Understanding Investments: Theories and Strategies

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1 author:

Nikiforos Laopodis
Deree College and ALBA Grad Bus Schol at The American College of Greece
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Understanding Investments

This revised and fully expanded edition of *Understanding Investments* continues to incorporate the elements of traditional textbooks on investments, but goes further in that the material is presented from an intuitive, practical point of view, and the supplementary material included in each chapter lends itself to both class discussion and further reading by students. It provides the essential tools to navigate complex, global financial markets and instruments including relevant (and classic) academic research and market perspectives.

The author has developed a number of key innovative features. One unique feature is its economic angle, whereby each chapter includes a section dedicated to the economic analysis of that chapter's material. Additionally, all chapters contain sections on strategies that investors can apply in specific situations and the pros and cons of each are also discussed. The book provides further clarification of some of the concepts discussed in the previous edition, thereby offering a more detailed analysis and discussion, with more real-world examples. The author has added new, shorter text boxes, labeled "Market Flash" to highlight the use of, or changes in current practices in the field; updates on strategies as applied by professionals; provision of useful information for an investor; updates on regulations; and anything else that might be relevant in discussing and applying a concept. This second edition also includes new sections on core issues in the field of investments, such as alternative investments, disruptive technologies, and future trends in investment management.

This textbook is intended for undergraduate students majoring or minoring in finance and also for students in economics and related disciplines who wish to take an elective course in finance or investments.

Nikiforos T. Laopodis is a finance professor at the School of Business and Economics' Finance Department at The American College of Greece. Dr Laopodis is widely published in the areas of finance and economics on topics such as investments, monetary and fiscal policies, and financial econometrics and in highly respected finance journals. Since 1995, he has been, and continues to be, a regular participant in the Eastern Finance Association, Financial Management Association (US and Int'l) and later in the European Financial Management Association.

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Theories and Strategies

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This edition of the book is dedicated to my special-needs son, Haralabos, who was patiently waiting for me to finish writing so we could start playing and learning.

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Preface to the second edition

To the student

Following up on the first edition, the revised version of the textbook continues presenting the theories and strategies of investments from an intuitive, practical way in an effort to convey the underlying stories behind the investments concepts. Using the economics point of view approach, students appreciate their discipline, whichever this may be, because the interpretation of concepts is emphasized rather than their mere memorization and mechanical application.

In the second edition of the textbook, some general new and innovative features are listed below:

1. New boxes labeled "Market Flash" highlight the use of, or changes in current practices in, the field, provide updates on strategies as applied by investment/portfolio professionals, offer useful information for an investor, and give updates on regulations and more.
2. Current research, academic and/or professional, is included in each chapter, and is presented in a concise fashion and abstracted from quantitative aspects so it can be useful to the students.
3. Finally, the questions and problems at the end of each chapter are not mechanical and dry; instead, they are ripped from the headlines and aim at soliciting the students' critical thinking and quantitative expertise to address real-life financial problems

Thus, the innovative features of the second edition of the textbook are its enhanced pedagogy and the additional material in the text itself, where students will read how professionals deal with real economic and financial problems and how policymakers set policies. Moreover, now each chapter contains sections on investment strategies that novice investors can apply, and the pros and cons of each strategy are discussed.

More specifically, each chapter has been updated and enhanced in discussion on both theories and strategies as well as market insights.

New in this edition

All chapters have been updated and extended.

Chapter 1 contains further discussion on asymmetric information and a new section on environmental, social, and corporate governance (ESG) issues.

Chapter 2 has been updated on topics like the long-term investing paradigm and the clash between active and passive investment strategies.

Chapter 3 has an updated section on utility theory and has been expanded to include discussion indifference curves and their use.

Chapter 4 discusses some new issues in securities trading, explains the impact of innovations in the costs of trading, and includes some discussion on globalization and new regulatory issues for global stock markets.

Chapter 5 has further analyses on the money market instruments and discusses some worries the market has about the fed funds rate and LIBOR, and includes some new investment strategies, which take into account climate change.

Chapter 6 presents the IPO process in greater detail, discusses the mutual fund companies within the context of new regulations as well, and ends with some more advanced strategies in mutual funds.

Chapter 7 has a more elaborate analysis of the steps in the investment process, and details the asset allocation decision.

Chapter 8 includes a section on dynamic asset correlations and another on multifactor models and their use in portfolio building.

Chapter 9 in general expands upon the discussions of market efficiency and behavioral finance.

Chapter 10 explains stock market quotations, expands upon the analysis of the management of an equity portfolio (including a global equity portfolio), and includes some discussion on some Federal Reserve monetary policies and their implications for investment strategies.

Chapter 11 includes more equity-valuation models, along with real-data applications, and a section on the information content of dividends.

Chapter 12 updates the discussion on the global bond market and bond valuation, and includes some analysis of strategies using the yield curve.

