PART IV

Global Investment Strategy

Part IV (chapters 15–20) covers the management of assets, or the efficient allocation of funds among various assets. This part describes the management of current assets, financial assets, capital budgeting, and political risks associated with foreign investment. The objective of current asset management is to protect the purchasing power of assets and to maximize the return on investment. The management of current assets is extremely important for the multinational company. Thus, the complicating international factors and approaches for resolving them should be analyzed carefully. National capital markets have recently changed to an integrated global capital market, oftentimes followed by widespread international multiple listings of securities. Consequently, investors are starting to realize the enormous potential of international portfolio investment. As a result, relatively sophisticated techniques exist to analyze how foreign investment decisions are made. Investment decisions affect the value of a company's stock by influencing both the size of the earnings stream and the riskiness of the company. This risk factor in foreign operations takes on a new dimension of importance because it is rarely encountered in domestic business operations.

CHAPTER 15

International Working Capital Management

Opening Case 15: An Efficient Global Treasury Structure

GeoLogistics Corp. was formed in February 1996 as a global provider of logistics and transportation services for manufacturers and distributors in technology, communications, and aerospace. The company executed five major acquisitions within 30 months and its 1999 sales reached $1.5 billion, 50 percent of which came from outside North America. The company is now a global organization with operations in 32 countries around the world. As the company expands its network through acquisitions, the need for greater control over international treasury operations becomes obvious. With more than 80 banks serving 30 countries in Europe and Asia, it is a challenge for the company to find workable solutions that meet its needs and budgets.

GeoLogistics decided to establish an efficient global treasury structure that would reduce debt, improve settlement practices, and increase the efficiency of cash management. The company selected ABN AMRO Bank of Ireland as its sole treasury-service provider. Ireland was attractive because of favorable tax environments and agency or outsourcing capabilities, which meet GeoLogistics' needs. The Dublin International Financial Service Center (IFSC) was established by the Irish government in 1987 to provide licenses to financial institutions, which offer treasury agency services to foreign companies. ABN had an established IFSC agency capability, an international network, and the treasury outsourcing expertise to achieve the company's objectives.

GeoLogistics' operational guidelines for ABN outlined policies for investments, lending, funding, foreign exchange, disbursements, and financial reporting. Under these guidelines, ABN has reduced the company's idle cash by $20 million per year, with a corresponding reduction in external debt. Specifically, to improve the company treasury services, ABN centralized all intercompany lending and hedging activity

through a single IFSC vehicle; established a monthly netting system; designed an effective euro-based cash pool, and increased control with a simplified structure.

Source: Terry Clark and Tom Maleese, "Achieving an Efficient Global Treasury Structure," *Euromoney*, Mar. 2000, pp. 40–2.

The management of current assets and current liabilities constitutes **working capital management**. The efficient allocation of funds among various current assets and the acquisition of short-term funds on favorable terms are conceptually the same for both multinational companies (MNCs) and domestic companies. However, these two types of companies are different because they do business in different environments. These differences include the impact of currency fluctuations, potential exchange controls, and multiple regulatory and tax jurisdictions on working capital decisions. In addition, MNCs enjoy a wide variety of short-term financing and investment opportunities.

Chapters 11–14 discussed various short-term sources of funds in detail. Thus, this chapter emphasizes current asset management, which can be viewed as either a dynamic (flow) process or a static (stock) responsibility. The first part of this chapter – the dynamic approach – focuses on the denomination of liquid funds by currency and the placement of such holdings by country. This flow process places a heavy emphasis on transfers of liquid funds from one geographical location or currency to another. The second part – the static approach – focuses on individual processes such as the composition of various current assets. The important aspect of this approach is how to determine appropriate levels of cash, accounts receivable, and inventories.

15.1 The Basic Concepts of Working Capital Management

The basic objective of working capital management is to determine the optimal amount of investment in various current asset accounts. This optimal amount of investment in current assets is the level of current asset holdings that maximizes the overall profitability of a firm. However, there are a variety of economic constraints that make it difficult for MNCs to achieve the objective of working capital management.

15.1.1 The importance of working capital management

Current asset management is important not only because it involves the largest portion of a financial manager's time, but also because current assets represent more than half the total assets of most companies. In addition, there is a close relationship between sales growth and the level of current assets. For example, increases in credit sales require more accounts receivable and inventories. Finally, companies may minimize their investments in fixed assets through leases, but it is practically impossible to avoid an investment in current assets.

Despite the importance of international working capital management, literature on this topic is rather limited for a number of reasons. First, decisions on working capital are relatively routine

and frequent. Second, unlike capital investment decisions, these routine decisions on working capital are easily reversible. Third, working capital management requires cash flow projections; however, cash flows cannot be forecasted by the financial manager alone. In other words, the financial aspects of a decision are sometimes concealed by marketing (credit policy) and production (inventory management), which have a major impact on a company's cash flows.

15.1.2 Net working capital funding

The higher level of sales by an MNC necessitates more accounts receivable and higher inventory levels. On the liability side, accounts payable are expected to increase with increases in sales. Accounts payable would automatically finance part of sales increases. These three components make up net working capital. It is important to note that we do not include cash and short-term debt as part of net working capital, because they are not spontaneous.

In principle, MNCs attempt to minimize their net working capital. Aggressive selling techniques and more lenient credit terms may immediately lower the time required to convert inventories into accounts receivable. Greater cash discounts and tighter collection policies may considerably reduce the time required to convert accounts receivable into cash. All such policy changes require additional costs. Thus, MNCs should reduce the cycle until the marginal revenue generated equals the marginal cost; at this point, they maximize their profits.

A common method of benchmarking working capital management practice is to compute the net working capital of a company on a "days sales" basis. To do this, we must first calculate the following three values: (1) days receivables (accounts receivable divided by the average daily sales); (2) days inventory (inventory divided by the average daily sales); and (3) days payables (accounts payable divided by the average daily sales). By combining these three items, we obtain days working capital as follows:

$$\text{days working capital} = \text{days receivables} + \text{days inventory} - \text{days payables}$$

Table 15.1 shows days working capital for selected US and European technology hardware and equipment companies. There are a number of clear differences between the two countries and among individual companies. For example, the days working capital average for the US companies is less than half the 75 days for the European sample. Apparently, European companies carry a considerably higher level of net working capital in their financial structures than US companies to support the same level of sales. Among individual companies, Dell is the most aggressive working capital manager. For example, Dell's net working capital level of a negative 2 days indicates that a level of accounts payable exceeds the sum of accounts receivable and inventory. However, its inventory days of 6 are still three times that of Apple Computer's 2 days in inventory.

15.1.3 Economic constraints of current asset management

Because MNCs operate across national borders, they face regulatory, tax, foreign exchange, and other economic constraints. To achieve a predetermined objective of current assets, the financial manager must give special consideration to these constraints.

Table 15.1 Days working capital for selected US and European technology hardware and equipment companies

Company	*Country*	*Working capital*	*Receivables*	*Inventory*	*Payables*
Intel Corporation	USA	48	47	21	20
Cisco Systems	USA	54	46	20	12
Dell Computer	USA	–2	41	6	49
Texas Instruments	USA	34	65	32	63
Applied Materials	USA	41	82	62	93
Apple Computer	USA	2	48	2	48
Sun MicroSystems	USA	68	67	12	21
Gateway	USA	0	25	8	33
Average	USA	29	63	19	42
St Microelectronics	Italy	58	65	52	59
Nokia	Finland	66	72	31	37
Phillips Electronics	The Netherlands	71	59	51	39
GN Store Nord	Denmark	100	92	40	32
Spirent	UK	107	66	63	22
Getronics	The Netherlands	51	80	20	49
Infinecon Tech	Germany	75	57	69	51
Average	Europe	75	70	47	41

Sources: *CFO Magazine*, 2001 Working Capital Survey; and *CFO Europe Magazine*, 2001 Working Capital Survey, July/Aug. 2001.

FOREIGN-EXCHANGE CONSTRAINTS Foreign-exchange constraints are an important limiting factor on fund flows from one country to another. International fund flows involve foreign-exchange transaction costs and exchange rate fluctuations.

REGULATORY CONSTRAINTS Regulatory constraints can block dividend repatriation or other forms of fund remittances. This blockage occurs because of restrictions on the international movement of funds and other exchange controls.

TAX CONSTRAINTS Tax constraints limit the free flow of affiliate funds to a parent or to sister affiliates. These may occur because higher taxes on all corporate earnings or extra taxes on dividends may be imposed to curb inflation.

