INTERNATIONAL FINANCIAL MANAGEMENT

Jeff Madura

14TH EDITION

International Financial Management

14th Edition

Jeff Madura

Florida Atlantic University

Australia • Brazil • Mexico • Singapore • United Kingdom • United States

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Dedication

This text is dedicated to Best Friends Animal Society in Kanab, Utah, for its commitment to, compassion for, and care of more than 1,500 animals, many of which were previously homeless. Best Friends has established an ambitious campaign to save all healthy dogs and cats in the United States by 2025—that is, to prevent healthy cats and dogs from being euthanized due to excessive population.

Most of the royalties the author receives from this edition of the text will be invested in a fund that will ultimately be donated to Best Friends Animal Society and other humane societies. In the last several years, this fund has donated more than $500,000 to Best Friends to support a new healthcare facility for Best Friends, sponsor a Public Broadcasting Service (PBS) documentary on the efforts of Best Friends to help animal societies, save dogs that were abandoned during Hurricane Harvey in Houston during 2017, and create an online information network in 2019 for people who want to help dogs. This fund has also donated more than $100,000 to other animal care societies, including Friends of Greyhounds (Fort Lauderdale, FL), Florida Humane Society (Pompano Beach, FL), Greyhound Pets of America in Central Florida (Melbourne, FL), Tri-County Humane Society (Boca Raton, FL), and Doris Day Animal League (Washington, DC).

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Preface

Businesses evolve into multinational corporations (MNCs) so that they can capitalize on international opportunities. Their financial managers must be able to evaluate the international environment, recognize opportunities, implement strategies, assess exposure to risk, and manage that risk. The MNCs most capable of responding to changes in the international financial environment will be rewarded. The same can be said for the students today, who may become the future managers of MNCs.

Intended Market

International Financial Management, 14th Edition, presumes an understanding of basic corporate finance. It is suitable for both undergraduate- and master's-level courses in international financial management. For master's courses, the more challenging questions, problems, and cases in each chapter are recommended, along with special projects.

Organization of the Text

International Financial Management, 14th Edition, is organized to provide a background on the international environment and then to focus on the managerial aspects from a corporate perspective. Managers of MNCs will need to understand the environment before they can manage within it.

The first two parts of the text establish the necessary macroeconomic framework. Part 1 (Chapters 1 through 5) introduces the major markets that facilitate international business. Part 2 (Chapters 6 through 8) describes relationships between exchange rates and economic variables and explains the forces that influence these relationships.

The rest of the text develops a microeconomic framework with a focus on the managerial aspects of international financial management. Part 3 (Chapters 9 through 12) explains the measurement and management of exchange rate risk. Part 4 (Chapters 13 through 18) describes the management of long-term assets and liabilities, including motives for direct foreign investment, multinational capital budgeting, country risk analysis, and capital structure decisions. Part 5 (Chapters 19 through 21) concentrates on the MNC's management of short-term assets and liabilities, including trade financing, other short-term financing, and international cash management.

Each chapter is self-contained so that professors can use classroom time to focus on the more comprehensive topics while relying on the text to cover other concepts. The management of long-term assets (Chapters 13 through 16 on direct foreign investment, multinational capital budgeting, multinational restructuring, and country risk analysis) is covered before the management of long-term liabilities (Chapters 17 and 18 on capital structure and debt financing) because short-term managerial decisions are intended to facilitate the long-term strategies that have been implemented. For professors who prefer to cover the MNC's management of short-term assets and liabilities before the management of long-term assets and liabilities, the parts can be rearranged because they are self-contained.

Professors may limit their coverage of chapters in some sections where they believe the text concepts are covered by other courses or do not need additional attention beyond that found in the text. For example, they may give less attention to the chapters in

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Part 2 (Chapters 6 through 8) if their students take a course in international economics. If professors focus on the main principles, they may limit their coverage of Chapters 5, 15, 16, and 18. In addition, they may give less attention to Chapters 19 through 21 if they believe that the text description does not require elaboration.

Approach of the Text

International Financial Management, 14th Edition, focuses on financial management decisions that maximize the value of multinational corporations. The text offers a variety of methods to reinforce key concepts, allowing instructors to select those methods and features that best fit their teaching styles.

