

Chapter 6

International Logistics, Risk, and Insurance

INTERNATIONAL LOGISTICS

Logistics is a total systems approach to management of the distribution process that includes the cost-effective flow and storage of materials or products and related information from point of origin to point of use or consumption.

There are two categories of business logistics:

1. *Materials management*: In the context of export-import trade, logistics applies to the timely movement or flow of materials/products from the sources of supply to the point of manufacture, assembly, or distribution (inbound materials). This includes the acquisition of products, transportation, inventory management, storage, and the handling of materials for production, assembly, or distribution. For example, products can be assembled in Canada for distribution in Canada and the United States.
2. *Physical distribution*: The second phase relates to the movement of the firm's product to consumers (outbound materials). It includes outbound transportation, inventory management, and proper packaging to reduce damage during transit and storage.

Materials management primarily deals with inbound flow, whereas physical distribution is concerned with the outbound flow of materials or products (Guelzo, 1986). Both inbound and outbound activities are interdependent and influence the company's objective of reducing cost while conforming to customer needs. The interdependence of such activities can be illustrated

by the example of U.S. flower imports from Latin America. Atlantic Bouquet, a U.S. company, purchases most of its flowers from its sister company that has flower farms in Latin America. Continental Air freights the flowers from company-owned farms in Latin America to a warehouse in Miami before they are moved nationwide by air, or by truck for distances of less than 300 miles. A proper management of the logistics system, that is, the unique combination of packaging, handling, storage, and transportation, will ensure that the product is imported and made available to the customer at the right time and place and in the right condition.

The interdependence of functional activities has been articulated through various new approaches or concepts:

1. *The systems approach*: The systems concept is based on the premise that the flow of materials within and outside the firm should be considered only in the context of their interaction (Czinkota, Ronkainen, and Moffett, 1998). This approach puts more emphasis on maximizing the benefits of the corporate system as a whole as opposed to that of individual units.
2. *Total cost approach*: This is a logistics concept based on evaluation of the total cost implications of various activities.
3. *The opportunity cost approach*: This approach considers the trade-off in undertaking certain logistic decisions. For example, the benefits and costs of sourcing components abroad versus buying from domestic sources. Additional costs associated with transportation, increases in safety stock inventory, warehousing costs, and so forth, are examined to ensure that the total opportunity cost of outsourcing abroad is not greater than other available options.

What is the importance of logistics to international trade? One of the major contributions of logistics to international trade is in the area of efficient allocation of resources. International logistics allows countries to export products in which they have a competitive advantage and import products that are either unavailable at home or produced at a lower cost overseas, thus allowing for efficient allocation of resources. For example, natural resource advantages and low-cost labor has enabled Colombia to export flowers to the United States and to import technology. Colombian flower exports have driven less efficient U.S. producers out of their own markets and forced the Dutch out of the rose and carnation markets in the United States (Thuermer, 1998). Such advantages from international trade cannot be realized without a well-managed logistics system. To the extent that logistics facilitates international trade, it contributes to the expansion of economic growth and

employment. As import firms expand their ability to procure needed raw materials or components for their customers, international logistics management becomes a critical source of competitive advantage for both the firms and the customers. Such material procurement and sourcing decisions include the number and location of warehouses, levels of inventory to maintain, as well as selection of the appropriate transportation mode and carrier (Christopher, 1992). The development of advanced logistics systems and capabilities has also increased the efficient production, transportation, and distribution of products. For example, by outsourcing logistics to third-party operators, pharmaceutical and health care companies can reduce costs associated with inventory, overhead, labor, and warehousing. The use of various transportation modes facilitates rapid and consistent delivery service to consumers, which in turn reduces the need for safety stock inventory. Transportation cost is also reduced through shipment consolidation and special contracts with carriers for large shipments without adversely affecting delivery time. In short, a well-managed international logistics system can result in optimal inventory levels and optimal production capacity (in multiplant operations), thereby maximizing the use of working capital. All this helps to strengthen the competitive position of domestic companies in global trade.

EXTERNAL INFLUENCES ON LOGISTICS DECISIONS

A number of external factors influence international logistics decisions.

Regulations

Governments in many countries encourage their domestic carriers to handle their exports or imports since the provision of such transportation services contributes to the nation's balance of payments. This can be illustrated by U.S.–China trade, which is mostly transported by Chinese vessels. This occurs because the Chinese Foreign Trade Agency insists, whenever possible, on terms that allow it to control most of the transportation and thus use its state-run transport companies (Davies, 1987).

International logistics activity in the form of overseas transportation, handling of shipment, and distribution management also creates jobs. Besides the need to earn or save foreign currency and the creation of employment opportunities, governments support their national carriers to ensure national shipping capacity during war or other emergencies. Governments also control or limit the export and import of certain commodities through a host of devices, such as export controls, import tariffs, and nontariff barriers,

for example, quotas or cumbersome import clearance procedures. There are also bilateral negotiations between countries on airline routes and the provision of various services, such as insurance. All this has an influence on international logistics and transportation. The process of privatization and deregulation in transportation and communications has reduced shipping costs and increased productivity. This has also increased the possibilities for different prices and services, thus underscoring the need to integrate marketing and logistics functions.

Competition

The proliferation of new products and services and short product life cycles creates pressures on firms to reexamine their logistics systems. This often requires the need to reduce inventory, lower overall costs, and develop appropriate logistics networks and delivery systems to retain and enhance their customer base. Crucial to the success of any logistics system is also a holistic examination of the relationship among transportation, warehousing, and inventory costs in order to adapt to the changing competitive environment. Such a reexamination of its various logistics functions resulted in a substantial reduction in inventory costs and delivery time for Cisco Systems of San Jose, California, in 1997. The company ships routers to Europe and needed to let customers know when orders would arrive and to be able to reroute an order to fill urgent requests. It hired UPS Worldwide Logistics to handle the various logistics functions. Using its expertise, UPS can now track Cisco's routers from San Jose to European customers in less than four days as opposed to three weeks. In cases in which UPS's planes or trucks cannot offer the quickest route, it subcontracts the job to other carriers such as KLM or Danzas, a European trucking firm. This resulted in more savings in inventories (Woolley, 1997).