A SUMMARY OF CONSTRAINTS Other economic factors, such as inflation and interest rates, also have an important impact on the international mobility of corporate funds.

There are many elements and issues in international current asset management. Here, we assume that the major tasks of current asset management consist of (1) the ability to transfer funds, (2) the positioning of funds within a multinational firm, (3) arbitrage opportunities, and (4) different channels to move funds.

15.1.4 The ability to transfer funds

An MNC has the ability to adjust intracompany fund flows and profits on a global basis. This ability is one of the most important advantages that MNCs enjoy. Financial transactions within an MNC stem from the internal transfer of goods, services, technology, and capital. Such intracompany flows range from finished goods to intangible items such as management skills, trademarks, and patents. Furthermore, capital investments and direct loans give rise to future flows of dividends, interest, and principal payments. On the other hand, many of the gains achieved through intracompany fund flows derive from some questionable business practices. For example, the amount of gains could depend on a company's ability to take advantage of soft spots in tax laws and regulatory barriers. Consequently, conflicts between MNCs and their host governments are quite likely.

15.1.5 Positioning of funds

Another main task of current asset management is to position working cash balances or excess liquidity within an MNC. The division of funds among various affiliates involves the choice of country and the selection of currency denomination for all liquid funds. In domestic businesses, fund flows among units of a large company confer little or no advantage to the company, because tax rates and regulations are uniform throughout the country.

The value of intracompany fund flows for MNCs lies precisely in the fact that there are wide variations in national tax systems and regulatory barriers. In other words, many different types of market imperfections increase the value of internal fund flows among units of an MNC. These market imperfections include foreign-exchange markets, financial markets, and commodity markets.

15.1.6 Arbitrage opportunities

The ability to relocate working cash balances and profits on a global basis provides MNCs with three different types of arbitrage opportunities: (1) tax arbitrage, (2) financial market arbitrage, and (3) regulatory system arbitrage.

First, MNCs can reduce their overall tax burden by shifting profits from subsidiaries in high-tax countries to subsidiaries in low-tax countries. Second, internal fund transfers may enable MNCs to circumvent exchange controls, earn higher yields on excess funds, and tap domestically unavailable capital sources. Third, if affiliate profits depend on government regulations or union pressure, MNCs can disguise true profits through transfer pricing and other intracompany adjustments.

15.1.7 Different channels to move funds

Multinational business operations require a steady flow of funds from parent to subsidiary, from subsidiary to parent, and between subsidiaries. Because these fund flows are unique, we will consider one at a time.

FUND FLOWS FROM PARENT TO SUBSIDIARY The largest flow of funds from parent to subsidiary is the initial investment. The subsidiary may also receive additional funds in the form of loans or added investments. The purchase of goods from the parent offers another form of fund flows from parent to subsidiary. This form of fund flows involves transfer pricing, the price on goods sold between related entities.

FUND FLOWS FROM SUBSIDIARY TO PARENT The major components of fund flows from subsidiary to parent consist of dividends, interest on loans, principal reduction payments, royalty payments, license fees, technical service fees, management fees, export commissions, and payments for goods received from the parent. The parent does not have total control over the size of the flow of funds because of various external factors, such as foreign-exchange controls and tax constraints. For example, many governments impose a withholding tax when dividends are remitted to foreign owners.

FUND FLOWS FROM SUBSIDIARY TO SUBSIDIARY Funds flow from one subsidiary to another when they lend funds to each other or buy goods from each other. Funds from one subsidiary may also be used to establish another subsidiary. When such investments are made, all dividends and principal payments may go directly to the home office. However, it is possible for these two subsidiaries to have cash flows similar to parent-company cash flows.

Many factors, such as exchange controls and domestic political pressures, can block dividend repatriation or other forms of fund remittances. If funds are blocked in perpetuity, the value of a foreign project to the parent company is zero. However, MNCs have secretive methods to remove blocked funds, including (1) multilateral netting, (2) leading and lagging, (3) transfer pricing, (4) reinvoicing centers, (5) intracompany loans, and (6) payment adjustments.

MULTILATERAL NETTING Large MNCs often require a highly coordinated interchange of material, parts, work-in-process, and finished goods among various units, because they must handle a large volume of intracorporate fund flows. These cross-border fund transfers involve the foreign-exchange spread, the opportunity cost of the float, and other transaction costs such as cable charges. Netting has been frequently suggested as one method of minimizing the total volume of interaffiliate fund flows.

Netting is a method designed to reduce the foreign-exchange transaction cost through the consolidation of accounts payables and accounts receivable. Multilateral netting is an extension of bilateral netting. For example, if subsidiary A purchases $10 million worth of goods from subsidiary B and B in turn buys $11 million worth of parts from A, the combined flows are $21 million. On a net basis, however, subsidiary A would pay subsidiary B only $1 million. Bilateral netting would be useless where internal sales are more complex. Think of a situation in which subsidiary A sells $10 million worth of goods to subsidiary B, subsidiary B sells $10 million worth of goods to subsidiary C, and subsidiary C sells $10 million worth of goods to subsidiary A. In this case, bilateral netting would be of no use, but multilateral netting would eliminate interaffiliate fund transfers completely.

Example 15.1

Table 15.2 shows a more complex multilateral netting system. Without netting, total payments add up to $5,500. If the cost of foreign-exchange transactions and transfer fees were 1.5 percent, the total cost of settlement would be $82.50.

Table 15.2 The international payments matrix

	Paying subsidiary				
Receiving subsidiary	*USA*	*Japan*	*Germany*	*Canada*	*Total receipts*
USA	–	$ 500	$ 600	$ 700	$1,800
Japan	$ 200	–	400	500	1,100
Germany	600	500	–	300	1,400
Canada	600	400	200	–	1,200
Total payments	$1,400	$1,400	$1,200	$1,500	$5,500

Multilateral netting enables the subsidiaries to transmit information about their obligations to a single center, which combines them in the form shown in table 15.3. Netting reduces total foreign-exchange transfers from $5,500 to $600 and transaction costs from $82.50 to $9. As a result, this netting reduces both foreign-exchange transfers and transaction costs by 89 percent.

Table 15.3 The multilateral netting schedule

Subsidiary	*Total receipts*	*Total payments*	*Net receipts*	*Net payments*
USA	$1,800	$1,400	$400	–
Japan	1,100	1,400	–	$300
Germany	1,400	1,200	200	–
Canada	1,200	1,500	–	300

An accelerated globalization of production, distribution, and finance during the 1990s has created an unusually large volume of intracompany fund flows. By netting intra-affiliate payments, MNCs can realize significant cost savings. It is no wonder that so many MNCs use netting procedures to reduce transaction costs. As with all other transfer mechanisms, however, many governments impose controls on netting. Certainly, this will limit the degree to which the multilateral netting system can reduce foreign-exchange transfers and transaction costs.

LEADS AND LAGS MNCs can accelerate (**lead**) or delay (**lag**) the timing of foreign-currency payments in order to reduce foreign-exchange exposure or to increase working capital available.

These leads and lags can be achieved by modifying the credit terms extended by one unit to another. In order to reduce foreign-exchange exposure, companies should accelerate the payment of hard-currency payables and delay the payment of soft-currency payables. If subsidiary X buys goods worth $10 million monthly from subsidiary Y on 60-day credit terms, Y is, in effect, financing $20 million of working capital for X. The extension of the terms to 120 days would enable subsidiary X to have an additional $20 million of working capital.

Most US and non-US MNCs use leads and lags to minimize foreign-exchange exposure and to shift the burden of financing from one unit to another. This technique has a number of advantages over direct loans. First, leading and lagging do not require a note that officially recognizes an obligation to the seller. Moreover, the amount of credit can be adjusted up or down by shortening or lengthening the credit terms. Second, indications are that governments interfere less with payments on intracompany accounts than on intracompany loans. Third, under Section 482 of the US tax code, US firms do not have to pay interest on intracompany accounts up to 6 months, but they have to pay interest on all intracompany loans.

TRANSFER PRICING **Transfer prices** are prices of goods and services sold between related parties such as a parent and its subsidiary. There are increasing transfers of goods and services between related units in different countries, as MNCs have become larger and more diversified. Because transfer prices are frequently different from arm's-length prices (fair market prices), there is obviously room for manipulation. Governments usually assume that MNCs use transfer prices to reduce or avoid their taxes. For this reason, most governments have set up policing mechanisms to review the transfer pricing policies of MNCs. MNCs are also concerned with transfer prices because they affect direct cash flows for payments of goods and taxes, for cost structures, and for the evaluation of management performance.