- *Part-Opening Diagram.* A diagram is provided at the beginning of each part to illustrate how the key concepts covered in that part are related.
- *Objectives.* A bulleted list at the beginning of each chapter identifies the key concepts in that chapter.
- *Examples.* The key concepts are thoroughly described in the chapter and supported by examples.
- *Web Links.* Websites that offer useful related information regarding key concepts are provided in each chapter.
- *Summary.* A bulleted list at the end of each chapter summarizes the key concepts. This list corresponds to the list of objectives at the beginning of the chapter.
- *Point/Counterpoint.* A controversial issue is introduced, along with opposing arguments, and students are asked to offer their opinions.
- *Self-Test Questions.* A "Self-Test" at the end of each chapter challenges students on the key concepts. The answers to these questions are provided in Appendix A.
- *Questions and Applications.* A substantial set of questions and other applications at the end of each chapter test the student's knowledge of the key concepts in the chapter.
- *Critical Thinking Question.* At the end of each chapter, a critical thinking question challenges students to use their skills to write a short essay on a key topic discussed in the chapter.
- *Continuing Case.* At the end of each chapter, the continuing case allows students to use the key concepts to solve problems experienced by a firm called Blades, Inc. (a producer of roller blades). By working on cases related to the same MNC over a school term, students recognize how an MNC's decisions are integrated.
- *Small Business Dilemma.* The Small Business Dilemma at the end of each chapter places students in a position where they must use concepts introduced in the chapter to make decisions about a small MNC called Sports Exports Company.
- *Internet/Excel Exercises.* At the end of each chapter are exercises that expose the students to applicable information available at various websites, enable the application of Excel to related topics, or both.
- *Integrative Problem.* An integrative problem at the end of each part weaves together the key concepts introduced in the various chapters within that part.
- *Midterm and Final Examinations.* A midterm self-exam is provided at the end of Chapter 8, which focuses on international macro and market conditions (Chapters 1 through 8). A final self-exam is provided at the end of Chapter 21, which focuses on the managerial chapters (Chapters 9 through 21). Students can compare their answers to those in the answer key provided.
- *Supplemental Cases.* Supplemental cases allow students to apply chapter concepts to a specific situation of an MNC. All supplemental cases are located in Appendix B.
- *Running Your Own MNC.* This project allows each student to create a small international business and apply key concepts from each chapter to run the business

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throughout the school term. The project is available on the textbook companion site (see the "Online Resources" section).

- *International Investing Project.* This project (located in Appendix D) allows students to simulate investing in stocks of MNCs and foreign companies; it requires them to assess how the values of these stocks change during the school term in response to international economic conditions. The project is also available on the textbook companion site (see the "Online Resources" section).
- *Discussion in the Boardroom.* Located in Appendix E, this project allows students to play the role of managers or board members of a small MNC that they created and to make decisions about that firm. This project is also available on the textbook companion site (see the "Online Resources" section).
- The wide variety of end-of-chapter and end-of-part exercises and cases offer many opportunities for students to engage in teamwork, decision making, and communication.

Changes to this Edition

All chapters in the 14th edition have been updated to include recent developments in international financial markets, and in the tools used to manage MNCs. In particular, more emphasis has been given to the following concepts:

- Sources of uncertainty when attempting to value an MNC
- Tradeoffs on any international trade policy
- Implicit barriers to entry in some international markets
- Challenges faced by central banks that attempt to manipulate their local currency's value
- Dilemmas experienced by some countries that participate in European Union (which led to Brexit)
- Theory versus reality for relationships between the Fisher effect, purchasing power parity (PPP), and the international Fisher effect (IFE)
- Using the value at risk method to assess exchange rate risk
- Using sensitivity analysis to account for uncertainty
- Tradeoffs from hedging exchange rate risk
- Tradeoffs involved in international restructuring
- International market for corporate control
- Properly accounting for country risk in international capital budgeting
- How an MNC's capital structure used in a foreign country depends on that country's characteristics
- How an MNC's cost of capital used in a foreign country depends on that country's characteristics
- MNCs' use of foreign debt as a long-term hedge against exchange rate risk