Chapter 13 now has a more detailed view of the bond investment management process, more passive and active bond portfolio strategies, and a section on bond market efficiency and its consequences on bond portfolio management.

Chapter 14 offers a clearer view of the mechanics of the options market and its participants, and some more detailed analysis on selected options strategies.

Chapter 15 details the functions of the futures market and its organizational structure and includes a section on risk arbitrage.

Chapter 16 has greatly expanded to include many more sections on alternative investments, disruptive technologies such as cryptocurrencies, fintech, smart beta analytics and energy alternatives, trends in investment management such as demographic shifts, cannabis equities, and innovative pricing schemes.

New target audience

This book is intended for undergraduate students in finance, economics, and business-related disciplines as well as for MBA students taking a general investments course. Thus, students taking finance courses, besides investments, such as financial markets and institutions, portfolio management, and business finance, and economics courses such as money and capital markets, international financial instruments, and the like. This textbook is global in the sense that it contains material from the international financial markets, institutions, and instruments and discusses the general, worldwide investment environment. Students should be able to appreciate the scope of the international investment environment and confidently begin their investment endeavors, equipped with the economic fundamentals and statistical tools and, at the same time, be aware of risks involved.

Preface to the first edition

To the student

Congratulations for studying finance and welcome to the exciting field of investments! You will be pleased to know that I decided to write this textbook in order to discuss and present the material in a different way than what current textbooks do. My main objective in this textbook is to write the material from an *intuitive* and *practical* way for you to understand. This means that the concepts and applications will be presented from the *economics point of view*, that is, to tell the underlying story behind the investments notions. I have always taught investments in this way and students seem to appreciate it more than just learning and applying concepts in a dry, mechanical way. You will be shown to think of investments (as well as finance) as a special branch (application) of economics because many topics discussed in investments come from (micro and macro) economics but are simply termed differently. Let me present some illustrative examples:

- When the interest rate (or the discount rate) is discussed in many investments textbooks, you may not realize that the interest rate is nothing but an opportunity cost (of money) as you have learned in your economics courses.
- When decisions involving investor selection among investment alternatives are discussed, you may not see that what is really being applied is cost-benefit analysis or comparison between marginal costs and marginal benefits.
- When discussing other investment topics, you may not be aware of sound economic analysis that many market participants perform. For example, several financial organizations such as the Securities and Exchange Commission and the New York Stock Exchange routinely make economic decisions that you may not see in existing textbooks (because they are never explicitly exposed) but will see in this textbook.
- When the role of financial markets is discussed, you may not infer (or read in other textbooks) that what is really meant concerns the efficiency with which resources are allocated in the economy for a mutually beneficial exchange among participants.
- Finally, have you ever wondered how the equilibrium price of a share is determined? You guessed it, from the interactions of demand for and supply of shares in the market.

Besides understanding the economics behind the actions of market participants, how else are you going to learn about investments from this textbook? There are several other ways:

- Each chapter contains several boxes that enhance your understanding of the material and three specific boxes labeled "Applying Economic Analysis", "Lessons of Our Times" and "International Focus", all found at the end of each chapter.
- In addition, some chapters contain appendices that show you how to apply several investment techniques with real data, a financial calculator, and EXCEL. In some EXCEL cases, the equations are presented as cell information.
- Finally, each chapter contains thought-provoking questions and problems that require you to think critically of the answers and display good skills in solving the problems, thus avoiding tedious and useless memorization.

So, let the challenge of learning the basics of investments begin and enjoy it!

To the instructor

What led me to write this textbook is my continuous quest to find a textbook in investments that would present the concepts from the economics point of view so students can soundly interpret these concepts relying on economic theory. Therefore, the concepts herein are presented in a simple-to-understand way and with the minimum required rigor so students grasp them without too much effort. Thus, students will be able to put these investment concepts in perspective with the economic knowledge they have from earlier classes. I have found this to be invaluable to my students after teaching investments for more than a decade.

The chapters are shorter than those in the conventional textbooks in the sense that unnecessary details on topics are not included. Only the important points on the subject will be presented and discussed so students remain focused on the essence of the topic. For example, when presenting topics such as stock exchanges, many textbooks present a lot of detail on how they operate but this can be done by simply directing the student to the appropriate website for more information or through a question/problem at the end of the chapter. Or, when discussing asset valuations, many undergraduate textbooks go into the details of empirical research which could either be redundant, if instructors omit it, or with no real value to the student, if instructors very briefly go over it. In this textbook, current research is presented in a concise fashion and abstracted from quantitative aspects so it can be useful to students. Furthermore, there are only 16 chapters in the textbook for two reasons. First, the typical semester is about 14–15 weeks and thus instructors will be able to finish their syllabus fully. Because textbooks typically have many more than 20 chapters, instructors never get to all of them and thus may have to "cut corners". This means that they either have to skip entire chapters, or sections of chapters, or select sections that they deem necessary. Thus, with the right number of chapters, instructors can avoid all of these forced decisions and simply concentrate on the delivery of material.