Transfer prices can avoid financial problems or improve financial conditions. For example, some countries restrict the amount of profits that can leave that country. In this case, a parent company can remove funds from this particular foreign country by charging higher prices on goods sold to its subsidiary in that country. Transfer prices also channel funds into a subsidiary to bolster its financial condition by charging lower prices on goods sold to that subsidiary.

Example 15.2

To illustrate the effects of a change in transfer prices on the flow of funds, assume the following: (1) affiliates A and B have the same tax rate at 50 percent, (2) affiliate A produces 100 radios for $5 per unit and sells them to affiliate B, and (3) affiliate B sells these radios for $20 per unit to an unrelated customer. Table 15.4 shows the effects of low versus high transfer price on flow of funds.

A consolidated gross profit of $1,500 is the same under both conditions. If both affiliates have the same tax rate at 50 percent, a consolidated net income of $450 is also the same under both conditions. The policy of the low transfer price results in a cash transfer of $1,000 from B to A, whereas the policy of the high transfer price causes an additional

$500 of cash to move from B to A. If it were desirable to transfer funds out of affiliate B, the high transfer price policy would achieve this purpose. The use of the low transfer price ($1,000) allows B to make a net income of $300, whereas the use of the high transfer price ($1,500) permits B to earn only $50. Hence, if it were desirable to bolster B's financial condition, the low transfer price policy would achieve this end.

Table 15.4 The effects of low versus high transfer price on the flow of funds

	Low tax A	*High tax B*	*Combined A + B*
Low transfer price			
Sales price	$1,000	$2,000	$2,000
Cost of goods sold	500	1,000	500
Gross profit	$ 500	$1,000	$1,500
Operating expenses	200	400	600
Earnings before taxes	$ 300	$ 600	$ 900
Taxes (50%)	150	300	450
Net income	$ 150	$ 300	$ 450
High transfer price			
Sales price	$1,500	$2,000	$2,000
Cost of goods sold	500	1,500	500
Gross profit	$1,000	$ 500	$1,500
Operating expense	200	400	600
Earnings before taxes	$ 800	$ 100	$ 900
Taxes (50%)	400	50	450
Net income	$ 400	$ 50	$ 450

A major consideration in setting a transfer price is the income tax effect. For example, those countries with high tax rates are likely to induce higher transfer prices on flows from the parent and lower transfer prices on flows to the parent. On the other hand, those countries with lower tax rates would induce lower transfer prices on flows from the parent and higher transfer prices on flows to the parent. These transfer pricing policies shift profits from a country with a higher tax rate to a country with a lower tax rate, so that worldwide corporate profits may be maximized.

Example 15.3

To illustrate the tax effects of a change in transfer prices on corporate earnings, assume the following: (1) affiliate C is in a low-tax country (20 percent tax rate) and affiliate D is in a high-tax country (50 percent tax rate); (2) affiliate C produces 150 calculators for $5 per unit and sells them to affiliate D; and (3) affiliate D sells these calculators for $20 per unit

to an unrelated customer. Table 15.5 shows the tax effects of low versus high transfer price on company earnings.

Under the low transfer price, C pays taxes of $90 and D pays taxes of $450 for a total tax bill of $540 and a consolidated net income of $810. Under the high transfer price, C pays taxes of $240 and D pays taxes of $75 for a total tax bill of $315 and a consolidated net income of $1,035. Earnings before taxes are the same at $1,350 despite the different prices at which the calculators transfer from C to D. Still, the higher transfer price reduces total taxes by $225 ($540 – $315) and increases consolidated net income by the same amount ($1,035 – $810).

Table 15.5 The tax effect of low versus high transfer price

	Low tax C	*High tax D*	*Combined C + D*
Low transfer price			
Sales price	$1,500	$3,000	$3,000
Cost of goods sold	750	1,500	750
Gross profit	$ 750	$1,500	$2,250
Operating expenses	300	600	900
Earnings before taxes	$ 450	$ 900	$1,350
Taxes (20%/50%)	90	450	540
Net income	$ 360	$ 450	$ 810
High transfer price			
Sales price	$2,250	$3,000	$3,000
Cost of goods sold	750	2,250	750
Gross profit	$1,500	$ 750	$2,250
Operating expense	300	600	900
Earnings before taxes	$1,200	$ 150	$1,350
Taxes (20%/50%)	240	75	315
Net income	$ 960	$ 75	$1,035

Multinational business executives are reluctant to discuss policies for transfer pricing. But in multinational cases, transfer pricing has been used to minimize income taxes and tariffs, to adjust for currency fluctuations, to avoid economic restrictions, and to present a favorable financial picture of a foreign affiliate. In the early 1990s, President Clinton made a proposal to extract billions of dollars from foreign companies in the United States. By cracking down on foreign companies that manipulate transfer prices, Clinton argued that the US government could collect $45 billion over 4 years from foreign companies.

REINVOICING CENTERS Some MNCs circumvent or bypass governments' restrictions and regulations by setting up reinvoicing centers in tax-haven countries. Tax-haven countries are those nations that provide foreign companies with permanent tax inducements. It is possible for a reinvoicing center in the Bahamas to issue invoices for all goods sold by a US parent to its sub-

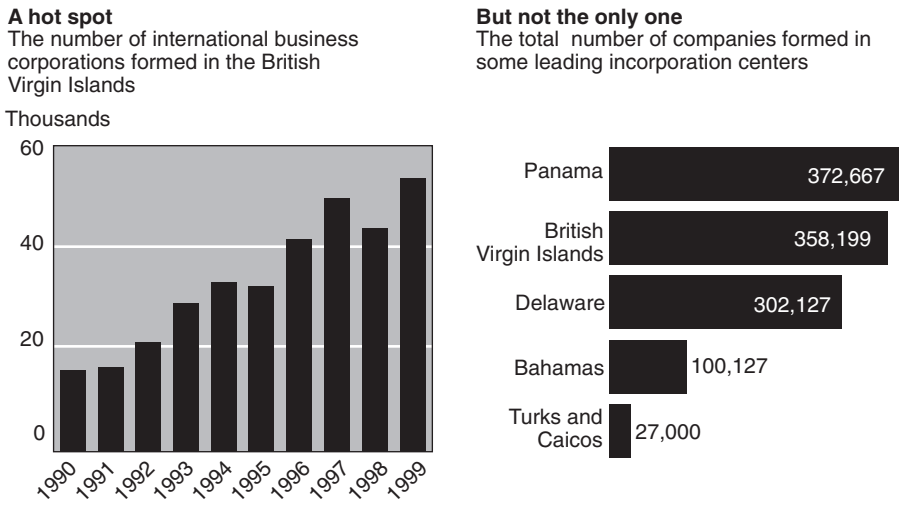

Figure 15.1 Corporate paradise

Source: *The Wall Street Journal*, June 29, 2000, p. A21; reprinted by kind permission.

sidiaries or independent customers in different countries. In this case, the reinvoicing center takes titles of all goods sold by one corporate unit to its customers, even though the goods move directly from the seller in the USA to the buyer in Japan. The Bahamas center pays the US seller and is paid by the Japanese buyer to complete the transaction.

In June 2000, the Organization for Economic Cooperation and Development (OECD) named Monaco, the US Virgin Islands, and the British Gibraltar among 35 jurisdictions whose status as tax havens poses potentially harmful tax competition. The OECD asked the 35 jurisdictions to specify how and when they would bring their tax regimes into line with international standards. Those that could not reach agreement would appear on a list of "noncooperative tax havens" and could face "defensive measures" by OECD members. Thus, it may be difficult for MNCs to use these tax havens as their reinvoicing centers in the future. Figure 15.1 shows that thousands of companies from many parts of the world have established reinvoicing centers in major tax havens, which explains why the OECD took a tough stand.

Reinvoicing centers are often used to cope with foreign-exchange exposures. Subsidiaries buy and sell goods in multiple currencies and must manage the resulting currency exposures. Mechanisms such as the reinvoicing center are necessary so that subsidiaries operate their business exclusively on a local currency basis without the active management of foreign-exchange exposures. To see how the reinvoicing center works to minimize currency exposures, assume that the Canadian subsidiary purchases equipment from a Japanese firm and that payment should be made in Japanese yen. In this case, the reinvoicing center would buy the equipment in the name of the Canadian firm, pay the seller in Japanese yen, bill the Canadian firm in Canadian dollars, and receive Canadian dollars from the buyer. Thus, the objective of foreign-exchange management based on the reinvoicing center is to centralize foreign-exchange exposures in one unit – the reinvoicing center in a single country. To achieve this goal, the reinvoicing center buys on behalf of all related companies in various foreign currencies and then rebills those purchases to the buying units in their local currencies.