New to this Edition: MindTap

MindTap™, Cengage's fully online, highly personalized learning experience combines readings, multimedia activities, and assessments into a singular Learning Path. MindTap™ guides students through their course with ease and engagement with a learning path that includes an Interactive Chapter Reading, Algorithmic Practice Problems, and Homework Assignments powered by Aplia. These homework problems include rich explanations and instant grading, with opportunities to try another algorithmic version of the problem to bolster confidence with problem solving. Instructors can personalize the Learning Path for their students by customizing the robust suite of resources and adding their own content via apps that integrate into the MindTap™ framework seamlessly with Learning Management Systems.

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Supplements to the Text

To access student and instructor resources, please visit http://www.cengage.com/finance/madura/ifm/14e.

Instructor Supplements

The following supplements are available to instructors.

- *Instructor's Manual.* Revised by the author, the Instructor's Manual contains the chapter theme, topics to stimulate class discussion, and answers to end-of-chapter Questions, Case Problems, Continuing Cases (Blades, Inc.), Small Business Dilemmas, Integrative Problems, and Supplemental Cases.
- *Test Bank.* The expanded test bank, which has also been revised by the author, contains a large set of questions in multiple-choice or true/false format, including content questions as well as problems.
- *Cognero™ Test Bank.* Cengage Learning Testing Powered by Cognero™ is a flexible online system that allows you to author, edit, and manage test bank content from multiple Cengage Learning solutions; create multiple test versions in an instant; deliver tests from your learning management system (LMS), your classroom, or wherever you want. The Cognero™ Test Bank contains the same questions that are found in the Microsoft® Word Test Bank. All question content is now tagged according to Tier I (Business Program Interdisciplinary Learning Outcomes) and Tier II (Finance-specific) standards topic, Bloom's Taxonomy, and difficulty level.
- *PowerPoint Slides.* The PowerPoint Slides provide a solid guide for organizing lectures. In addition to the regular notes slides, a separate set of exhibit-only PPTs is available.

Additional Course Tools

- *Cengage Learning Custom Solutions.* Whether you need print, digital, or hybrid course materials, Cengage Learning Custom Solutions can help you create your perfect learning solution. Draw from Cengage Learning's extensive library of texts and collections, add your own original work, and/or create customized media and technology to match your learning and course objectives. Our editorial team will work with you through each step, allowing you to concentrate on the most important thing—your students. Learn more about all our services at **www.cengage.com/custom**.

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Jeff Madura
Florida Atlantic University

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About the Author

Dr. Jeff Madura is presently Emeritus Professor of Finance at Florida Atlantic University. He has written several successful finance texts, including *Financial Markets and Institutions* (now in its 13th edition). His research on international finance has been published in numerous journals, including *Journal of Financial and Quantitative Analysis*; *Journal of Banking and Finance*; *Journal of Money, Credit and Banking*; *Journal of International Money and Finance*; *Financial Management*; *Journal of Financial Research*; *Financial Review*; *Journal of International Financial Markets, Institutions, and Money*; *Global Finance Journal*; *International Review of Financial Analysis*; and *Journal of Multinational Financial Management*. Dr. Madura has received multiple awards for excellence in teaching and research, and he has served as a consultant for international banks, securities firms, and other multinational corporations. He served as a director for the Southern Finance Association and the Eastern Finance Association, and he is also former president of the Southern Finance Association.

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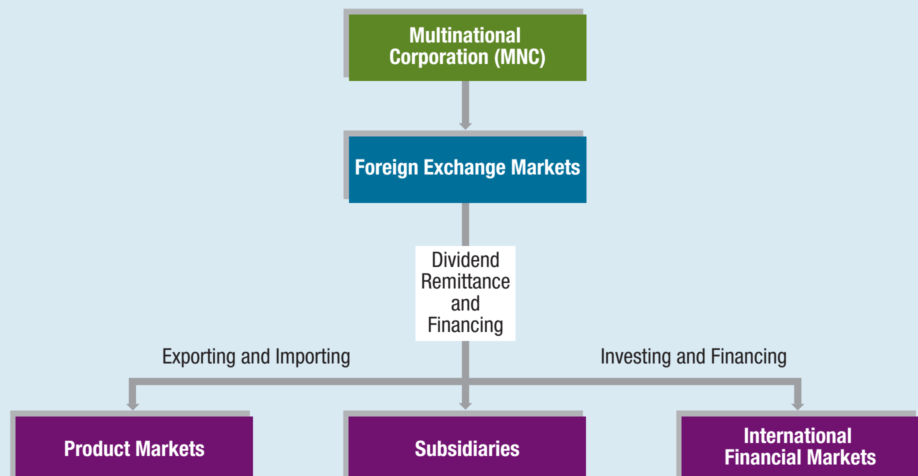
PART 1