Technology

Technology improvements, added to the deregulation of transportation and communications, have transformed the logistics industry. They have helped to increase logistics options, improve performance, and decrease costs. The use of communications technology has now integrated marketing and distribution activities with overseas customers, enabling the latter to know the date of shipment, the location of the cargo on transit, and the expected date of arrival. Importers have achieved total visibility of goods in transit and can make adjustments when a shipment is running late. Such tracking and tracing of cargo has the added advantage of synchronizing promotions

and long-term inventory decisions for customers. Federal Express has recently developed a user-friendly software that tracks and traces shipments, eliminates the preparation of air waybills by hand, and allows printing on bar-coded shipping documents. Rates can be computed by plotting both origin and destination points. Vastera Incorporated, a software firm based in Dulles, Virginia, has also developed a multilingual logistics software package that handles multitask functions such as regulatory compliance and tariff information, documentation, shipment tracking, and letter of credit and duty drawback support (Fabey, 1997).

TYPICAL LOGISTICS PROBLEMS AND SOLUTIONS

Each export-import firm must use a logistics system that best fits its product line and chosen competitive strategy (see Table 6.1 for differences between domestic and international logistics).

Example 1

Arturo Imports, Incorporated, a firm based in Boca Raton, Florida, specializes in the importation of gift articles from South America and the Caribbean. It sells its products through company-owned retail stores in thirty U.S. states. The company has distribution centers in twenty locations all over the country and spends over \$650,000 a year in warehousing costs. Over the past few years, it has come under increasing attack from competitors and has lost about 20 percent of its market share. Its profits also declined by over 15 percent in 2005 alone. The firm hired a consultant to advise it on

TABLE 6.1. Differences Between Domestic and International Logistics

Domestic Logistics	International Logistics
<ul style="list-style-type: none"> • Domestic currency used • One national regulation on customs procedures, documentation, packaging, and labeling requirements • Most goods transported by truck or rail • Generally, short distances, short lead times, and small inventory levels 	<ul style="list-style-type: none"> • Different currency and exchange rates • Different national regulations and many intermediaries participating in the distribution channel (customs brokers, forwarders, banks, etc.) • Most goods transported by air or sea • Long distances, longer lead times, and the need for higher inventory levels

how to reverse the situation. Based on the advice it received, Arturo Imports consolidated its operations in six distribution centers; reduced dead, obsolete, and slow-moving stock; and decreased the likelihood of stock-out (an item that is out of stock) for products customers want to buy. It centralized its purchasing functions and switched to an intermodal air and truck (from ocean and rail) combination to ensure rapid delivery. The company began to see its market share and profit margin grow six months after implementing its new logistics systems.

Example 2

A U.S.-owned export firm in Bangor, Maine, serves a narrow product line in eastern Canada from two distribution centers located in Montreal and Toronto. The company began to reexamine its logistical infrastructure in response to its loss of profits and market share to competitors. It increased the number of branch warehouses and level of fast-moving inventory while reducing the market area served by each warehouse. It also extended its product line. In spite of the additional expenses incurred, the company began to see a marked increase in its profits and sales volume.

THE INTERNATIONAL LOGISTICS PROCESS

In export-import transactions, the following steps represent the approximate order of physical movement and distribution of goods to a foreign buyer.

Step 1

As a result of previous correspondence between the prospective seller and buyer, the prospective customer (buyer) places an order to purchase the desired merchandise, including such essential items as terms of sale, payment method, and other conditions. The parties must ensure that there are no restrictions on the export or import of the merchandise in question. The prospective exporter confirms receipt of the order and commits to fill the order based on the given terms and conditions. The seller's acceptance without modification of the terms creates a binding contract. In the event of any modification by the prospective seller, a binding contract is created only upon acceptance of the proposed modification by the prospective customer. A pro forma invoice is then prepared by the exporter, stipulating the essential terms and conditions of sale, and when accepted by the overseas customer, it may also serve as a contract. The prospective exporter must meet

packaging, labeling, and other documentary requirements. In cases in which the exporter has inventory in different locations or countries, a determination has to be made as to which goods should be supplied on the basis of proximity to customer, tariff benefits, and so on. The exporter prepares the order for transportation. The order is then picked, packed, and labeled.

Step 2

A freight forwarder arranges for goods to be picked up and delivered to a carrier. The freight forwarder selects the transportation mode (airline, ship, truck, etc.) and the carrier, as well as books the necessary space for the cargo. Such decisions will influence packing and documentation requirements. The forwarder confirms booking with the supplier, who will in turn confirm with the overseas customer. If the consignee is different from the buyer, the forwarder notifies the consignee.

Step 3

The carrier loads the cargo and the merchandise is transported to the customer. Unless otherwise stipulated in the contract, the buyer is responsible for the cost of preshipment inspection. Many developing countries have adopted this practice primarily to conserve foreign currency earnings and to control illegal flights of currency through transfer pricing, that is, overinvoicing of imports and underinvoicing of exports. Preshipment inspection also ensures that the shipment conforms to the contract of sale. However, it is costly and time-consuming for exporters and delays the physical movement and distribution of merchandise. Appropriate precautions should be taken to detect and control possible diversion of merchandise into the gray market. Export products may be sold below domestic prices if domestic advertising or R & D is not allocated to the export price. Such export products, if diverted to the domestic market, could potentially undermine the exporter's market position. Some of the warning signs of potential diversion include offers of cash payment when the terms of sale would normally call for financing, little or no background in the particular business, vague delivery dates, or shipping instructions to domestic warehouses. After the merchandise is transported, the forwarder sends the necessary documentation, that is, the commercial invoice, customs invoice, packing list, bill of lading or air waybill, and certificate of origin, to the customs broker who clears goods for the overseas customer at the port of destination.

Step 4

The customs broker submits documents to customs to obtain release of the merchandise. In some countries, assessed taxes and duties have to be paid before release of the merchandise. Customs may also physically examine the merchandise. Penalties may be imposed if any serious errors or problems are found in the documentation or with the imported merchandise. The customs broker informs the forwarder of the release of the merchandise.