INTRACOMPANY LOANS There are many different types of intracompany loans, but direct loans, credit swaps, and parallel loans are the most important. Direct loans involve straight dealings between the lending unit and the borrowing unit, but credit swaps and parallel loans normally involve an intermediary.

A **credit swap** is a simultaneous spot-and-forward loan transaction between a private company and a bank of a foreign country. For example, a US company deposits a given amount of dollars in the Chicago office of a Mexican bank. In return for this deposit, the bank lends a given amount of pesos to the company's subsidiary in Mexico. The same contract provides that the bank returns the initial amount of dollars to the company at a specified date and that the subsidiary returns the original amount of pesos to the bank at a specified date.

Credit swaps are, in fact, intracompany loans hedged and channeled through banks. These loans are also risk free from a bank's point of view, because the parent's deposit fully collateralizes them. Credit swaps have several advantages over direct intracompany loans. First, credit swaps are free of foreign-exchange exposures because the parent recovers the amount of its deposit in the original parent currency from the bank. Second, cost savings may be available with credit swaps, because certain countries apply different tax rates to interest paid to the foreign parent and to interest paid to the local bank.

Parallel loans consist of two related but separate borrowings and typically involve four parties in two different countries. For example, a US parent lends an agreed amount in dollars to the American subsidiary of a Mexican parent. In return for this loan, the Mexican parent lends the same amount of money in pesos to the Mexican subsidiary of the US parent. These loan arrangements involve the same amount for both loans and the same loan maturity. Certainly, each loan is paid in the subsidiary's currency.

Parallel loans are frequently used to effectively repatriate blocked funds by circumventing exchange control restrictions. To see how the back-to-back loan can be used to repatriate blocked funds, suppose that the Mexican subsidiary of IBM is unable to repatriate its peso profits. It may lend the money to the Mexican subsidiary of AT&T; AT&T would, in turn, lend dollars to IBM in the USA. As a result, IBM would have the use of dollars in the USA while AT&T would obtain pesos in Mexico.

PAYMENT ADJUSTMENTS There are many different forms of payments by foreign subsidiaries to the parent company. These payments can be adjusted to remove blocked funds. Dividend payments are by far the most important form of fund flows from foreign subsidiaries to the parent company, accounting for approximately 50 percent of all remittances to US companies. Money market countries recognize dividend payments as a method by which the earnings of a business firm can be distributed to the stockholders of the firm. Not all nations, however, allow dividends of local companies to be paid in hard currencies to the foreign parent companies. Countries characterized by balance-of-payments problems and foreign-exchange shortages frequently place restrictions on the payment of dividends to foreign companies.

Two methods to adjust dividend payments in the case of these restrictions have become increasingly popular. These two methods artificially inflate the value of the local investment base, because the level of dividend payments depends on the company's capital. First, the parent company can magnify its subsidiary's registered capital by investing in used equipment, whose value has been artificially inflated. Second, the parent company may acquire a bankrupt local firm at a large discount from book value and then merge it with its subsidiary on the basis of the failed firm's book value. Of course, this action would raise the subsidiary's equity base.

In addition to dividends, royalties and fees are also important components of fund flows from foreign subsidiaries to the parent company. Royalties are paid to use certain technologies, patents, and trademarks. Fees are compensations for managerial services and technical assistance. Such royalties and fees are unique and thus do not have a reference in market value. Most host governments look with more favor on payments for royalties and fees than on payments for profit remittances. Hence, it is easier for MNCs to repatriate blocked funds through inflated royalty and fee payments rather than through any other form of payment.

UNBUNDLING FUND TRANSFERS MNCs frequently unbundle remittances into separate flows for such purposes as royalties and management fees, rather than lumping all flows under the heading of profit (dividend). Host countries are then more likely to perceive the so-called "remittance of profits" as essential purchases of specific services that would benefit the host country. Unbundling makes it possible for MNCs to recover funds from their affiliates without irritating host-country sensitivities with large dividend drains. This form of fund transfers is particularly useful for business operations in socialist and Islamic countries, where interest and dividend payments are regarded unfavorably.

MNCs can also unbundle remittances into separate cash flows to reduce their overall income taxes. Royalties and management fees have certain tax advantages over dividends when the host-country tax rate is higher than the parent-country rate. Obviously, this tax advantage arises because royalties and management fees are usually tax deductible locally. Under the foreign tax credit system, countries relinquish tax on profits earned abroad up to the amount of the foreign tax. Because local income taxes are paid before the dividend distribution, the parent company can take a tax credit for the local income taxes paid. If the local income tax rate is higher than the parent-country rate, part of the benefit may be lost, but the entire benefit is obtained when the payment is for royalties and management fees.

Example 15.4

Assume that the foreign subsidiary of a US parent company earns $1,000 before any taxes. The parent company wants to receive $400 before US taxes. The local tax rate is 50 percent and the US tax rate is 30 percent.

Table 15.6 shows how the US parent company can unbundle remittances into separate cash flows to reduce its worldwide taxes. In the case of a "bundled situation," the parent company receives $400 in cash dividends. In the case of an "unbundled situation," the parent company receives a royalty of $300 and a dividend of $100 for a total of $400 in cash. Under the bundled situation, the subsidiary pays taxes of $500 and the parent company pays no taxes for a total tax bill of $500 and a consolidated net income of $500. Under the unbundled situation, the subsidiary pays taxes of $350 and the parent company pays taxes of $90 for a total tax bill of $440 and a consolidated net income of $560. Earnings before any taxes are the same at $1,000. Still, the unbundled situation reduces total taxes by $60 and increases consolidated net income by $60.

Table 15.6 Bundled versus unbundled contribution to consolidated income

	Bundled $400 dividend	*Unbundled $100 dividend*
Subsidiary statement		
Earnings before taxes	$1,000	$1,000
Less: royalties and fees	–	300
Taxable income	$1,000	$ 700
Less: local tax at 50% (A)	500	350
Available for dividends	$ 500	$ 350
Cash dividend to parent	400	100
Reinvested locally	$ 100	$ 250
Parent statement		
Royalty received	–	$ 300
Less: US tax at 30% (B)	–	90
Net royalty received	–	$ 210
Net cash dividend	$ 400	100
Total cash received in the USA	$ 400	$ 310
Worldwide income		
Original earnings before any taxes	$1,000	$1,000
Less: total taxes paid (A + B)	500	440
Contribution to worldwide income	$ 500	$ 560

15.2 Cash Management

Cash gives an MNC the ability to pay bills as they come due, but it is not an earning asset. Thus, it is very important to determine an optimal level of investment in cash. The major sources of cash inflows are dividends, royalties and fees, cash sales and collections on accounts receivable, depreciation, sales of new securities, loans from banks or nonbank financial institutions, and advance cash payments on contracts. In contrast, cash outflows are necessary for interest and dividend payments, retirement of debt and other securities, income tax payments, payments on accounts payable, wages and salaries, and purchases of fixed assets. The term "cash management" is used here to mean optimization of cash flows and investment of excess cash.

Companies prefer to hold cash rather than other forms of assets for three main reasons: the transaction motive, the precautionary motive, and the speculative motive. The **transaction motive** holds that cash balances are held partly in anticipation of day-to-day cash disbursements. The **precautionary motive** suggests that cash balances are held partly as protection against deviations from budgeted cash flows. The **speculative motive** relates to the holding of cash in order to take advantage of profit-making opportunities.

15.2.1 Objectives of cash management

The general principles that apply to cash management on an international basis are frequently similar to those utilized by many companies domestically. The overall cash management objec-

tive of any corporation is to minimize the cash balance within the company, with the goal of optimizing corporate fund utilization. However, the parameters within which MNCs operate are broader and more complex than those of purely domestic companies. Furthermore, the relationships among these parameters are constantly changing. Hence those responsible for cash management on an international basis must consider new variables such as tax concepts, governmental restrictions on intracompany fund flows, differences in cultures, and foreign-exchange rates.