The International Financial Environment

Part 1 (Chapters 1 through 5) provides an overview of the multinational corporation (MNC) and the environment in which it operates. Chapter 1 explains the goals of the MNC, along with the motives and risks of international business. Chapter 2 describes the international flow of funds between countries. Chapter 3 describes the international financial markets and explains how these markets facilitate ongoing operations. Chapter 4 explains how exchange rates are determined, and Chapter 5 provides background on the currency futures and options markets. Managers of MNCs must understand the international environment described in these chapters so that they can make proper decisions.



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1 Multinational Financial Management: An Overview

CHAPTER OBJECTIVES

The specific objectives of this chapter are to:

- Identify the management goal and organizational structure of the MNC.
- Describe the key theories about why MNCs engage in international business.
- Explain the common methods used to conduct international business.
- Provide a model for valuing the MNC.

Multinational corporations (MNCs) are defined as firms that engage in some form of international business. Their managers conduct international financial management, which involves international investing and financing decisions that are intended to maximize the value of the MNC. The goal of these managers is to maximize their firm's value, which is the same goal pursued by managers employed by strictly domestic companies.

Initially, firms may merely attempt to export products to a certain country or import supplies from a foreign manufacturer. Over time, however, many of these firms recognize additional foreign opportunities and eventually establish subsidiaries in foreign countries. DowDuPont, IBM, Nike, and many other U.S. firms have more than half of their assets in foreign countries. Many technology firms, such as Apple, Facebook, and Twitter, expand overseas in an effort to capitalize on their technology advantages.

Some businesses, such as ExxonMobil, Fortune Brands, and Colgate-Palmolive, commonly generate more than half of their sales in foreign countries. Many smaller U.S. firms such as Ferro (Ohio) generate more than 20 percent of their sales in foreign markets. Likewise, some smaller private U.S. firms such as Republic of Tea (California) and Magic Seasoning Blends (Louisiana) generate a substantial percentage of their sales in nondomestic markets. In fact, 75 percent of U.S. firms that export products or services have fewer than 100 employees.

International financial management is important even to companies that have no international business. These companies must recognize how their foreign competitors will be influenced by movements in exchange rates, foreign interest rates, labor costs, and inflation. Such economic characteristics can affect the foreign competitors' costs of production and pricing policies.

This chapter provides background on the goals, motives, and valuation of a multinational corporation.

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1-1 Managing the MNC

The commonly accepted goal of an MNC is to maximize shareholder wealth. Managers employed by the MNC are expected to make decisions that will maximize the stock price, thereby serving the shareholders' interests. Some publicly traded MNCs based outside the United States may have additional goals, such as satisfying their respective governments, creditors, or employees. Nevertheless, these MNCs place greater emphasis on their primary goal of satisfying shareholders; that way, the firm can more easily obtain funds from them to support its operations. Even in developing countries (for example, Bulgaria and Vietnam) that have just recently encouraged the development of business enterprise, managers of firms must serve shareholder interests if they hope to obtain funding from investors.

The focus of this text is MNCs whose parents wholly own any foreign subsidiaries, which means that the U.S. parent is the sole owner of the subsidiaries. This is the most common form of ownership of U.S.-based MNCs, and it gives financial managers throughout the firm the single goal of maximizing the entire MNC's value (rather than the value of any particular subsidiary). The concepts in this text also generally apply to MNCs based in countries other than the United States.