Step 5

If the terms of sale provide for the seller to obtain release of merchandise from customs and deliver to the consignee, the forwarder picks up the merchandise from customs and arranges for delivery to the consignee. This step depends on the terms of sale. The consignee signs the bill of lading or air waybill, noting any irregularities, and accepts the merchandise (for attributes of a good logistics system, see International Perspective 6.1).

INTERNATIONAL PERSPECTIVE 6.1.

Attributes of a World Class Logistics System: Denmark

Denmark held the world's top spot in logistics. Its excellence in logistics is attributed to a number of factors:

- *Investment in infrastructure:* International airport within about thirty minutes of ten international ports and free trade zones. It provides direct access to European rail and highway network with direct connections to many European cities. It has international forwarders and integrators with bonded warehouse facilities. It provides substantial investment for infrastructure maintenance and development (bridges, airport, and seaport). It has efficient air cargo handling facility. Customs clearance of goods is done before payment of duties, with minimum red tape. Information technology helps streamline procedures for exports or imports and links shippers and consumers.
- *Human resources:* Highly skilled and motivated labor force, twenty-four-hour/seven-day operations and good management-labor relations (walkouts or strikes are virtually nonexistent).
- *Business environment:* Availability of free trade zones and bonded warehouses, low trade restrictions with a stable economic/political environment.

LOGISTICS FUNCTIONS

Labeling

Importers are required to comply with domestic labeling laws. Even though an imported product may comply with the labeling requirements of the country where it was manufactured, it may not comply with the labeling laws of the importing country. Labeling requirements are imposed in many countries to ensure proper handling (e.g., “do not roll”; “keep frozen”) or to identify shipments (e.g., “live animals”). Exporters need to be aware of certain labeling requirements to avoid unnecessary delays in shipping. The cartons or containers to be shipped must be labeled with the following: shipper’s mark or purchase order number, country of origin, weight in both pounds and kilograms, the number of packages, handling instructions, final destination and port of entry, and whether the package contains hazardous material. Markings should appear on three faces of the container. It is also advisable to repeat the instructions in the language of the importing country.

Under the U.S. Clean Air Act (amended in 1990), all products containing ozone-depleting substances are required to be labeled. More detailed and specific regulations can be obtained from freight forwarders, since they keep track of changing labeling laws in various countries.

Packing

The rigors of long-distance transportation of goods require protection of merchandise from possible breakage, moisture, or pilferage. This means that goods in transit must be packed not only to allow the overseas customer to take delivery of the merchandise but also to ensure its arrival in a safe and sound condition. Consumers in many countries often prefer packaging with recyclable or biodegradable containers due to environmental concerns. For example, about 70 percent of packaging material used in any of the federal states in Germany must be recycled or reused. Packaging cost has an influence on product design. In certain cases, it is considered less costly to ship disassembled parts or dense cargo to save shipping cost.

Merchandise should be packed in strong containers, adequately sealed, and filled, with the weight evenly distributed. Goods should be packed on pallets if possible, to ensure greater ease in handling, and containers should be made of moisture-resistant material. Packing must be done in a manner that will ensure safe arrival of the merchandise and facilitate its handling in transit and at its destination (see International Perspective 6.2 for an example of product packing tips).

INTERNATIONAL PERSPECTIVE 6.2. Packing Handicraft Exports: Important Pointers

Prior to packaging: Dusting, cleaning, removing fingerprints, and drying items.

Major problems to consider in packaging: Tarnishing, corrosion, staining, decay, breakage, moisture.

Preventing moisture: Use of a drying agent (silica gel) to reduce humidity, reducing surface area of package, drying items, and packaging materials in packages with a moisture tight seal.

Preventing damage: Cushioning fragile or high-cost handicrafts. Handicrafts exported in large quantities should be palletized when possible.

Heavy items: For heavy handicrafts, wooden boxes are recommended.

Small items: Bulk packaging with separators to protect individual items.

Outer packaging: Corrugated fiber-board and wooden boxes are recommended.

Insufficient packing not only results in delays in the delivery of goods but will also entitle the customer to reject the goods or claim damages. Export products must be packed to comply with the laws of the importing country. For example, Australia and New Zealand prohibit the use of straw or rice husk as packaging materials. The United Nations has adopted standards for packaging hazardous materials and provides for training of personnel, use of internationally accepted standards, and certain other conditions. Freight forwarders and marine insurance companies can advise on packaging.

Traffic Management

Traffic management is the control and management of transportation services. Such functions include selection of mode of transportation carriers, consolidation of small cargo, documentation, and filing of loss and damage claims. The international logistics manager's selection of a given mode of transportation depends on a number of factors. First, for products that are perishable, such as cut flowers, delivery speed is of the essence. Speed may also be required in cases involving important delivery dates or deadlines. In such cases, airfreight becomes the only viable mode of transport to successfully deliver the product to the overseas customer on time. Airfreight is also more reliable than other modes of transport that have more cumbersome unloading operations, which could expose the cargo to loss or damage. Second, the selection of transportation mode is influenced by cost considerations.

Since airfreight is more expensive than other modes of transport, the international logistics manager has to determine whether such high costs are justified. Export firms tend to transport compact products or high-priced items by air because such products are more appropriate for airfreight or because the price justifies the cost. Third, government pressures could be imposed on exporters to transport by national carriers, even when other more economical alternatives exist. The choice of airport or port may be another important decision to be made. Such choices may be influenced by the desire to consolidate cargo or the presence of adjoining highways (to the port) on which weight limits are not rigorously enforced (Guelzo, 1986).

Inventory and Storage

The proper management of an export-import firm's inventory is a critical logistics function. The costs associated with holding inventories can easily account for 25 percent or more of the value of the inventories themselves and could potentially create liquidity problems for many firms. In addition to this are the cost of storage, interest paid on borrowed money, and the risks of deterioration and obsolescence. It is important to establish certain guidelines with respect to such issues as maximum holding period, time of shipment of inventories to the supplier, and other related factors. Acceptable levels of inventory can still be maintained to serve overseas customers on time without unduly increasing costs and creating storage problems. To reduce warehousing costs, it may be necessary to store inventory in distribution centers based on customer needs. Inventories that are slow moving (no activity for six to twelve months) can be shipped from the exporter or manufacturer. Appropriate inventory planning and control will reduce the number of storage facilities as well as carrying and freight costs.