More specifically, international cash managers try to attain the traditional objectives of domestic cash management on a global basis: (1) to minimize the cost of funds, (2) to improve liquidity, (3) to reduce risks, and (4) to improve the return on investment.

First, with interest rates of more than 10 percent in many countries, considerable savings are possible when the cost of funds is lowered. MNCs should attempt to reduce their overall cost of funds by increasing internal funds and reducing borrowings.

Second, international cash managers must attempt to improve liquidity on a global basis. Certainly, it is difficult to improve liquidity on a worldwide basis, because government regulations prohibit the free transfer of funds. But MNCs can use centralized cash management and electronic fund transfers to improve their overall liquidity.

Third, international cash management involves a variety of risks, such as political, economic, and exchange risks. Insurance, careful negotiations, forward contracts, and currency options may be used to reduce these risks.

Fourth, a variety of ratios, such as return on investment and return on net worth, are often used to measure performance. The improvement of financial performance is perhaps the most important aspect of treasury management.

15.2.2 Floats

To carry out its operations, an MNC causes a steady flow of funds to take place among its family members. These fund flows cannot avoid the problem of **float**, which refers to the status of funds in the process of collection. From a domestic point of view, float represents only the temporary loss of income on funds that are tied up in the process of collection. In international operations, however, the problem of float is twofold: (1) the loss of income on the funds tied up during the longer transfer process; and (2) their exposure to foreign-exchange risk during the transfer period. Nearly all aspects of both international and domestic cash management are associated with the concept of float. Thus, we ought to understand float to effectively evaluate the collection and disbursement procedures of any cash management system. For purposes of measurement and analysis, we can break down float into five categories:

1 Invoicing float refers to funds tied up in the process of preparing invoices. Because this float is largely under the direct control of the company, it can be reduced through more efficient clerical procedures.
2 Mail float includes funds tied up from the time customers mail their remittance checks until the time the company receives them.
3 Processing float consists of funds tied up in the process of sorting and recording remittance checks until they can be deposited in the bank. Like invoicing float, this float is under the company's internal control and thus can be reduced through more efficient clerical procedures.

4 Transit float involves funds tied up from the time remittance checks are deposited until these funds become usable to the company. This float occurs because it takes several days for deposited checks to clear through the commercial banking system.
5 Disbursing float refers to funds available in a company's bank account until these funds are actually disbursed by the company.

15.2.3 The collection and disbursement of funds

The overall efficiency of international cash management depends on various collection and disbursement policies. To maximize available cash, an MNC must accelerate its collection process and delay its payments. Hence, it must consider these two policies simultaneously to improve its overall cash management efficiency. Significant benefits exist, because long delays are possible in collecting accounts receivable and in paying accounts payable. Delays of 7–10 business days are common to allow for transit and other floats across national borders. Effective collection and disbursement policies have become even more important in recent years because of high interest rates, wide fluctuations in foreign-exchange rates, and widespread credit restrictions.

ACCELERATION OF COLLECTIONS International cash managers should use every means in their power to gain control over incoming funds as quickly as possible after the collection process starts. The principal goals of speeding the collection process are to reduce floats, to minimize the investment in accounts receivable, and to reduce banking and other transaction fees.

An MNC can use a number of useful techniques to speed the collection process: lock boxes, cable remittances, electronic fund transfers, and the use of wire transfers. There are no significant differences between domestic and international lock-box operations. In international lock-box arrangements, MNCs simply use banks in foreign countries to speed up the collection process of their international accounts receivable. With respect to payment instructions to customers and banks, the use of cable remittances is a crucial means for MNCs to minimize delays in receipt of payments and in conversion of payments into cash.

MNCs use electronic fund transfers (EFTs) to move several trillion dollars throughout the world every day. EFTs move funds faster and more efficiently than checks. Moreover, EFTs are completed at a relatively low cost.

In chapter 12, we discussed three computerized systems designed to process international wire transfers: the Clearing House Interbank Payment System (CHIPS), the Clearing House Payment Assistance System (CHPAS), and the Society for Worldwide Interbank Financial Telecommunications (SWIFT). These and other computerized systems are widely used today to facilitate the wire transfer process of funds around the globe. The SWIFT is an interbank communication network founded in 1973 to move messages for financial transactions.

DELAY OF PAYMENTS In addition to accelerating collections, international cash managers can produce a faster turnover of cash by controlling disbursements efficiently. By delaying disbursements, a company keeps cash on hand for longer periods. When the firm purchases goods on credit, it must delay its payments until the last day in order to have the additional funds for the extra time. An MNC can delay its payments in a number of ways: (1) mail, (2) more frequent requisitions, and (3) floats.

First, in spite of the widespread availability of electronic fund-transfer networks, a surprisingly large number of cross-border payments are still made by mail. It is not unusual for regular airmail to take 7 days or more to reach its ultimate destination.

Second, a parent can use large sums of money on a temporary basis because of frequent requisitions of funds by foreign subsidiaries from the parent's central office and the centralized disbursements. For example, if a firm switches its requisition policy from monthly requisitions to weekly requisitions, it can keep cash on hand for as much as 3 weeks longer.

Third, the use of float is yet another method used to maximize the availability of cash. At any given time, checks written by a firm have yet to be cleared through the banking system, because that process takes a number of days. Thus, it is possible for a firm to have a negative balance on its checkbook but a positive balance on its bankbook for a number of days.

THE COST OF CASH MANAGEMENT An MNC company may use various collection and disbursement procedures to improve the efficiency of its cash management. Because these two types of procedures constitute two sides of the same coin, they have a joint effect on the overall efficiency of cash management. Accelerating collections and delaying disbursements involve additional costs. Hence a company must determine how far it should go to make its cash operations more efficient. In theory, a company should adopt various collection and disbursement methods, as long as their marginal returns exceed their marginal expenses.

The value of careful cash management depends on the opportunity cost of funds invested in cash. The opportunity cost of these funds in turn depends on the company's required rate of return on short-term investments. For example, assume that the adoption of a lock-box system is expected to reduce the investment in cash by $100,000. If a company earns 11 percent on short-term investments, the opportunity cost of the current system is $11,000. Hence, if the cost of the lock-box system is less than $11,000, it can be adopted to improve earnings performance.

15.2.4 Cash centers

Cash management can be centralized, regionalized, or decentralized on a company level. Decentralization permits subsidiaries to use excess cash in any way they see fit. While this is popular among subsidiary managers, decentralization does not allow an MNC to utilize its most liquid asset on a widespread basis. Effective cash management requires that executives predetermine cash flow centers. For example, an MNC should not choose to hold cash in a country that suffers violent political upheavals and rampant inflation. Rather, it should transfer idle local cash balances as quickly as possible to a stable environment.

Centralized cash management or cash pooling calls for each local subsidiary to hold, at the local level, the minimum cash balance for transaction purposes. All funds not needed for transaction purposes are channeled to a central cash center. This cash center is responsible for placing a central pool of funds in those currencies and money market instruments that will best serve the needs of the MNC on a worldwide basis.

THE ADVANTAGES OF CASH POOLING Centralized cash management has a number of advantages over decentralized cash management:

1 The central cash center can collect information more quickly and make better decisions on the relative strengths and weaknesses of various currencies. Such information and decisions are necessary if one wishes to invest a central pool of funds most profitably.
2 Funds held in a cash center can quickly be returned to a subsidiary with cash shortages by wire transfer, or by providing a worldwide banking system with full collateral in hard currency. The central pool of funds eliminates the possibility that one subsidiary will borrow at higher rates while another holds surplus funds idle, or invests them at lower rates.
3 By holding all precautionary balances in a central cash center, an MNC can reduce the total pool without any loss in the level of production. This is due to a synergistic effect that is said to exist when the whole is worth more than the mere sum of its parts. This effect has frequently been defined as "2 + 2 = 5."

Before any cash is remitted to a central cash center, local cash needs must be properly assessed. The proper assessment of local cash needs in relation to the cash center involves the following steps:

1 Cash budgets should be prepared, to show anticipated cash outflows and inflows at key future dates.
2 Each subsidiary must have effective cash collection procedures that will speed up cash flows into the company.
3 Each subsidiary must also have systematic cash disbursement procedures that will delay cash flows out of the company.
4 Each subsidiary should estimate when it will have surplus cash, and how much.
5 Each subsidiary should also estimate when it will have shortages, and by how much.
6 The MNC must develop necessary steps for cash mobilization, such as a management information system and a cash-transfer system; it should have the clear responsibility for making cash-transfer decisions.