Finally, the small number of exercises at the end of each chapter are a mix of questions (for thought and discussion) and problems. Questions are thought-provoking and problems will often require knowledge of economics and statistics (which students typically have before taking the course), not mechanical applications of formulas. The idea of such questions/problems is to enable the student to continue learning the chapter material. As a result, the questions and problems come from real-life experiences in the financial markets. Some sources include the *Wall Street Journal*, *Financial Times*, *YahooFinance* and the *Economist*. And since the chapters are short, you can present a chapter per week, with some time left to go over some of the end-of-chapter problems in class for class discussion.

Target audience

This textbook is intended for undergraduate students majoring in finance taking an investments course at the 200 level and above in their field of study. The relevant course would be *Introduction to Investments*, *Principles of Investments*, and *Introduction to Finance*. In addition to the majors, students minoring in finance can use this textbook as well as students in economics who wish to take an elective course in investments. Majors and non-majors (other than in economics) can also take the course as a general business elective since it does not involve heavy quantitative analysis. In general, almost every major discipline requires some knowledge of mathematics and statistics and thus the textbook would be suitable for them.

Aims of the textbook

The aim of this textbook is to introduce the students to the fundamentals of investments in a simple, intuitive, and practical manner. It will also enable the students to understand and intelligently debate current financial and economic events, conduct basic yet rigorous financial evaluation of investment issues, and prepare them for further study in the field of finance and investments. To that end, the chapters are geared toward delivering an intuitive and a practical knowledge of investments and the end-of-chapter questions and problems necessitate critical thinking to be answered or solved. Keep in mind that this textbook is not intended to make decisions for you or to assist you in making money, as the opening page of Part I emphasizes. It will provide you with essential information and sound guidance to make an intelligent investments decision.

Pedagogy

The innovative features of the text are its *pedagogy* and the additional *boxes*, where students can read how professionals deal with real problems. Moreover, each chapter has a section on some *strategies* that investors can apply in specific situations, as well as the pros and cons of each strategy.

Overall, the innovative features of this textbook are the following:

1. Presentation of material from the economics point of view stressing the interpretation of concepts not the mere memorization and mechanical application of them.
2. Shorter chapters so instructors and students can focus on the main points of subjects rather than wrestle with unnecessary details distracting them from the main issues.
3. Fewer chapters than in current textbooks so instructors can comfortably finish their syllabus (or the entire textbook) within a semester.
4. Illustrations of current events through boxes which can be used to further the students' knowledge on the subject without having to follow the text's flow.
5. Three types of special boxes appear in each chapter: boxes with "International Focus", boxes with "Applying Economic Analysis", and boxes with ideas from well-known economists and professionals on a given issue, labeled "Lessons of Our Times".
6. Inclusion of a section on strategies in each chapter that investors can use and explanations of their pros and cons.
7. A short list of thought-provoking questions and interpretive problems ripped from the headlines addressing real-life issues and dilemmas is at the end of each chapter.

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PART I

Investment basics

What is an investment and why do people invest? *Investment* is the sacrifice of your resources (time, money, and effort) today for the expectation of earning more resources tomorrow. What can you do with your money? Spend it, save some of it, or invest it? If you choose the latter, where are you going to invest it? There are many investment alternatives (like stocks and bonds), and the amount of information on each one of them is staggering. What is your goal in investing? What are your constraints and risks? Once you have defined these, what is the next step? Are you going to do the investing on your own or are you going to hire a professional money manager? These are some of the questions that you need to address as a (novice) investor, and we will deal with them in this part of this textbook. In the remaining chapters, we will have more to say about the field of investments in general, the strategies that you can apply to achieve your goals, and the risks involved in investing.

Chapter 1 examines the general investment framework by defining investments and the various investment alternatives available in the market. It also presents the objectives and constraints of individual and institutional investors, and the roles of the various financial intermediaries that assist you in investing. Chapter 2 lays out the investment process (that is, the two main steps that you need to take before investing) and presents some very basic and simple investment strategies. Finally, Chapter 3 discusses in detail the basic elements of investments: risk and return. This chapter also addresses the objective of investing, which is the maximization of your expected return, and its constraint, which is (subject to) risk.

We end with a cautionary word. This textbook cannot make investment decisions for you! It can only assist you in making *informed decisions* by providing you with valuable information so that you can apply it to your particular investment situation.