In certain situations, accumulating inventories may have its own benefits. In countries that have certain macroeconomic problems, inventory may be a good edge against inflation and devaluation of currency.

RISKS IN FOREIGN TRADE

Businesses conducting export-import trade face a number of risks that may adversely impact their operations, such as the following:

- Actions of legitimate government authorities to confiscate cargo, war, revolution, terrorism, and strikes that impede the conduct of international business (political risk)
- Nonpayment or delays in payment for imports (foreign credit risk)

- Loss (partial/total) or damage to shipment during transit (transportation risk)
- Depreciation of overseas customer's currency against the exporter's currency before payment or the nonavailability of foreign currency for payment in the buyer's country (foreign exchange/transfer risk)

Political Risks

Many export-import businesses are potentially exposed to various types of political risks. War, revolution, or civil unrest can lead to destruction or confiscation of cargo. A government may impose severe restrictions on export-import trade, such as limitation or control of exports or imports, restrictions of licenses, currency controls, and so on. Even though such risks are less likely in Western countries, they occur quite frequently in certain developing nations. Such risks can be managed by taking the following steps.

Monitoring Political Developments

Private firms offer monitoring assistance to assess the likelihood of political instability in the short and medium term. Such information can be obtained from specialized sources for specific countries such as political risk services (e.g., Political Risk Services of Syracuse, a unit of International Business Communications, Incorporated), the Economic Intelligence Unit, Euromoney, and Business International Corporation. Public agencies such as the Export-Import Bank of the United States (Ex-Im Bank) and the Department of Commerce also provide country risk reports.

Insuring Against Political Risks

Most industrialized nations provide insurance programs for their export firms to cover losses due to political risks. In the United States, Ex-Im Bank offers a wide range of policies to accommodate many different insurance needs of exporters. Private insurers cover ordinary commercial risk, but Ex-Im Bank assumes all liability for political risks (see Chapter 14 on government export financing).

Foreign Credit Risks

A significant percentage of export trade is conducted on credit. It is estimated that approximately 35 to 50 percent of exports of the United States and the United Kingdom are sold on open account and/or consignment

(Seyoum and Morris, 1996). This means that the risk of delays in payment or nonpayment could have a crucial effect on cash flow and profits. Payment periods vary across countries, and even within countries that have close economic relations, such as the European Common Market, payment periods range from forty-eight days in the Netherlands to ninety days in Italy. Payments are, on average, eighteen days overdue in Germany, twenty-three in the United Kingdom, nineteen in France, and twenty in Italy (Luesby, 1994). Payment practices appear to be a function of the global/local economic conditions as well as the local business culture. In many developing countries, delays may be due to foreign exchange shortages, which in turn result in delays by central banks in converting local currencies into foreign exchange. The likelihood of bad debt from an overseas customer (0.5 percent of sales) is generally less than that for an American company. However, this does not provide comfort to an exporter whose cash flow and profit could be adversely affected by late payments and default. Beans Industries, once part of the British Leyland group, which makes automotive components, was taken into receivership in 1994, despite increased demand for its products, due to bad debts and late payments that had a dramatic effect on cash flow (Cheeseright, 1994). A default by an overseas customer is costly even when the exporter has insurance to cover commercial credit risks. The exporter must follow strict procedures to obtain payment before insurance claims will be honored. The following measures will help export companies in dealing with problems of defaults and/or delays in payment.

Appropriate Credit Management

Appropriate credit management involves the review of credit decisions based on current and reliable credit reports on overseas customers. Credit reports on foreign companies can be obtained from international banks that have affiliates in various countries and private credit information sources such as Dunn and Bradstreet, Graydon America, Owens Online, TRW Credit Services, and the NACM (National Association of Credit Management Corporation). A number of foreign credit information firms also provide accurate and reliable information on overseas customers. Government agencies such as the U.S. Department of Commerce, the Ex-Im Bank, and FCIA (Foreign Credit Insurance Association) also offer credit reporting services on foreign firms. Export firms also need to have a formal credit policy that will help them recover overdue or bad debts and substantially reduce the occurrence of such risks in future.

Requiring Letters of Credit and Other Conditions

A confirmed, irrevocable letter-of-credit transaction avoids risks arising from late payments or bad debts because it ensures that payments are made before the goods are shipped to the importer. However, such requirements (including advanced payments before shipment) do not attract many customers, and exporters seeking to develop overseas markets often have to sell on open account or consignment to enable the foreign wholesaler or retailer to pay only after the goods have been sold. The exporter can also require the payment of interest when payment is not made within the time period agreed or, failing that, within a given number of days. The introduction of a similar measure in Sweden in the mid-1970s is believed to have substantially reduced the delinquency of late payments to fewer than seven days. The European Commission submitted a draft recommendation to discourage late payments in cross-border trade (European Commission, 1994). Another safeguard would be to secure collateral to cover a transaction.

Insuring Against Credit Risks

Many export firms do not insure trade receivables, and yet, such cover is as necessary as fire or car insurance. It is estimated that in most developed countries, less than 20 percent of trade debts are insured. Credit insurers tend to have extensive databases that allow them to assess the credit worthiness of an insured's customer. This helps export companies to distinguish those buyers with the money to pay for their orders from those which are likely to delay payments or default. A credit insurance policy also provides confidence to the lender and may help exporters obtain a wide range of banking services and an improved rate of borrowing.

Few private insurance firms cover foreign credit risk: American Credit Indemnity, Continental Credit Insurance, Fidelity and Deposit Company, and American Insurance Underwriters are among those that provide such coverage. Such firms could be contacted directly or through brokers stationed in various parts of the country. Policies often cover commercial and political risks, although, in some cases, they are limited to insolvency and protracted default in eligible countries. Minimum premiums range from \$1,250 per policy year to \$10,000.

Ex-Im Bank provides various types of credit insurance policies: credit insurance for small businesses (umbrella policy, small business policy), single and multibuyer policies, Overseas Private Investment Corporation, the bank letter-of-credit policy, and so on. Its major features are U.S. content requirements and restrictions on sales destined for military use or to communist nations (see Chapter 14, "Government Export Financing Programs").