1-1a How Business Disciplines Are Used to Manage the MNC

Various business disciplines are integrated to manage the MNC in a manner that maximizes shareholder wealth. Management develops strategies that will motivate and guide employees who work in an MNC and to organize resources so that they can efficiently produce products or services. Marketing seeks to increase consumer awareness about the products and to recognize changes in consumer preferences. Accounting and information systems record financial information about revenue and expenses of the MNC, which can be used to report financial information to investors and to evaluate the outcomes of various strategies implemented by the MNC. Finance makes investment and financing decisions for the MNC. Common finance decisions include the following:

- Whether to pursue new business in a particular country
- Whether to expand business in a particular country
- How to finance expansion in a particular country
- Whether to discontinue operations in a particular country

These finance decisions for each MNC are partially influenced by the other business discipline functions. The decision to pursue new business in a particular country depends on a comparison of the costs and potential benefits of expansion. The potential benefits of such new business reflect both the expected consumer interest in the products to be sold (marketing function) and the expected cost of the resources needed to pursue the new business (management function). Financial managers rely on financial data provided by the accounting and information systems functions.

1-1b Agency Problems

Managers of an MNC may sometimes make decisions that conflict with the firm's goal of maximizing shareholder wealth. For example, a manager's decision to establish a subsidiary in one location versus another may be based on the location's appeal to the manager rather than on its potential benefits to shareholders. This conflict of goals between a firm's managers and shareholders is often referred to as the **agency problem**.

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The costs of ensuring that managers maximize shareholder wealth (referred to as *agency costs*) are typically larger for MNCs than they are for purely domestic firms, for several reasons. First, MNCs with subsidiaries scattered around the world may experience larger agency problems because monitoring the managers of distant subsidiaries in foreign countries is more difficult. Second, foreign subsidiary managers who are raised in different cultures may not follow uniform goals. Some of them may believe that the first priority should be to serve their respective employees. Third, the sheer size of the larger MNCs can create significant agency problems, because it complicates the monitoring of all managers.

EXAMPLE

Two years ago, Seattle Co. (based in the United States) established a subsidiary in Singapore so that it could expand its business there. It hired a few managers in Singapore to manage the subsidiary. During the last two years, sales generated by the subsidiary have not grown. Even so, the managers in Singapore hired several employees to do the work that they were assigned to do, and the subsidiary has incurred losses recently because it is so poorly managed. The managers of the parent company in the United States have not closely monitored the subsidiary in Singapore because it is so far away and because they trusted the managers there. Now they realize that there is an agency problem, and the management in Singapore must be more closely monitored. ●

Lack of monitoring can lead to substantial losses for MNCs. The large New York–based bank JPMorgan Chase & Co. lost at least $6.2 billion and had to pay more than $1 billion in fines and penalties after a trader in its office in London made extremely risky trades. The subsequent investigation revealed that the bank had maintained poor internal controls and failed to provide proper oversight of its employees.

Parent Control of Agency Problems The parent corporation of an MNC may be able to prevent most agency problems with proper governance. The parent should clearly communicate the goals for each subsidiary to ensure that all of them focus on maximizing the value of the MNC, rather than the value of their respective subsidiaries. The parent can oversee subsidiary decisions to check whether each subsidiary's managers are satisfying the MNC's goals. The parent also can implement compensation plans that reward those managers who satisfy the MNC's goals. One commonly used incentive is to provide managers with the MNC's stock (or options to buy that stock at a fixed price) as part of their compensation; thus, the subsidiary managers benefit directly from a higher stock price when they make decisions that enhance the MNC's value.

EXAMPLE

When Seattle Co. (from the previous example) recognized the agency problems with its Singapore subsidiary, it created incentives for the managers of the subsidiary that aligned with the parent's goal of maximizing shareholder wealth. Specifically, it set up a compensation system whereby each manager's annual bonus is based on the subsidiary's earnings. This encouraged the managers to reduce expenses so that the subsidiary would generate higher earnings and they would, in turn, receive a bonus. ●

Corporate Control of Agency Problems In some cases, agency problems can occur because the goals of the entire management of the MNC are not focused on maximizing shareholder wealth. Various forms of corporate control can help prevent these agency problems and induce managers to make decisions that satisfy the MNC's shareholders. If managers make poor decisions that reduce the MNC's value, then another firm might acquire it at this lower price; the new owner would then probably remove the weak managers. Moreover, institutional investors (for example, mutual and pension funds)

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with large holdings of an MNC's stock have some influence over management and may complain to the board of directors if managers are making poor decisions. Institutional investors may seek to enact changes, including removal of high-level managers or even board members, in a poorly performing MNC. Such investors may also band together to demand changes in an MNC, as they know that the firm would not want to lose all of its major shareholders.