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Chapter 1

The investment framework

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Chapter objectives

After studying this chapter, you should be able to

- See what investment is and distinguish between real and financial assets
- Know the various classes of securities
- Understand the roles of the financial markets and financial intermediaries
- Know your investment objectives and constraints
- Evaluate the role of financial information on investments alternatives
- Understand some issues that arise in financial markets like agency theory, asymmetric information, and ethical investment behavior

1.1 Introduction

This chapter deals with the general economic and financial environment in which market participants make investment decisions. Specifically, it discusses the securities an investor can invest in as well as the financial markets that facilitate the trade of securities among investors. In this respect, the functions of financial markets and financial intermediaries are explored. The chapter also explains the investment management process and highlights the roles of investment or financial information. Further, the objectives and constraints of investors, individual and institutional alike, are listed and discussed. The latter deals with problems encountered among market participants when engaging in mutual trades of securities and the occurrences of unethical investment behavior in the marketplace. Next, we present some issues that arise in financial markets like agency theory, asymmetric information, and ethical investment behavior. The chapter ends with the significance of learning and practicing investments.

1.2 The general financial and economic environment

1.2.1 Definition of investments

To understand investments in general terms, let us start with a basic question. Why did you come to college? Surely you could do other things with your money and time such as work, travel, and so on. But because you chose to go to college means that you have some expectations later in life (after you graduate). Perhaps you expect to earn a higher salary or to achieve a higher standard of living or both. Therefore, you sacrifice money and other resources today for (hopefully) more money (or wealth) tomorrow. In a broad sense, this sacrifice you currently make for future returns is called *investment*. Stated differently, you are investing in your future by going to college today.

This definition of investment involves several elements worthy of special mention. First, you are spending time and money (or resources in general). Your resources are scarce and thus valuable. Investments deal with the efficient management of your money (or financial wealth) today in hopes of receiving more money (or returns) in the future. This brings us to the next element of investment: uncertainty of the future. In other words, the fact that you can only have an expectation for higher returns in the future means that you are faced with risk. But why do people invest? Can't they just keep their money in the form of cash and stash it under their mattress or bury it in their back yard? Well, you recall from economics that cash has an opportunity cost. *Opportunity cost* is defined as the value of an activity that must be given up in order to engage in another activity.

Another insight from economics is that (disposable) income is either consumed, saved or both. *Saving* means sacrificing consumption today for (the expectation of) greater consumption in the future.

Investing also involves a similar sacrifice, as we saw above. However, there is a fundamental difference between saving and investment. Saving does not entail risk (or, at most, very little) but investment does. For example, if you put your money in a bank account like a certificate of deposit, you incur no risk (of losing your money) because your savings up to $250,000 (at the time of writing) is insured by the federal government (the *Federal Deposit Insurance Corporation* or FDIC). But, if you invest in the stock market then you are faced with significant risk that you may lose all your invested capital. In general, investment assets carry various amounts of risk ranging from none to very high risk.

1.2.2 The general investment environment

In a narrow sense, the investment environment refers to the various investment assets (or instruments) that individuals and institutions can buy and sell as well as the markets in which these assets are traded. The assets can be grouped into two major categories: real assets and financial assets. *Real assets* are tangible and can be used to produce a good or a service. Examples of real assets are machinery, factories, and land. *Financial assets* are intangible (or electronic entries) and represent claims on the revenues generated from real assets or claims created by entities including the government. Unlike real assets, financial assets do not produce a good or a service but indirectly help the production of real assets. Examples of financial assets are the stocks or bonds that you own or a security offered by the government.

How do financial assets help with the production of real assets? Well, if we buy shares of a car company (in the primary market where securities are issued by the company and *not* from another investor), the company uses the money to expand its productive capacity and sell more cars so it can pay us back from the revenues generated from selling its cars. Similarly, if we buy a government instrument then the government uses that money to finance its expenditures such as a highway or a bridge. It is investments in financial assets that we will discuss in this book.

In a broader sense, the (global) investment environment refers to the world economic activity and events as they are certain to affect the values, extent, and nature of financial markets (investments and portfolio construction) everywhere. For example, current (as of the third quarter of 2019) trade and geopolitical tensions between the US and some countries (and continents such as Europe), corporate uncertainty and reduced capital spending, conflicting or uncoordinated monetary policies (for instance, between the Federal Reserve and European Central Bank), and differential economic growth rates among countries have created a hugely uncertain (and risky) environment for the global financial markets, players, and instruments. As a result, the approach or strategy for portfolio construction will be different as greater emphasis on risk mitigation (or more conservativism) is likely to dominate the construction of global investment portfolios.

1.2.2.1 Securities

A generic term for a financial asset is security. A *security* is a legal claim on the revenue streams of financial assets or real assets. Examples of securities with claims on a financial asset are bonds and stocks. Although many securities have a specific collateral (or pledge) to back up the claim to a revenue stream, others have not but simply represent a promise to pay. An example of a security with a claim on a real asset with collateral is a mortgage bond (where the collateral is the actual house). A share of stock is an example of a security without collateral and represents a promise to pay wherever the corporation's directors deems appropriate.

1.2.2.2 Classification of securities

Financial securities are classified in three major categories: equity, debt, and derivative securities. We briefly explain each one below but will explore them in greater detail in Chapter 5.