Foreign Exchange Risks

Export-import firms are vulnerable to foreign exchange risks whenever they enter into an obligation to accept or deliver a specified amount of foreign currency at a future point in time. These firms could face a possibility that changes in foreign currency values could either reduce their future receipts or increase their payments in foreign currency. Different methods are used to protect against such risks, for example, shifting the risk to third parties or to the other party in an export contract (for details, see Chapter 10 on exchange rates and trade).

MARINE AND AVIATION INSURANCE

Export-import firms depend heavily upon the availability of insurance to cover against risks of transportation of goods. Risks in transportation are an integral part of foreign trade, partly due to our inability to adequately control the forces of nature or to prevent human failure as it affects the safe movement of goods. Insurance played an important part in stimulating early commerce. In Roman times, for example, money was borrowed to finance overseas commerce, whereby the lender would be paid a substantial interest on the loan only if the voyage was successful. The loan was canceled if the ship or cargo was lost as a result of ocean perils. The interest charged in the event of a successful voyage was essentially an insurance premium (Greene and Trieschmann, 1984; Mehr, Cammack, and Rose, 1985).

The primary purpose of insurance in the context of foreign trade is to reduce the financial burden of losses arising from the movement of goods over long distances. In export trade, it is customary to arrange extended marine insurance to cover not only the ocean voyage but also other means of transport that are used to deliver the goods to the overseas buyer. According to W. R. Vance, there are five essential elements to an insurance contract:

1. The insured must have an insurable interest, that is, a financial interest based on some legal right in the preservation of the property. The insured must prove the extent of the insurable interest to collect, and recovery is limited by the insured's interest at the time of loss.
2. The insured is subjected to risk of loss of that interest by the occurrence of certain specified perils.
3. The insurer assumes the risk of loss.

4. This assumption is part of a general scheme to distribute the actual loss among a large group of persons bearing similar risks.
5. As a consideration, the insured pays a premium to a general insurance fund. (Vance, 1951)

Since insurance is a contract of indemnity, a person may not collect more than the actual loss in the event of damage caused by an insured peril. An export firm, for example, is not permitted to receive payment from the carrier for damages for the loss of cargo and also recover for the same loss from the insurer. On paying the exporter's claim, the insurer stands in the position of the exporter (insured party) to claim from the carrier or other parties who are responsible for occasioning the loss or damage. This means that the insurer is subrogated to all the rights of the insured after having indemnified the latter for its loss. This is generally described as the principle of subrogation. Another point to consider is whether an exporter, as an insured party, can assign the policy to the overseas customer. It appears that assignment is generally allowed insofar as there is an agreement to transfer the policy with the merchandise to the buyer and the seller has an insurable interest during the time when the assignment is made.

Marine Insurance

Marine policy is the most important type of insurance in the field of international trade. This is because (1) ocean shipping remains the predominant form of transport for large cargo, and (2) marine insurance is the most traditional and highly developed branch of insurance. All other policies, such as aviation and inland carriage, are largely based on principles of marine insurance. Practices and policies are also more standardized across countries in the area of marine insurance than in insurance of goods carried by land or air (Day and Griffin, 1993).

Term of Policy

Cargo policies may be written for a single trip or shipment (voyage policy), for a specified period (time policy), usually one year, or for an indefinite period (open policy), that is effective until canceled by the insured or insurer. The majority of cargo policies are written on open contracts. Under the latter policy, shipments are reported to the underwriter as they are made and premium is paid monthly based on the shipment actually made. The time policy differs from the open contract not just in the term of the policy, but also with respect to the premium payment method. Under the time pol-

icy, a premium deposit is made based on an estimated future shipment and adjustments are later made by comparing the estimates with the actual shipment. Another version of open policy is one that is generally available to exporters/importers with larger shipments. It covers most of the shipper's needs and has certain deductibles (blanket policy). Under a blanket policy, the insured is not required to advise the insurer of the individual shipments and one premium covers all shipments.

Types of Policies

There are two general types of marine cargo insurance policies:

1. **Perils-only policy:** This policy generally covers extraordinary and unusual perils that are not expected during a voyage. The standard perils-only policy covers loss or damage to cargo attributable to fire or explosion, stranding, sinking, collision of vessel, general average sacrifice, and so on. Such policies do not generally cover damage due to unseaworthiness of vessel or pilferage. An essential feature of such a policy is that underwriters indemnify for losses that are attributable to expressly enumerated perils. The burden is on the cargo owner to show that the loss was due to one of the listed perils.

Export-import companies have the option of purchasing additional coverage (to include risk of water damage, rust, or contamination of cargo from oil, etc.) or take an all-risks policy that provides broader coverage.

2. **All-risks policy:** The all-risks policy provides the broadest level of coverage except for those expressly excluded in the policy. A typical clause reads:

To cover against all risks of physical loss or damage from any external cause irrespective of percentage, but excluding, nevertheless, the risk of war, strikes, riots, seizure, detention, and other risks excluded by the F.C. & S. (free of capture and seizure) (losses due to war, civil strife, or revolution) warranty and the S.R. & C.C. (strikes, riots, and civil commotion) warranty, excepting to the extent that such risks are specifically covered by endorsement.

In the case of all-risks policy, the burden to prove that the loss was due to an excluded clause rests with the underwriter. Additional coverage can be provided through an endorsement on the existing all-risks policy or through a separate war-risks policy.

Extent of Coverage for Cargo Loss/Damage

Marine insurance policies generally specify the extent of coverage provided under the policy. Levels of cargo coverage fall into two broad categories: with average (WA) and free of particular average (FPA). This indicates whether the policy covers less than total losses (WA) or only total losses (FPA). With average covers total as well as partial losses. Most WA policies limit coverage to those losses that exceed 3 percent of the value of the goods. A standard WA coverage may read:

Subject to particular average if amounting to 3 percent, unless general or the vessel and/or craft is stranded, sunk, burnt, on fire, and/or in collision, each package separately insured or on the whole.

This policy provides protection against partial losses by sea perils if the damage amounts to 3 percent or more of the value of the shipment. If the vessel is stranded, sunk, etc., the percentage requirement is waived and the losses are recovered in full.