FACTORS AFFECTING THE LOCATION OF CASH CENTERS Many factors affect the location of cash centers. From an economic point of view, idle funds should move toward those locations that provide the highest profitability and safety. These funds are accumulated in cash centers for temporary investment prior to reassignment elsewhere. Thus, an MNC should choose those locations from which funds can again be readily assigned to other places in the world.

Perhaps the most important factor affecting the location of cash centers is the local government's political stability and its attitude toward foreign-based companies. Local laws may require partial ownership of alien companies by nationals of the host country or by the government itself. Hostility of the courts toward foreign business claims and disclosure requirements may all work against a subsidiary operating as a cash center. Aggregate tax levels and penalty rates on excessive dividend remittances also play an important role in the selection of cash centers.

An MNC must also consider several economic factors when selecting cash centers. These cash centers should be located in countries whose currencies are stable in value and readily convertible into other currencies. It is extremely difficult for financial managers to predict the exact timing of a change in the exchange rate. Most governments take all possible measures to avoid speculation against their currencies. It is critical, therefore, to engage in hedging operations to assure that foreign-exchange losses can be minimized. Thus, the existence of an active forward

market and the availability of suitable money market instruments for the deployment of temporary excess resources are important.

Cash centers are usually located in the major financial centers of the world, such as New York and London. Brussels has become popular as a cash center for companies operating in Europe. Other popular locations for cash centers are tax-haven countries, such as Luxembourg, the Bahamas, Bermuda, and the Netherlands. These countries offer most of the prerequisites for a corporate cash center: political and economic stability, a freely convertible currency, access to international communications, and well-defined legal procedures.

15.2.5 *Investing excess funds*

Along with optimization of cash flows, the other key function of international cash management is to make certain that excess funds are wisely invested. This section discusses three types of portfolio management and portfolio guidelines.

PORTFOLIO MANAGEMENT There are at least three types of portfolio management available to international cash managers. First, MNCs can optimize cash flows worldwide with a zero portfolio. All excess funds of subsidiaries are remitted to the parent and then used to pay the parent's short-term debts. Second, they can centralize cash management in third countries, such as tax-haven countries, and invest funds in marketable securities. Third, they can centralize cash management at headquarters, with subsidiaries holding only minimum amounts of cash for transaction purposes.

PORTFOLIO GUIDELINES Most surplus funds are temporary. If MNCs invest funds in marketable securities such as Treasury bills, they should follow sound portfolio guidelines. First, instruments in the short-term investment portfolio should be diversified to maximize the yield for a given amount of risk, or to minimize the risk for a given amount of return. Second, for companies that hold marketable securities for near-future needs of liquidity, marketability considerations are of major importance. Third, the maturity of the investment should be tailored to the company's projected cash needs. Fourth, the securities chosen should be limited to those with a minimum risk of default. Fifth, the portfolio should be reviewed daily to decide what new investments will be made and which securities will be liquidated.

15.2.6 *International cash management practices*

In 1996, Ricci and Morrison conducted a survey of Fortune 200 companies to determine the use of several of the cash management techniques discussed in this chapter. Wire transfers, electronic fund transfers, and lock boxes are used to expedite the collection of accounts receivable. Cash pooling and netting are used to minimize interaffiliate fund flows.

Table 15.7 indicates the relative frequencies of these five cash management techniques used by Fortune 200 companies. These companies appear to have a high level of sophistication. More than 80 percent of the respondents use wire transfers often, 50 percent pool their cash often, and almost half net payments and transfer funds electronically often.

Table 15.7 The use of international cash management techniques

	Often	*Sometimes*	*Rarely*	*Never*
Wire transfers	82.3%	15.3%	1.6%	0.8%
Electronic fund transfers	49.6%	17.9%	17.1%	15.4%
Lock boxes	28.7%	27.0%	18.9%	25.4%
Cash pooling	50.0%	19.5%	11.0%	19.5%
Netting	49.6%	17.9%	17.1%	15.4%

Source: C. W. Ricci and G. Morrison, "International Working Capital Practice of the Fortune 200," *Financial Practice and Education*, Fall/Winter 1996, pp. 7–20.

15.3 Accounts Receivable Management

The level of accounts receivable depends upon the volume of credit sales and the average collection period. These two variables, in turn, depend upon credit standards, credit terms, and collection policy. As management moves from customers who are more likely to pay their bills to customers who are less likely to pay their bills, sales tend to increase. However, a lenient credit policy is also likely to increase bad debt losses and investments in accounts receivable. In theory, a company should liberalize its credit policy to the point at which the marginal profit on its increased sales equals the marginal cost of credit.

Because money has a time value, accounts receivable have a cost in terms of foregone interest. Nevertheless, many MNCs frequently decide to sell for credit in order to expand sales volume and profits. If sales are made on the basis of drafts on importers, trade acceptances or bankers' acceptances are created, and these may be discounted at banks or sold in the money market. In addition, in many countries the accumulation of accounts receivable is even highly desirable, because government agencies extend export credit at preferential interest rates.

15.3.1 Currency value problems

One truly unique problem area of multinational accounts receivable management has to do with the risk of currency value changes. The accounts receivable manager should understand this risk and take all necessary actions to minimize it. Multinational accounts receivable are created by two separate types of transactions, sales to customers outside the corporate group and intracompany sales. We must consider these two types of transactions separately, because their economic consequences are different.

SALES TO INDEPENDENT CUSTOMERS Management of accounts receivable from independent buyers involves two types of decision, the denomination of currency to be used for payment and the terms of payment. Domestic sales are always denominated in the local currency. In contrast, export sales can be denominated in the currency of the exporter, the currency of the importer, or a third-country currency. The exporter would prefer to price and to invoice in the strongest currency, while the importer would prefer to pay in the weakest currency. Competition or custom will frequently resolve the problem, but the usual result is a trade-off between the terms of payment and the denomination of currency. For example, an exporter may grant a longer credit period in exchange for an importer's promise to pay for its purchase in a hard currency.

Many factors affect the terms of payment, but perhaps one of the most important is the strength of the currency denominated in a transaction. If payments are to be made in a soft currency, accounts receivable should be collected as quickly as possible in order to minimize the possibility of exchange losses between the sale date and the collection date. Sales made in a hard currency may be permitted to remain outstanding somewhat longer. If the devaluation of its home currency is imminent, an exporter might want to encourage slow payment of its hard-currency receivables.

There are at least two ways in which the accounts receivable manager can alleviate currency value problems: currency denomination and the use of factors. A seller may require that all payments are to be made in hard currencies. This requirement assures the seller that payments are to be made in currencies likely to face little or no devaluation on the foreign-exchange market. In certain instances, an MNC refuses credit sales denominated in foreign currencies altogether. MNCs may buy currency credit insurance. For example, American exporters can purchase protection from the Foreign Credit Insurance Association or the Export–Import Bank described in chapter 13.

Accounts receivable managers also use factors to minimize accounts receivable risks from changes in exchange rates between the sale date and the collection date. **Factoring** is a process whereby a company sells its accounts receivable on a nonrecourse basis. Nonrecourse means that the factor takes the loss if the customers of its client do not pay their accounts. In addition to risk bearing, the factor performs a number of additional services such as credit checking, bookkeeping, and the collection of accounts.

INTRACOMPANY SALES Intracompany sales differ from sales to independent customers in that little concern is given to credit standing and the timing of the payments may depend upon a company's desire to allocate resources rather than normal payment schedules. Such sales are necessary for many reasons. Subsidiaries produce different products and often sell to each other. Like the location of cash balances, the location of intracompany receivables and their amounts are a policy consideration of the MNC when it allocates its resources on a global basis. If a parent company desires to transfer funds to its affiliate, it may do so by having the affiliate delay the payment for intracompany purchases.

Because international credit sales usually cross national boundaries, companies are concerned about currency values. Changes in exchange rates between the sales date and the collection date create accounts receivable risks. Leading and lagging can be used to alleviate currency value problems of intracompany credit sales. If subsidiaries are located in countries whose currencies are likely to devalue or to float downward, a parent company may instruct its subsidiaries to pay for their purchases more quickly (leading). In contrast, if subsidiaries are located in countries whose currencies are expected to upvalue or to float upward, the parent company may instruct its subsidiaries to delay payments (lagging). It is important to note that early payments and later payments in conjunction with intracompany sales are feasible only when the parent company owns 100 percent of its various affiliates.