Equity securities

Equity securities, or common stocks, represent ownership interest in a corporation. A *common stockholder* is an investor who owns a share in a company and each share entitles the owner to one vote in the corporation's important financial matters. Common stockholders are the residual claimants in the sense that if the corporation is liquidated they are the last in line among other claimants (like creditors, the government and so on) to receive what is left. Many common stocks pay *dividends*, which are cash payments made by many corporations to their common stockholders. *Preferred stock*, although an equity security, also has the characteristics of a debt security. It resembles an equity instrument because it pays dividends and a bond because those dividend payments are fixed in amount and known in advance. Thus, sometimes preferred stock is known as a hybrid security.

Debt securities

Debt securities are claims on some known, periodic stream of payments until the end of their life (the maturity date). Debt securities are also known as *fixed-income securities* because they promise a fixed stream of payments or pay a stream of payments on the basis of some formula. The most important category of debt securities is a *bond*. A bond is a contractual obligation of the issuer (or seller) of the bond to repay the holder (or buyer) of the bond a certain amount of interest on the loan in fixed dates throughout its life plus the loan's principal (or initial amount lent) at the maturity date. There are other categories of bonds (or debt instruments) that do not pay interest periodically, sell at discount and return their face value to the investor. These are known as (pure) discount bonds and an example of them is the Treasury bill. In general, there are several categories of debt and other fixed-income securities such as corporate bonds, government bonds, agency bonds, municipal bonds, and international bonds (we will discuss them all in detail in Chapter 5).

Derivative securities

Derivative securities, also known as *contingent claims*, are securities whose values are derived from (or are contingent upon) the underlying asset(s). The two most important types of such securities are options and futures. In general, an *option* entitles (or gives the right, but not the obligation to) its owner to buy (a *call option*) or sell (a *put option*) something on or before some specific point in time. Options and futures have exploded in growth since the 1990s and have received wide use since then as a means of hedging (or insuring against) risk. A *futures* contract obligates the traders to buy or sell an asset at a pre-specified price at a specified time frame. For example, a buyer might be committed to purchase the commodity in exchange for cash given to the seller upon delivery of the commodity on the delivery date. The distinction between the right to do something and the obligation to do something makes options more flexible instruments. However, this flexibility comes with a price, called the *premium*, which is the compensation of the option purchaser to exercise the option when there is a profitable opportunity.

1.2.2.3 Types of investors

Within an economy there are four types of security investors (or players or market participants), namely households, businesses, the government, and the rest of the world. A further classification of investor types is retail and institutional. In general, a *retail* or individual investor is one that has a "small" amount of money to invest, whereas an *institutional* one invests millions of (or more) dollars. Examples of individual investors are you and me (or households) and examples of institutional investors are mutual funds, banks, insurance companies, and other financial institutions. What are the differences and characteristics of each of these players? Let us start with households first.

Households comprise consumers and individual (or retail) investors and they invest in securities in order to earn higher returns (and accumulate wealth) to meet their future needs. Typically, they are (net) savers and they are the ones supplying the funds to other market participants. *Institutional* investors are entities dealing in financial assets and move billions of dollars around financial instruments. These investors comprise mutual funds, investment banks, money managers, insurance companies, and other financial institutions. They are net borrowers of funds (or in constant need of receiving financing). Households invest in a wide variety of securities, just like institutional investors, but differ in many ways. Specifically, retail investors cannot always enjoy all the benefits of investing due to their unique financial circumstances, their limited budget, and tax liabilities which may not be relevant for institutional investors. For example, households may be responsible for paying taxes when receiving income from an investment but institutional investors may have the (lawful) ability to pass their tax liabilities on to you, the investor (as we will see in Chapter 6). Hence, institutional investors are much larger (in terms of portfolio size) than retail investors and have a unique position within the financial system.

Table 1.1 shows the latest data (second quarter of 2019) on the balance sheet of households' and nonprofit organizations in the United States. As you notice, household and nonprofit organizations financial assets include not only stocks and bonds but items like bank accounts, pension, and life insurance funds. Figure 1.1 illustrates the trend in ownership of assets, liabilities, and net worth of both households and nonprofits roughly following the global financial crisis of 2008. As

Table 1.1 Selected balance sheet items of US households and nonprofits, 2019Q2

Assets	**Billions of $**	**Liabilities and Net Worth**	**Billions of $**
Real Assets		Liabilities	16208.2
Real estate	32676.2	Home mortgages	10414.4
Households	29103.3	Consumer credit	4056.7
Nonprofits	3572.9	Bank and other loans	475.2
Nonfinancial assets	38981.5	Debt securities (munies)	214.2
		Trade payables	406.8
Financial Assets	90689.2	Depository institution loans	334.6
Deposits (foreign + checks)	1371.8		
Money market shares	1907.8		
Time and savings deposits	9877.6		
Debt securities	5638.0		
Treasury sec's	2016.5		
Agency and GSE sec's	593.6		
Municipal sec's	1892.6		
Corporate & foreign bonds	1135.4		
Loans	864.7		
Mortgages	66.4		
Corporate equities	18315.3		
Mutual fund shares	9112.0		
Life insurance reserves	1709.8		
Pension fund reserves	27117.8		
Other	1255.9		
Total Assets	129670.6	**Net Worth**	113462.5

Source: Federal Reserve System, Board of Governors, *Flow of Funds Accounts of the United States.* Amounts outstanding end of period, not seasonally adjusted. Assets and liabilities sides do not add up because of omitted items.