Free of particular average provides limited coverage. This clause provides that in addition to total losses, partial losses from certain specified risks such as stranding or fire are recoverable. A standard FPA clause reads:

Free of particular average (unless general) or unless the vessel or craft be stranded, sunk, burnt, on fire, or in collision with another vessel.

Exporters that sell on credit and use terms of sale where the buyer is responsible for insurance (free alongside ship [FAS], free on board [FOB], and so on) should consider taking out contingency insurance for the benefit of the overseas buyer in case the latter's insurance becomes inadequate to cover the loss. By paying a small premium for such insurance, the exporter creates a favorable condition for the buyer to pay for the shipment. Contingency insurance is supplementary to the policy taken out by the overseas buyer, and recovery is not made under the policy unless the buyer's policy is inadequate to cover the loss.

Marine cargo insurance covers only the period when the goods are on the ship. The marine extension (warehouse to warehouse clause) extends the standard marine coverage to the period before the loading of the goods and the period between off loading and delivery to the consignee.

Insurance Policy versus Certificates

An insurance company may issue an insurance policy (policy) or a certificate. If the insurer issues only policies, an application must be completed

by the insured for each shipment and delivered to the insurer or agent before a policy is prepared and sent to the former. This can be time-consuming. However, in the case of certificates, the insurer provides a pad of insurance certificates to the exporter or importer, and a copy of the completed certificate (with details of goods, destination, type and amount of insurance required, etc.) is mailed to the insurance company whenever a shipment is made. Certificates save time and facilitate a more efficient operation of international business transactions.

Open policies for import/export shipments are often reported by using declaration forms which require the completion of certain particulars such as points of shipment and destination, description of units, amount of insurance, etc. When full information is not available at the time a declaration is made, a provisional report may be submitted to the insurance agent (this is closed when value is finally known). They are prepared by the assured and forwarded daily, weekly, or as shipments are made. The premium is billed monthly based on the schedule of rates provided in the policy.

Insurance policies or certificates are often used in the case of exports since the exporter must provide evidence of insurance to banks, customers, or other parties in order to permit the collection of claims abroad. Besides what is often included in declarations, policies/certificates include additional information such as names of beneficiary (usually assured or "order") thus making the instrument negotiable upon endorsement by the assured. Whether the policy/certificate is prepared by the assured, freight forwarder, or agent, it is important to describe the shipment in sufficient detail.

General Average: Illustration

A vessel carrying a cargo of copper was stranded and part of the cargo had to be sacrificial (thrown away) to lighten the vessel. The vessel had sustained certain damage and a salvage vessel was employed to refloat it. Adjustment of the general average will be as follows:

Value of the cargo (thrown away) less duty and handling charges	10,000
Cost of repairs for vessel (chargeable to general average)	40,000
Services for salvaging vessel	35,000
Disbursement at port and other charges	15,000
<i>Total "vessel" sacrifice</i>	<i>90,000</i>
Amount to be allowed in general average	100,000

Value of cargo (including sacrifice)	100,000	
Value of vessel (including sacrifice)	300,000	
<i>Total contributory value</i>	<i>400,000</i>	
Rate of general average contribution	100,000/400,000	25%
<i>Cargo's contribution</i>	25% (100,000) = 25,000	
<i>Vessel's contribution</i>	25% (300,000) = 75,000	

Cargo owner's liability = Assigned contribution 2 value of cargo sacrificed

Thus, 25,000 – 10,000 = 15,000 (to pay)

Vessel's liability = Assigned contribution 2 vessel's sacrifice

Thus, 75,000 – 90,000 = 15,000 (to receive)

Air cargo insurance: A modified form of marine insurance coverage is issued for air cargo insurance. Some airlines sell their own coverage.

CLAIMS AND PROCEDURES

Claims

Shippers can claim from carriers or insurers with respect to loss or damage to their cargo. Shippers often attempt to recover from carriers when they have a reasonable basis to believe that the loss or damage was caused by the negligent act or omission of the carriers that was easily preventable through exercise of due diligence in the transportation and handling of the cargo. Another motivating factor for the insured to obtain a satisfactory settlement with carriers could be to maintain a healthy loss to premium and keep premiums low. It could also be that the loss or damage is not covered by the insurance policy. However, in most cases, shippers claim from their insurers partly because carriers reject claims received from the insured or because the shippers find that the adjustment for loss or damage is inadequate due to liability limitations. It may also be that some shippers find it more convenient and efficient to handle claims with insurance companies.

Settling losses under insurance contracts is the function of claims management. Claims management is often accomplished through employed (in-house) or independent adjusters who negotiate settlement with the insured. The claims department is responsible for ascertaining the validity of the loss, investigating, estimating the extent and amount of the loss, and finally

approving payment of the claim. It is important to note the following in relation to insurance claims:

- To recover, the loss or damage incurred by the insured must be covered by the insurance policy. The insurer will avoid liability if the particular risk is specifically excluded or is not reasonably attributable to the risk insured against.
- The burden of proof falls on the insured to show that the loss or damage to the cargo is covered by the policy.
- The insured must take prudent measures to protect the merchandise from further loss or damage. Under the sue and labor clause that is incorporated in most cargo insurance contracts (see International Perspective 6.3 for other typical clauses), the insured is required to take all necessary steps to safeguard the cargo and save it from further damage, without in any way prejudicing its rights under the policy. The underwriter agrees to pay any resulting expense (for types of cargo loss/damage, see Table 6.2 and International Perspective 6.4).
- Once the insurance company settles the insured's claim, it could exercise its subrogation right to claim from parties responsible for the loss or damage. Under the principle of subrogation, the right to recover from carriers and other parties who are responsible for the loss or damage passes from the insured to the insurer on payment of the insurance money. Since the insurer stands in the shoes of the insured in claiming from third parties, the insurer does not have a better right than what the insured possessed. Any payments obtained by the insured shipper from the carrier or other parties must be transferred to the insurer (after settlement with insurer) because under the principle of subrogation, the insured is not allowed to recover more than once for the same loss.

Claims are generally valid for two years from the date of arrival for air shipments and one year in the case of ocean shipments. Claims are invalid if not initiated within this period unless legal action is pursued.