How SOX Improved Corporate Governance of MNCs One limitation of the corporate control process is that investors rely on reports by the firm's own managers for information. If managers are serving themselves rather than the investors, they may exaggerate their performance. Many well-known examples (such as Enron and WorldCom) can be cited of large MNCs that were able to alter their financial reporting and hide problems from investors.

Enacted in 2002, the Sarbanes-Oxley Act (SOX) ensures a more transparent process for managers to report on the productivity and financial condition of their firm. It requires firms to implement an internal reporting process that can be easily monitored by executives and the board of directors. Methods used by MNCs to improve their internal control process may include the following:

- Establishing a centralized database of information
- Ensuring that all data are reported consistently among subsidiaries
- Implementing a system that automatically checks data for unusual discrepancies relative to norms
- Speeding the process by which all departments and subsidiaries access needed data
- Making executives more accountable for financial statements by personally verifying their accuracy

These systems make it easier for a firm's board members to monitor the financial reporting process. In this way, SOX reduced the likelihood that managers of a firm can manipulate the reporting process and, therefore, improved the accuracy of financial information for existing and prospective investors.

1-1c Management Structure of an MNC

The magnitude of agency costs can vary with the MNC's management style. A centralized management style, as illustrated in the top section of Exhibit 1.1, can reduce agency costs because it allows managers of the parent to control foreign subsidiaries, which in turn reduces the power of subsidiary managers. However, the parent's managers may make poor decisions for the subsidiary if they are less informed than the subsidiary's managers about its specific setting and financial characteristics.

Alternatively, an MNC can use a decentralized management style, as illustrated in the bottom section of Exhibit 1.1. This style is more likely to result in higher agency costs because subsidiary managers may make decisions that fail to maximize the value of the entire MNC. Yet this management style gives more control to those managers who are closer to the subsidiary's operations and environment. To the extent that subsidiary managers recognize the goal of maximizing the value of the overall MNC and are compensated in accordance with that goal, the decentralized management style may be more effective.