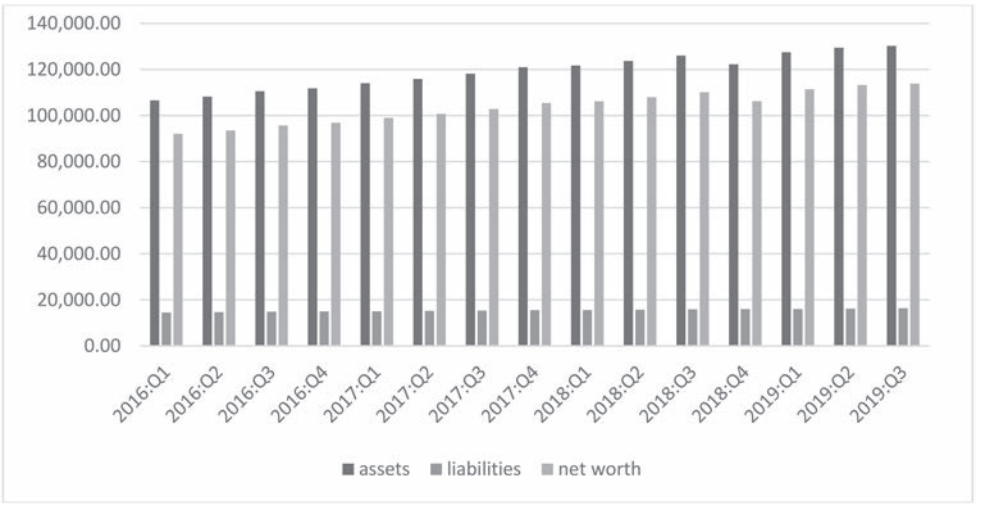

Figure 1.1 Assets, liabilities, and net worth of households and nonprofits.

is evident from the graph, we see a rapid change in assets and net worth with liabilities remaining roughly constant. Specifically, asset growth was approximately 68% and net worth about 44%.

The *government*, in its three classifications, namely federal, state, and local, is another type of market player. The government is also the regulator of many investment activities and sets the rules of the game in the market. The government, at any point in time, can either be a net borrower of funds or a net supplier of funds. By net borrower we mean that it runs a budget deficit, that is, when its expenditures exceed its revenues and by budget surplus when the opposite is true. Most of the time (except for a few years in the late 1990s) the US government ran (and still runs) budget deficits and thus it continuously needs to borrow funds from the public.

Finally, it is important to realize that all above players can also be *foreign* entities, that is, a foreign individual (investor), a foreign corporation, or a foreign (sovereign) government. For example, the multinational corporation is a foreign investor because it borrows funds from the global financial markets to run its worldwide operations. It is through trade and investment (financial and real) that foreign investors play an important role in any economy.

1.2.3 Financial markets and intermediaries

Financial markets exist to facilitate the flow of funds from one group of people, the savers or lenders, to another group of people, the investors or borrowers. The economic function of the financial markets is to increase the efficiency of a mutually beneficial exchange among people or institutions. *Financial intermediaries* are institutions that bring together lenders and borrowers of funds. In other words, they issue claims against themselves (by selling financial assets) in order to receive funds to purchase other financial securities. Examples of financial intermediaries are banks, mutual funds, and investment banks. The main economic function of financial intermediaries is to provide financial services to customers in an efficient manner.

1.2.3.1 The roles of financial markets

Let us begin with a simple question: which assets contribute to the wealth of an economy, real or financial? The answer is real assets, such as land and plant and equipment, because they produce

goods and services. So, would it be possible for an economy to produce goods and services if there were no financial markets to facilitate the flow of funds from those who have excess of funds, the savers, to those in need, the investors? No, because it would not be possible to trade financial assets! Therefore, the role of financial markets is to efficiently allocate financial resources among competing uses and ultimately contribute to the production of real assets in the economy. Real assets define the wealth of an economy, while financial assets define the allocation of wealth among individuals. By efficiency in financial markets we mean that it should not be possible for an investor to find bargains in security markets. In other words, security markets (or assets) should incorporate all relevant information quickly and efficiently regarding the value (price) of those securities so that no investor has an advantage over them. This notion, referred to as the *efficient market hypothesis*, is discussed in detail in Chapter 9.