Typical Steps in Claim Procedures

Step 1

Preliminary notice of claim: The export-import firm (insured) must file a preliminary claim by notifying the carrier of a potential claim as soon as the loss is known or expected. A formal claim may follow when the nature and value of the loss or damage is ascertained.

INTERNATIONAL PERSPECTIVE 6.3. Typical Clauses in Cargo Insurance Contracts

1. *Inchmaree clause*: This clause covers any loss or damage to cargo due to the bursting of boilers, breakage of shafts, or any latent defect in the machinery, as well as from negligence of the captain or crew when it is the proximate cause of a loss.
2. *Free of particular average clause*: This relieves the insurer of liability for partial cargo losses, except for those caused by the stranding, sinking, burning, or collision of the vessel with another.
3. *The labels clause*: In the case of damage to labels, capsules, or wrappers, the insurer is not liable for more than the cost of the new items and the cost of reconditioning the goods.
4. *The delay clause*: This relieves the insurer of liability for loss of market due to delay in the delivery of the cargo.
5. *The general average clause*: A general average loss occurs when a sacrifice is voluntarily made or an expense is incurred in times of imminent peril to preserve the common interest from disaster. Payments of apportioned losses are secured by a general average deposit before goods are released by the carrier. When the actual shipper's share is established, appropriate adjustments are made and any excess is returned. A general average clause covers the amount of the insured shipper's contribution.
6. *Craft and lighter clause*: In this clause, the insurer agrees to provide lighters or other craft to deliver cargo within the harbor limits.
7. *Marine extension clause*: Under this clause, no time limit is to be imposed on the insurance coverage at the port of discharge while goods are delayed in transit to final destination insofar as the delay is occasioned by circumstances beyond the control of the insured.
8. *Shore clause*: This covers certain risks to cargo, such as collision, hurricane, floods, and so on, while the goods are on docks, wharves, or elsewhere on shore.
9. *Warehouse to warehouse clause*: This covers cargo while on transit between the initial point of shipment and the point of destination, subject to terms of sale and insurable interest requirement. The policy is effective from the time the goods leave the warehouse/store named in the policy for the commencement of transit to the final warehouse at the point of destination stated in the policy.

Step 2

Formal notice of claim: The consignee must file a formal claim with the carrier and the insurance company once the damage or loss is ascertained. The claim should include costs such as the value of the cargo, inland freight,

TABLE 6.2. Types of Losses

<i>Total Loss</i>	
1. Actual total loss	Goods are completely damaged or destroyed or so changed in their nature as to be unmarketable.
2. Constructive total loss	Actual loss is inevitable (such as frustration of voyage for an indefinite time), or damaged cargo can only be saved at considerable cost (i.e., cost greater than its value).
<i>Partial Loss</i>	
1. General average loss	These are goods sacrificed as part of a general average act or as a cargo owner's contribution for the general average loss of others.
2. Particular charges	These are expenses incurred to prevent loss or damage to insured cargo from risk that is insured against. <i>Example:</i> expenses for extra fodder for a cargo of horses while the ship is under repair for hurricane damage that was covered under the policy.
3. Particular average loss	This includes partial losses that are not covered by general average and particular charges.

ocean/airfreight, documentation, and other items. If the insurance policy is 110 percent of the cost in freight (CIF) value, the insured could add 10 percent of the value of the goods to the claim. Assuming that the insured intends to claim from the insurer (not the carrier), the insured should arrange for a survey with the claims agent of the insurance company. The formal claim form should be submitted with certain documents: a copy of the commercial invoice; a signed copy of bill of lading/air waybill; the original certificate of insurance; a copy of the claim against the carrier, or reply thereto; the survey report, if done by the surveyor; the packing list; and a copy of the receipt given to the carrier on delivery of the merchandise. It could also include photographs, repair invoice, and an affidavit from the carrier, if possible.

Step 3

Settlement of claim: If the claim is covered by the policy and claims procedures are appropriately followed, the insurance company will pay the insured. If the insurance company declines to approve payment, the insured could pursue arbitration or other dispute settlement procedures as provided in the insurance contract.

INTERNATIONAL PERSPECTIVE 6.4. Cargo Loss or Damage

A number of factors contribute to the loss or damage of cargo in transit. It is often stated that over 80 percent of all cargo losses are preventable. We examine some of the major preventable causes for cargo loss or damages as well as some ways of minimizing it.

- A. *Theft*: Appropriate packing, use of shrink-wrapping, strapping and branding, specifically patterned sealing tapes (enables quick detection of tampering), and use of coded markings. Containerized shipments should be sealed after loading. Theft accounts for 20 percent of cargo loss.
- B. *Handling and storage*: Internal blocking and bracing to distribute weight, cushioning to absorb shocks and vibrations, palletizing the cargo, use of cautionary markings and handling instructions, and not exceeding the weight/volume capacity of package and/or container. Poor handling and storage account for 40 percent of cargo loss.
- C. *Water damage*: Waterproof wrapping and waterproof linings on the interior of outer packages, elevating cargo above any drainage area, drain holes for containers to prevent accumulation of water. Water damage accounts for 15 percent of cargo loss.

The claim is filed by the party that assumes the risk of loss on transit. For example, in CIF contracts, the exporter takes out an insurance policy for the benefit of the buyer and the risk of loss is transferred to the buyer once goods are put on board the vessel at the port of shipment. The exporter will send the necessary documents and detailed instructions to the overseas customer (consignee) to follow in the event of loss or damage. The consignee should be instructed to examine the goods upon delivery to determine any apparent or concealed loss or damage to cargo. Any loss or damage discovered upon such inspection should be noted on the carrier's delivery receipt or air waybill. Once the carrier obtains a clean receipt from the consignee, it becomes difficult for the latter to successfully make a claim.

The best way to deal with claims is to prevent the occurrence of loss or damage to cargo as much as is practically feasible. It is estimated that proper packing, handling, and stowage can prevent about 70 percent of cargo loss or damage. The frequent occurrence of damage or loss to cargo not only becomes a source of friction or suspicion on the part of insurance companies but also discourages the growth and expansion of trade. It could also have the effect of reducing sales abroad if overseas customers are discouraged by

the frequency of such occurrences, since it could consume the parties' time and effort. If payment has already been made to the exporter, the buyer's capital is tied up with merchandise that cannot be sold.