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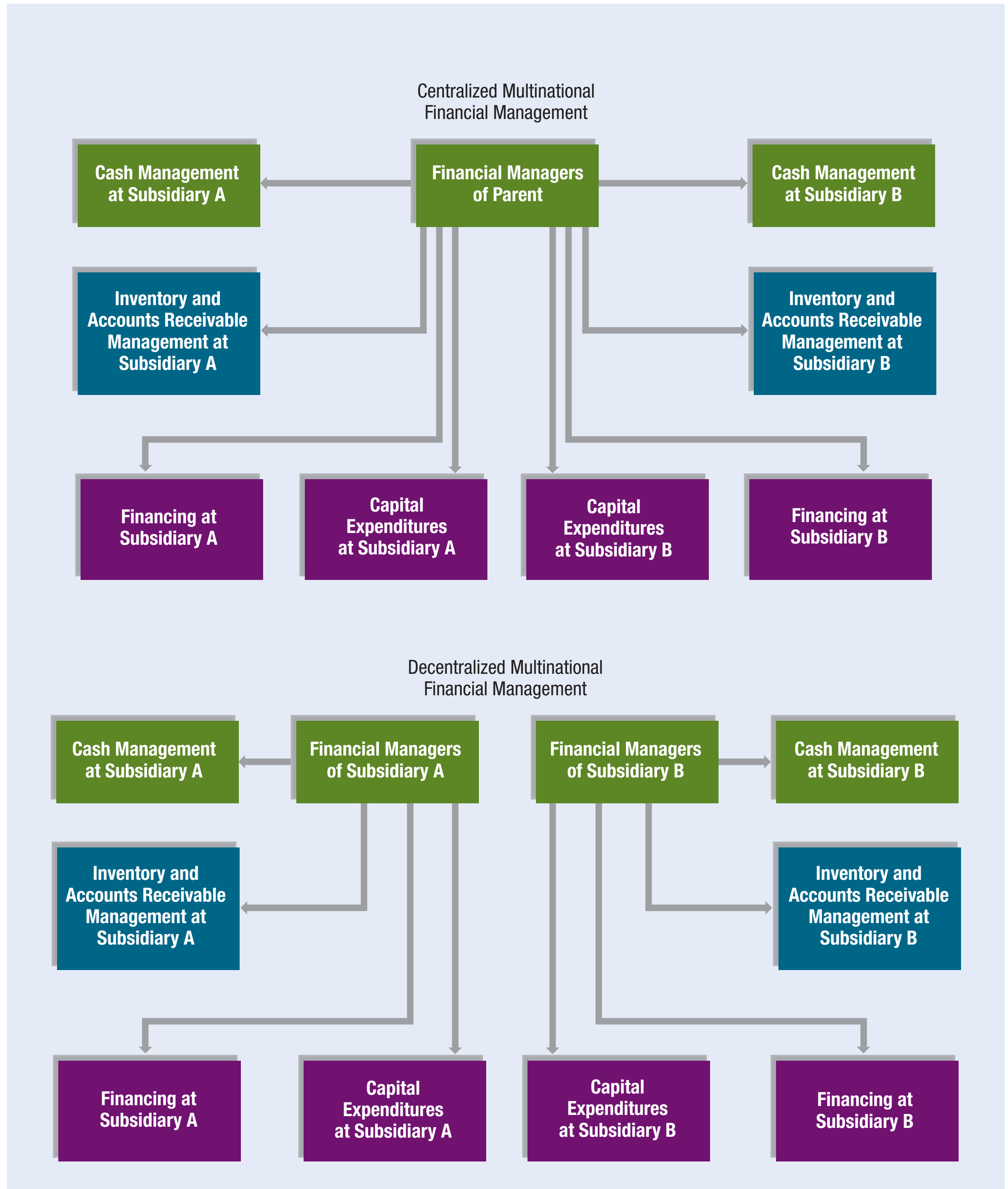
Exhibit 1.1 Management Styles of MNCs



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Given the clear trade-offs between centralized and decentralized management styles, some MNCs attempt to achieve the advantages of both. That is, they allow subsidiary managers to make the key decisions about their respective operations, but the parent's management monitors those decisions to ensure they are in the MNC's best interests.

1-2 Why MNCs Pursue International Business

Multinational business has generally increased over time. Three commonly held theories to explain why MNCs are motivated to expand their business internationally are (1) the theory of comparative advantage, (2) the imperfect markets theory, and (3) the product cycle theory. These theories overlap to some extent and can complement one another in developing a rationale for the evolution of international business.

1-2a Theory of Comparative Advantage

Specialization by countries can increase production efficiency. Some countries, such as Japan and the United States, have a technology advantage, whereas others, such as China and Malaysia, have an advantage in the cost of basic labor. Because these advantages cannot easily be transported, countries tend to use their advantages to specialize in the production of goods that can be produced with relative efficiency. This explains why countries such as Japan and the United States are large producers of electronic products, whereas countries such as Jamaica and Mexico are large producers of agricultural and handmade goods. Multinational corporations such as Oracle, Intel, and IBM have grown substantially in foreign countries because of their technology advantage.

A country that specializes in some products may not produce other products, so trade between countries is essential. This is the argument made by the classical theory of comparative advantage. **Comparative advantages** allow firms to penetrate foreign markets. Many of the Virgin Islands, for example, specialize in tourism and rely completely on international trade for most products. Although these islands could produce some goods, it is more efficient for them to specialize in tourism. That is, the islands are better off using some revenues earned from tourism to import products than attempting to produce all the products they need.