It is important to note, at this point, that financial markets are not always efficient.[1] There can always be factors (exceptions) that will permit an astute investor to exploit the market (or an asset) and earn a higher (abnormal) return but only temporarily and not on a consistent basis. We refer to such factors as anomalies. One can ask then, "How efficient are financial markets?" We will learn that there are three types of market efficiency. But even if the markets are mostly efficient, there will always be people who will not believe that asset prices are fair (correct), will employ different investment strategies, or have a need of a professional to manage their portfolios. In an efficient market, asset prices would be fair, only one investment strategy would be the best, and investors would invest on their own. Again, we discuss these situations and more in Chapter 9.

Another role of financial markets is to enable individuals to shift their consumption patterns over their lifetime. When individuals do not wish to consume all of their income in the present, they can save a portion of it for consumption or investment in later periods. Furthermore, they can select among the vast diversity of financial instruments with varying degrees of risk to invest in. If an investor wishes to purchase stock in a company, then he is taking on more risk than simply "parking" the money in a safe bank account. So, financial markets permit investors to spread or allocate risk in their investment holdings depending upon their tolerance for risk. This issue is further taken up in Chapter 3. The box on **International Focus** discusses the causes that created the global financial market crisis of 2008. The box on **Lessons of our Times** highlights the issues that financial institutions faced and contributed to the global financial crisis and discusses the lessons learned from such an experience.

In sum, financial markets allow individuals to achieve a higher level of utility in the future than would be possible in their absence. More discussion on these and other functions of the global financial markets is offered in Chapter 4. Please see the box **Applying Economic Analysis** for an example of how financial markets maximize the utility of individuals.

1.2.3.2 The roles of financial intermediaries

As stated above, financial intermediaries bring together surplus funds units (savers) and deficit funds units (investors). Under this capacity, financial intermediaries accept funds from savers and lend funds to investors. In addition, some financial intermediaries issue their own securities to finance purchases of other institutions' securities. In general, financial intermediaries differ from other companies in the sense that their business is in financial assets. For instance, if we compare Ford Motor company (FORD) with a commercial bank, we will see that FORD has more real assets (like plant and equipment) and fewer financial assets, whereas the opposite is true for the bank. This is so because a commercial bank simply channels funds from households to the business sector. That is the social function of such intermediaries. Another example of a financial intermediary is an investment company, commonly known as mutual fund. A mutual fund simply pools the funds of small investors and invests the resulting big sum in a variety of financial assets on their behalf. The ability to invest in such a great variety of instruments and the efficiency with which this

is done, at the same time achieving a low cost (per unit) of investing, is referred to as *economies of scale*. The latter also generate huge advantages for small investors who obtain timely information on their current and prospective investment choices.

1.3 The objectives and constraints of investors

Recall the general definition of economics: the study of how a society manages its scarce resources. Society solves the management and allocation of resources when it employs its resources efficiently so as to satisfy insatiable human wants. Let us adapt the definition to the study of investments. Investors also have scarce resources like time and money, as we discussed earlier. In addition, investors would like to maximize their reward to the highest extent possible, given their appetite for risk (recall risky versus safe investment instruments). So, investors need to prioritize their investment alternatives, just like consumers prioritize their wants (necessities and luxuries) and select the ones that would give them greater utility (or satisfaction) sequentially. Therefore, investors must know their objectives, such as the maximization of reward, and their constraints, their budgets for instance, before they begin investing.

To better understand the objectives of investors, individual and institutional, we need to explain the term risk and the three attitudes (or appetites) they possess toward risk. *Risk* has a lot of definitions. For example, it can be defined as the probability that there might be an unfavorable fluctuation in the rate of return of a security. This means that the actual rate of return may be different from the expected one due the uncertainty of expected cash flows of the asset. Even in the case of a safe investment, such as the Treasury bill, there is still the risk of receiving less in real terms (due to inflation). The point is that there are several risks in investing but we will discuss them in more detail in Chapter 3. The three attitudes toward risk are: risk loving, risk aversion, and risk neutrality. A *risk-loving* investor is one that would take a fair game (a fair game is one where an equal chance of winning/losing is present or that the expected payoff is zero). In other words, the utility (or satisfaction) investors derive (from a bigger game) from winning exceeds the disutility (or dissatisfaction) from losing. A *risk-averse* investor is one that is reluctant to accept risk. However, the investor would take more risk if he expected to earn a higher return. Relative to a risk-lover, the risk-averse investor would *not* take the fair gamble. Finally, a *risk-neutral* (or risk-indifferent) investor is one who does not care much about risk. These attitudes toward risk are also known as the investor's *risk tolerance* (or the opposite of the degree of risk aversion). Let us now specify the investors' objectives with the two elements of investing, namely risk tolerance and return, in mind.