15.4 Inventory Management

The overall efficiency of inventory management is extremely important for two reasons. First, inventories represent a significant segment of total assets for most MNCs. Second, they are the least liquid of current assets; thus, errors in inventory management are not quickly remedied.

Hence for the past few decades the greatest improvements within the area of current asset management have been made in inventory control and investment. The size of inventories in relation to sales has been greatly reduced with the application of computers and new inventory management systems.

Many US and European MNCs have recently adopted a Japanese inventory management system known as the "just-in-time" inventory system. The **just-in-time inventory system** requires that when orders are placed, specific goods are ordered along with an exact delivery date. The goal on the part of the company is to reduce inventory balances to practically zero. Under such an arrangement, it is not uncommon for suppliers to build facilities close to their major customers in order to ensure a ready supply of inventory. For example, many Japanese automotive suppliers have established their production facilities close to Japanese car assembly transplants in the USA and Canada. In essence, the customer is passing the inventory balance problem back to the supplier.

15.4.1 Determining the amount of inventory

The level of sales, the length of the production cycle, and the durability of the product are major determinants of investment in inventory. In domestic or one-country operations, companies attempt to balance their inventory level in such a way that both carrying costs and stockout costs are minimized. However, differentials in the costs of production and storage in different countries allow the MNC to maintain more flexible inventory policies. For instance, an MNC can take advantage of lower costs in a particular country by shifting its production or storage function to that country. These advantages are offset by such disadvantages as tariff levels and other forms of import restrictions used by governments.

Given the fact that many foreign affiliates operate under inflationary conditions, an MNC must determine whether to buy inventory in advance or to delay purchase until the inventory is actually needed. Advance purchases involve such carrying costs as interest on funds tied up in inventory, insurance premiums, storage costs, and taxes. Later purchases increase the possibility of higher costs either through inflation or devaluation. Inflation increases the costs of locally purchased items, and devaluation increases the costs of imported items.

Despite the desire for optimizing inventory levels, many companies that rely on imported inventories maintain overstocked inventory accounts. The fears of continued inflation, raw materials shortages, and other environmental constraints induce companies to maintain high overseas inventory levels rather than risk curtailment of their overseas operations. Additional environmental constraints include anticipated import bans in foreign countries, anticipated delivery delays caused by dock strikes and slowdowns, the lack of sophisticated production and inventory control systems, and increased difficulty in obtaining foreign exchange for inventory purchases.

15.4.2 Protective measures against inflation and devaluation

Many foreign affiliates operate under inflationary economic conditions. Thus it is important for MNCs to determine the effects of an increasing local price level or devaluation on their inventory management policies. The type of inventory normally stocked by subsidiaries is of impor-

tance in this decision. Some subsidiaries rely heavily on imported inventories, while other subsidiaries depend heavily upon locally acquired inventories. Some other subsidiaries may rely almost equally on imported and locally acquired inventories.

If a subsidiary relies heavily on imported goods, it should seek to build its inventory of supplies, equipment, and components in advance of an expected devaluation, because devaluation at a later date effectively increases the costs of imported goods. For example, if a host country declares a 10 percent devaluation of its currency in relation to the dollar, a subsidiary should pay 10 percent more local currency for the same amount of imported goods from the USA.

On the other hand, if a subsidiary depends heavily upon locally purchased goods, it should seek to minimize its inventory of supplies, equipment, and components, because devaluation at a later date effectively reduces the dollar value of inventories acquired locally. If inventories are translated at current rather than at historical exchange rates, a 10 percent devaluation of the local currency against the dollar would reduce the dollar value of its inventory by 10 percent.

Finally, if a subsidiary relies almost equally on imported inventories and locally purchased inventories, it should seek to reduce its locally acquired inventories and to increase its imported inventories in advance of an expected devaluation. However, if accurate forecasts of devaluation are not possible, a company should maintain the same amount of imported goods and locally purchased goods to avoid foreign-exchange risks, because a devaluation would affect both types of inventories equally, and thus the subsidiary would experience neither a gain nor a loss.

15.4.3 Pricing

Up to this point, our discussion has centered on preventive measures that MNCs can take to reduce risks associated with devaluation. Additional action can be taken in pricing to reduce these risks.

Example 15.5

Assume that 10 American-made radios have been imported into Korea, which has subsequently devalued its currency by 50 percent. The original exchange rate was W500 per $1, the original cost was W1,000 per radio, and the original selling price was W1,500 per radio.

The Korean subsidiary has a choice of two basic policies with respect to price: (1) it can maintain the original price of its inventory in an effort to undercut competition; or (2) it can increase the price of its inventory in order to earn all or part of the original dollar profit expected. Table 15.8 shows the effects of both policies on the Korean subsidiary. Maintenance of the old price will result in a dollar loss of $5 on the sale of the 10 radios, even if local figures indicate a profit of W5,000. If the subsidiary increases its selling price to the dollar equivalent of the original selling price, it will earn a profit of $10. However, it is important to note that this assumes that the Korean government does not maintain price controls. Although there are no price controls imposed by the Korean government, a price increase of the magnitude indicated in policy (2) would perhaps discourage some sales. If

the price elasticity of demand for the merchandise is extremely high, the local market may not bear the higher price. Nevertheless, a certain level of price increase is required to prevent a deterioration of converted earnings.

Table 15.8 The effect of pricing on profits

	(1) Maintain old price		*(2) Adjust price*	
Exchange rate	*Korean currency*	*US dollars*	*Korean currency*	*US dollars*
W1,000 (now) sold for	W15,000	$15	W30,000	$30
W500 (old) cost	10,000	20	10,000	20
Profit	W 5,000	–$ 5	W20,000	$10

Another important question is whether a subsidiary should continue to import that type of merchandise. If local sales prices can be raised to cover the current higher dollar import prices, imports should continue. If not, imports could cease. Although the decision not to import merchandise does not cause any transaction loss, it may result in idle production and an eventual operating loss due to the surrender of that particular foreign market. If possible, MNCs should price their inventory goods in such a way that sales revenues include the sum of the increase in replacement cost of the inventory sold, the loss in real value of the monetary profit expected, and increased income taxes.

SUMMARY

Techniques of international working capital management are essentially similar to those employed domestically, but additional variables are involved. In domestic operations, all transactions are subject to the same rules of movement, accumulation, and reinvestment, but these rules vary when these transactions occur across national boundaries. These additional variables include political, tax, foreign exchange, and other economic constraints.

This chapter has discussed cash, accounts receivable, and inventory management. Cash management can be centralized or decentralized on a company level. Although decentralization is popular among subsidiary managers, it does not permit the MNCs to use its most liquid asset on a widespread basis. Multinational accounts receivable are created by two separate types of transactions: sales to independent customers and intracompany sales. Management of accounts receivable from independent customers involves the denomination of currency to be used for payments and the terms of payment. Intracompany sales differ from sales to independent customers, in that little concern is given to credit standing and the timing of the payments may depend upon a company's desire to allocate resources rather than normal payment schedules. The overall efficiency of inventory management is extremely important for two reasons. First, inventories represent a significant segment of total assets for most MNCs. Second, they are the least liquid of current assets and thus errors in inventory management are not quickly remedied.

Questions

1 What are the economic constraints of current asset management for multinational companies? Why do multinational companies face such constraints?
2 Why are various arbitrage opportunities available to multinational companies in their working capital management?
3 What techniques are available to a company with operating subsidiaries in many countries to optimize on cash and marketable securities?
4 What are the advantages of leads and lags over direct loans?
5 List the two major functions of international cash management.
6 Why is the problem of floats in international operations more serious than in domestic operations?
7 Explain the three types of portfolio management available to international cash managers.
8 Why should a firm invest in a portfolio of foreign currencies instead of just a single foreign currency?
9 Standard advice given to exporters is to invoice in their own currency or a strong currency. Critically analyze this recommendation.
10 Under what conditions should companies maintain overstocked inventory accounts?
11 Explain the importance of current asset management.
12 Why is the literature on international working capital management rather limited?

Problems

1 Assume that the netting center uses a matrix of payables and receivables to determine the net payer or creditor position of each subsidiary at the date of clearing. The following table shows an example of such a matrix:

	Paying subsidiary				
Receiving subsidiary	*USA*	*Japan*	*Germany*	*Canada*	*Total receipts*
USA	–	$ 800	$ 700	$400	$1,900
Japan	$600	–	400	200	1,200
Germany	200	0	–	300	500
Canada	100	200	500	–	800
Total payments	$900	$1,000	$1,600	$900	$4,400

(a) Prepare a multilateral netting schedule, such as table 15.3.
(b) Determine the amount of total payments to be reduced by netting.
(c) Determine the percentage reduction in total payments by netting.

