulty, the member should seek legal advice or request guidance from the Association.
- Another class of people to whom a duty is owed are members of the public or others likely to read and act on documents which the member prepares for use outside his own organization. Examples are an offer document, a circular to shareholders or a disclosure letter.
- A third class is represented by bankers and others with whom a member deals on his employer's behalf in the course of his duties. Here too his professional duty is to honor the trust which such outside parties may reasonably place in him as a member and by virtue of his appointment. Whenever this causes conflicts of interest, he should ensure that the outside parties understand his position clearly, and, if he thinks it appropriate to do so, seek legal advice or guidance from the Association.
- A fourth class is his fellow employees, and particularly his junior staff, who look to him as a person of professional integrity.

Members in a professional practice must comply with:

- The rules of any profession to which they belong; and
- The normal standards of a professional in practice, including courtesy toward competitors, care on behalf of their client's interests, safeguarding client's funds entrusted to them, and maintaining the respect in which the public holds their profession.

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### Gifts, Services and Hospitality

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The treasurer's role as a buyer of financial and similar services can cause ethical dilemmas in a number of ways. They can arise if a member engaged in treasury management is offered hospitality, commissions or gifts or personal services either free or at less than market prices, or if he conducts personal business with a supplier of financial or other services who also conducts, or seeks to conduct, business with the member's employer. In such situations a member should comply with the following principles and rules:

- He must not accept gifts, services or hospitality in any way which could affect, or which might appear to affect, his judgment or loyalty or the proper performance of his duties.
- He must avoid any impairment of his integrity and independence of judgment, especially in the choice of parties to deal with on his employer's behalf.
- He must ensure that his employer is aware of, and has agreed to, any personal business that he may conduct with parties who also conduct or seek to conduct business with his employer, and disclose any benefits thereby received or to be received by him.

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Note: Masculine pronouns are intended to refer to members of either sex.

The most up-to-date version of the full text is available at: <http://www.treasurers.org/membership/resources/ethicalcode06.pdf>.

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