CHAPTER SUMMARY

Logistics

The process of planning, implementing, and controlling the flow and storage of materials from the point of origin to the point of consumption.

Two categories of logistics:

1. *Materials management*: The timely movement of materials from sources of supply to point of manufacture, assembly, or distribution.
2. *Physical distribution*: Movement of a firm's products to consumers.

Logistics concepts:

1. The systems approach: Emphasis on maximizing benefits of the corporate system as a whole as opposed to that of individual units.
2. The total cost approach.
3. The opportunity cost approach.

Importance of logistics to international trade:

1. Efficient allocation of resources.
2. Expansion of economic growth and employment.

External influences on logistics decisions:

1. Regulations: Export controls, tariffs, nontariff barriers, privatization and deregulation of transportation and communications.
2. Competition: Competitive pressures on firms to examine logistics systems, that is, to reduce costs etc.
3. Technology: New technologies now enable importers to know the date of shipment, location of cargo on transit and expected date of arrival. It also handles other logistics functions.

Logistics functions:

Labeling, packing, traffic management, inventory, and storage.

Risks in Foreign Trade

1. *Political risks*: Actions of government authorities, war, revolution, terrorism, strikes.
Managing political risk: Monitoring political developments, insuring against political risks.
2. *Foreign credit risk*: Risks of buyer's default or delay in payment.
Managing foreign credit risk: Appropriate credit management, letter of credit and other conditions, insurance.
3. *Foreign exchange risk*: Changes in currency values that could reduce future exporter's receipts or increase importer's payments in foreign currency.
Managing foreign exchange risk: Shifting the risk to the other party or to third parties.
4. *Transportation risk*: Loss or damage to merchandise during transit.

Insurance

Two essential principles:

1. *The principle of insurable interest*: A financial interest based on some legal right in the preservation of the insured property.
2. *The principle of subrogation*: On paying the insured's claim, the insurer stands in the position of the former (the insured) to claim from other parties who are responsible for the loss or damage.

Marine Insurance

Term of policy:

1. *Voyage policy*: Policy for a single trip
2. *Time policy*: Policy for a specified trip
3. *Open policy*: Policy for an indefinite period of time

Policies for cargo loss/damage:

1. *Free of particular average*: Policy covers total loss and partial loss from certain specified risks insured against.
2. *Within average policy*: Policy covers total loss and partial losses greater than a given percentage and insurer liable for the total amount lost.

Claims and Procedures

Claims for loss or damage to shipment on transit can be claimed from carriers or insurers. Most cargo claims are settled with insurance companies.

Typical claims procedures: Preliminary notice of claim, formal notice, and settlement.

REVIEW QUESTIONS

1. Discuss the importance of logistics to international trade.
2. What is the systems approach to logistics?
3. State the external factors that influence international logistics decisions.
4. What is materials management and how does it differ from physical distribution?
5. State some of the differences between domestic and international logistics.
6. What are political risks in foreign trade? How can it be managed?
7. What kinds of risks does marine insurance cover? How does an FPA policy differ from WA policy?
8. A shipper obtains a marine policy covering the shipment of textiles from China to Poland. The declared value of the shipment was \$15,000 although the real (market) value of the merchandise was \$7,500. If the goods are lost at sea, is the insurance company liable for \$15,000?
9. How does actual total loss differ from constructive total loss? What is general average loss? You receive compensation from a marine insurance company because your goods were jettisoned from a ship as a general average act. Does the insurance company have a claim for general average against the ship owner and the other cargo owners?
10. Discuss typical steps followed in claims from carriers or insurers with respect to loss or damage to cargo.

CASE 6.1. MARINE INSURANCE

Actual total loss versus constructive total loss: Goods are regarded as having become an *actual total loss* as soon as they cease to be goods of the kind insured from a commercial point of view. It occurs where a ship or goods have been actually lost and the freight can no longer be recovered. The three elements that constitute actual total loss include the following:

1. Destruction of subject matter: Destruction of cargo ship by fire, sinking, or enemy attack.
2. The subject matter ceases to be of the kind insured: *Example:* A cargo of dates is damaged by water in the cargo hold that makes it unfit for human consumption. A cargo of tobacco is rendered worthless by the stench of rotten hides that are damaged by the entry of sea water into the cargo hold.
3. The insured is deprived of the subject matter: *Example:* Capture or seizure of a ship by an enemy could amount to irretrievable deprivation.

There is *constructive total loss*, where the subject matter insured is reasonably abandoned on account of its actual total loss appearing to be unavoidable or because it could not be preserved from actual total loss without an expenditure which would exceed its value. Constructive total loss occurs under any of the following circumstances:

1. The insured is deprived of the possession of the ship or goods by a peril insured against. *Example:* A cargo of goods is detained by the enemy and there is no likelihood of recovery within a reasonable time.
2. The cost of repair is in excess of the value of the property. In the case of damage to the ship, the cost of repairing the damage would exceed the value of the ship when repaired. *Example:* An old cargo vessel was being towed to a particular location to be dismantled and broken apart. During the passage, the vessel ran aground on the Florida coast. The owner contends that it will be quite expensive to bring it to the shore. He intends to hire a company to rescue the cargo ship. The ship had no cargo on board when it ran aground.

CASE 6.2. MARINE INSURANCE: INCHMAREE CLAUSE

A forty-foot wooden hull fishing vessel sprang an unexpected leak a few days after leaving port. As more water entered the vessel, the engine was flooded and the vessel eventually sank. Inspection of the vessel during the leak showed that the water was coming from underneath a refrigerated space in the front part of the vessel. In view of its construction style, the bilge underneath the vessel was inaccessible. The underwriter refused to indemnify the insured for the loss of the vessel by claiming that the latter had not exercised diligence to make the vessel seaworthy prior to the developing of the

leak (as provided under the Inchmaree clause). The owner/master of the ship had no knowledge of the leak before the ship started its voyage.

Questions

1. Is this actual or constructive total loss? Explain your answer (Case 6.1).
2. In Case 6.2, do you think the loss is covered under the policy (see International Perspective 6.3)?