1-2b Imperfect Markets Theory

If each country's markets were closed to all other countries, then there would be no international business. At the other extreme, if markets were perfect, such that the factors of production (such as labor) were easily transferable, then labor and other resources would flow wherever they were in demand. Such unrestricted mobility of factors would create equality in both costs and returns, thereby eliminating the comparative cost advantage, which is the rationale for international trade and investment. However, the real world suffers from **imperfect market** conditions where factors of production are somewhat immobile. Costs and often other restrictions affect the transfer of labor and other resources used for production. In addition, restrictions may be placed on transferring funds and other resources among countries. Because markets for the various resources used in production are "imperfect," MNCs such as the Gap and Nike often capitalize on a foreign country's particular resources by having many of their products manufactured in countries where labor costs are low. Imperfect markets provide an incentive for firms to seek out foreign opportunities.

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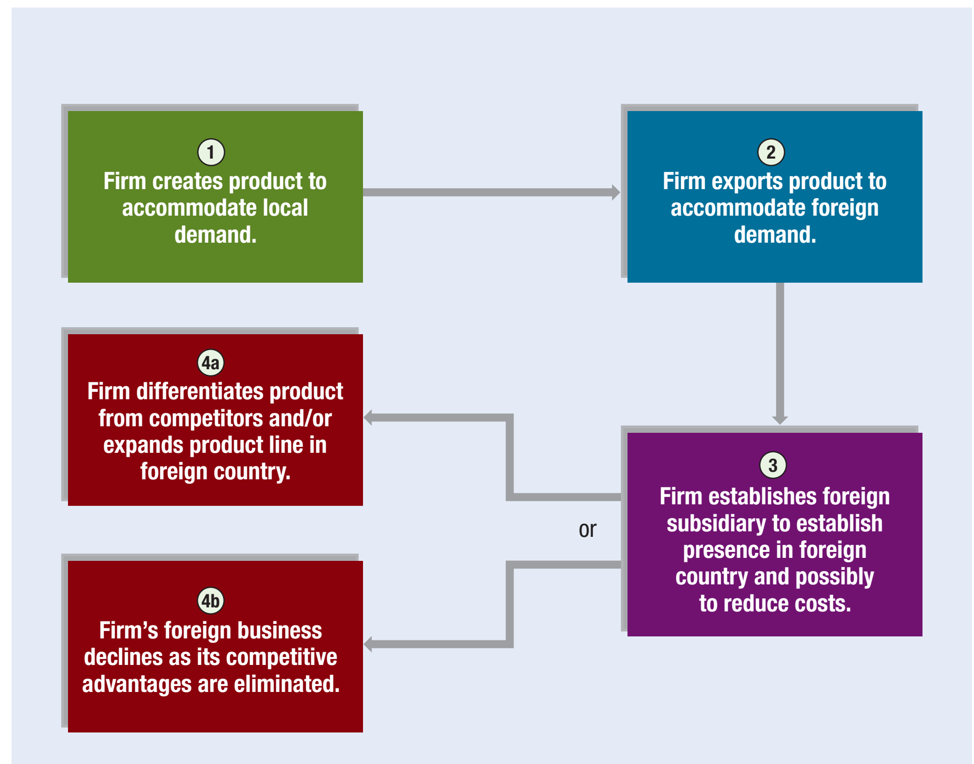
1-2c Product Cycle Theory

One of the more popular explanations as to why firms evolve into MNCs is the **product cycle theory**. According to this theory, a firm first becomes established in its home market, where information about markets and competition is more readily available. To the extent that the firm's product is perceived by foreign consumers to be superior to that available within their own countries, the firm may accommodate foreign consumers by exporting. As time passes, if the firm's product becomes very popular in foreign countries, it may produce the product in foreign markets, thereby reducing its transportation costs. The firm may also develop strategies to prolong the foreign demand for its product. One frequently used approach is to differentiate the product so that competitors cannot duplicate it exactly.

These phases of the product cycle are illustrated in Exhibit 1.2. For instance, 3M Co. uses one new product to enter a foreign market, after which it expands the product line there. Whether the firm's foreign business diminishes or expands over time will depend on how successful it is at maintaining some advantage over its competition.

Facebook initially established its business in the United States, but quickly recognized that its service was desired by consumers in other countries. Today, more than 85 percent of Facebook users are outside the United States, which has allowed Facebook's advertising revenue from foreign countries to increase substantially over time.

Exhibit 1.2 International Product Life Cycle



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