2 A multinational company has a subsidiary in country A that produces auto parts and sells them to another subsidiary in country B, where the production process is completed. Country A has a tax rate of 50 percent, while country B has a tax rate of 20 percent. The income statements of these two subsidiaries are shown in the following table:

***Pro forma* income statements for two subsidiaries**

	High tax A	*Low tax B*	*Combined A + B*
High transfer price			
Sales price	$4,000	$7,000	$7,000
Cost of goods sold	2,200	4,000	2,200
Gross profit	$1,800	$3,000	$4,800
Operating expense	800	1,000	1,800
Earnings before taxes	$1,000	$2,000	$3,000
Taxes (50%/20%)	500	400	900
Net income	$ 500	$1,600	$2,100

Assume that the multinational company reduces its transfer price from $4,000 to $3,200. Determine the tax effect of this low transfer price on the company's consolidated net income.

3 The foreign subsidiary of a US parent company earns $1,000 before any taxes. The parent company wants to receive $400 before US taxes. The local tax rate is 50 percent and the US tax rate is 30 percent. The US company is considering two options: option X: $400 in cash dividends and option Y: $160 in cash dividends plus $240 in royalty fees for a total of $400 in cash. Which option should the company select to maximize its consolidated income?

4 A US company has $10,000 in cash available for 45 days. It can earn 1 percent on a 45-day investment in the USA. Alternatively, if it converts the dollars to Swiss francs, it can earn 1.5 percent on a Swiss deposit for 45 days. The spot rate of the Swiss franc is $0.50. The spot rate 45 days from now is expected to be $0.40. Should this company invest its cash in the USA or in Switzerland?

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Case Problem 15: Navistar International's Netting System

Navistar International Corp. was formed in a reorganization of International Harvester in 1987, the farm and equipment manufacturer. Today, Navistar manufactures and markets medium- and heavy-duty trucks, school buses, and mid-range diesel engines in North America and selected export markets. The company's products, parts, and services are sold through nine distribution centers, 16 used truck centers, and a network of 1,000 dealer outlets in the USA, Canada, Brazil, Mexico, and 75 other countries. Navistar also provides financing for its customers and distributors, principally through its wholly owned subsidiary, Navistar Financial Corporation.

During a dismal stretch from the late 1980s through the early 1990s, Navistar was the industry's underachiever. In 1995, however, new Navistar CEO Horne had created a "culture of entitlement" that made the company a sluggish competitor. As part of his effort to energize Navistar, he has introduced a number of top-level managers from other companies into the truckmaker's historically insular executive suite. With the new management team in place and a solid stream of cash from strengthening industry conditions, Navistar has achieved significant productivity increases at its existing plants, built new facilities, and revitalized the once-stable product line. These actions along with its unique netting system have enabled Navistar to improve its financial performance significantly in recent years (see figure 15.2).

Navistar's netting system depends on a currency clearing center located in Switzerland. The netting system works on a monthly cycle. By the 15th day of each month, all participating subsidiaries send information to the currency clearing center on payables and receivables exist-

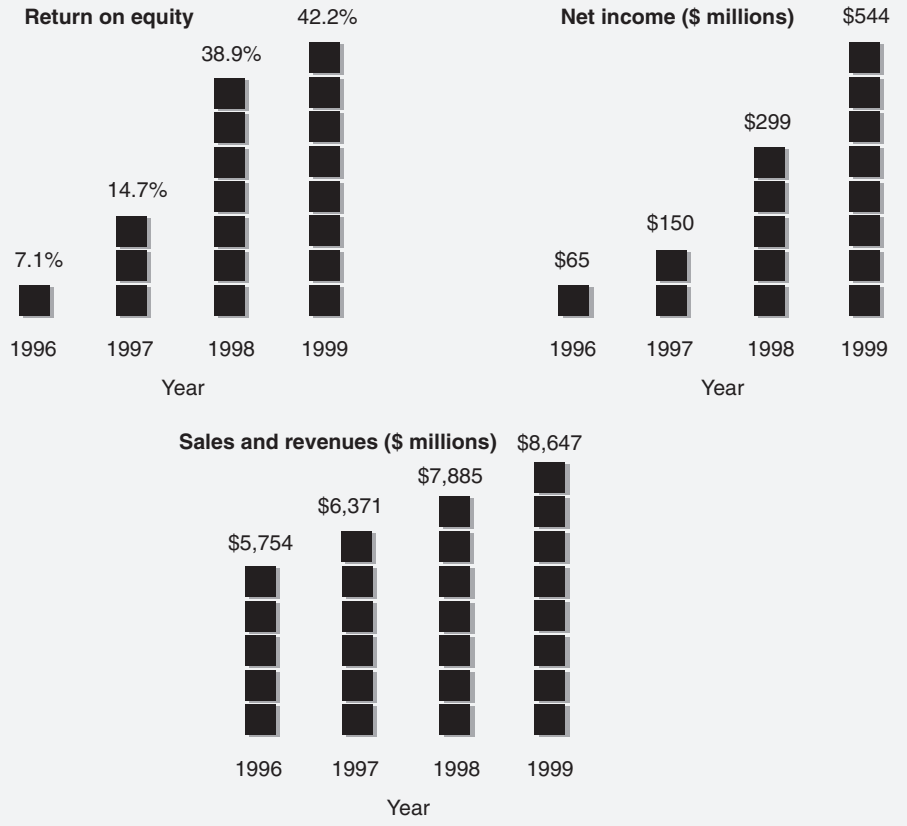

Figure 15.2 The recent financial performance of Navistar International
Source: www.navistar.com; accessed July 7, 2000.

ing at that time in local currencies. The clearing center converts all amounts into dollar terms at the current spot exchange rate and sends information to those subsidiaries with net payables on how much they owe and to whom. These paying subsidiaries are responsible for informing the net receivers of funds and for obtaining and delivering the foreign exchange. Settlement is on the 25th day of the month and the funds are purchased 2 days in advance, so that they are received on the designated day. Any difference between the exchange rate used by the Swiss center on the 15th and the rate prevailing for settlement on the 25th gives rise to foreign-exchange gains or losses, and these are attributed to the subsidiary.

Navistar used this original clearing system for intracompany transactions and did not use the system for its transactions with independent companies. After a decade with this system, the company introduced a scheme for foreign-exchange settlements for payments to outside companies. There are two different dates, the 10th and 25th, on which all foreign exchange is purchased by and transferred from the Swiss center. The payment needs are sent electronically to the center from the subsidiary more than 2 days before the settlement date. Then the center nets the amounts of each currency in order to make the minimum number of foreign-

exchange transactions. The subsidiary, which owes the foreign exchange, settles with the clearing center by the appropriate settlement date. This netting system can cut the total number of transactions with outsider companies in half.

The use of interdivisional leading and lagging makes the cash management system even more flexible. If a subsidiary is a net payer, it may delay or drag payment for up to 2 months while compensating the net receiver at the prevailing interest rate. Net receivers of funds may, at their discretion, make funds available to other subsidiaries at an appropriate interest rate. In this way, the Swiss clearing center serves to bring different subsidiaries together so that they can reduce outside borrowing. The netting with leading and lagging has allowed the company to eliminate intracompany floats and reduce the number of transactions by 80 percent.

Case Questions

1 Why did Navistar choose Switzerland as its clearing center for the company's netting system?
2 What are the direct cost savings of Navistar's netting system?
3 What are the benefits derived from Navistar's netting system in addition to the direct cost savings discussed in question 2?
4 Assume that Navistar hired you as a consultant for its working capital management. How would you advise the company when it faces the following conditions: absence of forward markets, high transaction costs, high political risk, liquidity needs by subsidiaries, and high taxes.
5 Major international banks provide a variety of working capital and cash management services for multinational companies. Use the website of the Bank of America, www.bankamerica.com/, and the website of the Bank of Montreal, www.bmo.com/, to assess their multinational cash management services.

Sources: Navistar International *Annual Report*, various issues; M. D. Levi, *International Finance*, New York: McGraw-Hill, 1996, pp. 427–8; and J. P. Miller, "Navistar Gains Spotlight Amid Volvo's Rumored Interest," *The Wall Street Journal*, Mar. 10, 1999, p. B4.