1.3.1 The objectives of investors

The starting point in this process for the individual investor is to determine the characteristics of the various investments and then match them to his particular needs and preferences. All personal investing is designed to achieve certain objectives, tangible such as family and large purchases, or intangible (or financial) such as retirement and investments return. The individual's objectives regarding financial investments pertain to what he desires to achieve with his investment (financial) portfolio. In general, objectives can be classified into return and risk objectives. For example, a risk objective would entail the specification of an investor's willingness (and ability) to assume more risk (that is, be aggressive) or less risk (or be conservative) with his financial investments, while a return objective would constitute specifying his desired or required return on his investment portfolio. We will discuss these alternatives in detail in Chapter 3. The Market Flash box discusses if investors realize their objectives.

MARKET FLASH

Are you realizing your objectives?

With student debt on the rise in the US, some young millennials (ages 22–28) are choosing to put off four-year college and house purchases. Prospective students are considering other options, such as taking online classes and completing a two-year degree instead, and other millennials are delaying buying homes because of high student debt.

Despite the 2018 market volatility, investors saving for retirement are not panicking but are staying focused on their long-term savings strategy. Other investment institutions report similar long-term thinking and perspective among their customers in retirement accounts, suggesting a more disciplined investment mindset.

Approximately half of Americans with children aged 18 or older have sacrificed or are sacrificing their own retirement security in order to financially support their kids.

Institutional investors such as mutual funds, pension funds, endowment funds, insurance companies, and banks, which provide investment services for a fee, also have objectives. For example, mutual funds, which pool together individual investors' funds and invest them on their behalf, have specific objectives (called investment policies) for their business and are outlined in their prospectuses. For example, an equity fund's objective is to invest primarily in stocks and to provide its customers with either high current income (or high dividend yields) and/or capital gains. A bank's objective is to maximize its earnings by earning a positive spread between lending and borrowing rates. Finally, a life insurance company's objective would be to earn sufficient funds to meet future obligations for its policyholders.

Investors' objectives vary among each group (retail and institutional) and can arise from various factors. One factor, for the retail investor, is the investor's *age*. Age can define an investor's objective by making him more aggressive or conservative in his investment choices. Simply put, when individual investors are young, or at the early years of their productive and earning years, they can tolerate taking some risks. The reason is that they have ample time ahead of them to not only recoup any losses that would occur during their working life but also to increase their expected rates of return. So, we can say that such investors have a high level of risk tolerance and can be aggressive in their investment choices. At the other extreme, it is possible for a conservative investor to outlive his investment income because he was overly conservative! By contrast, older individuals such as retired people cannot afford to assume much risk because they not only have a smaller number of years left to live but also because they live on fixed incomes. So, for these investors risk tolerance diminishes and they usually (tend to) invest in more conservative securities.

Another factor is individual investor *preferences*. These include investments in human capital (education and/or building up their earning power) or major purchases during the lifetime of the investor. A great concern of individual investors during their prime working years is also protection against risk (due to sickness or loss of employment). In this sense, individuals purchase insurance as a hedge (or protection) against disability or death. Major purchases involve real assets, such as a house, and financial assets, such as stocks and bonds. These investments are made possible by the increase in the investor's earning power over time and have become an essential element in an investor's portfolio. No wonder then that an entire financial industry (i.e., professional investors) has emerged in order to assist these individuals with their investment choices by giving them advice and/or managing investment accounts for them.

1.3.2 The constraints of investors

Individual and institutional investor *constraints* are either internally defined, that is, arising from investors' specific circumstances and needs, or externally imposed. For instance, age (as well), taxes and regulation are obligatory, while liquidity and other special needs are investor-specific. In general, constraints limit investment choices and, along with the objectives, they determine the investor's appropriate investment mix. Let us briefly explain each of these constraints.

Taxes on investment returns usually have to be paid (unless the investment instrument is a tax-exempt one, like a municipal security), and the correct rate of return on an investment should be defined as the after-tax return. Both investor groups are concerned with tax-sheltering policies or tax-deferred investments in an effort to meet their respective objectives. The *regulatory environment* also limits investor actions. For example, institutional investors are bound by federal, state, and local rules and regulations regarding their conduct of business. The *prudent man law*, for example, refers to the fiduciary responsibility that professional investors have to serve the best interests of their clients (or investors). Several agencies regulate the business of investing, such as the Securities and Exchange Commission (SEC) and the Federal Reserve (Fed).

Liquidity constraints pertain to both investor groups and refer to the ability and the cost with which an asset can be converted into cash. For example, if an investor has a specific need to set aside an amount of money for a major purchase then this amount is considered a (liquidity) constraint. An asset that can be exchanged for cash quickly and with little cost is a *liquid asset*. Money market instruments, such as Treasury bills, are highly liquid, while capital market instruments such as bonds are less liquid. Cash is the most liquid asset and real estate is the least liquid asset. These (and more) market instruments are discussed in Chapter 5.

Age can also be a constraint because it defines the investor's *investment horizon*. As explained above, although the stage in the investor's life shapes the investment objectives, it can also affect the choice among assets. For example, if an investor knows that he will need a specific amount of money at some future period, then investing in a bond whose maturity coincides with that period could be the rational choice for that investor.

Finally, investors differ among themselves in their specific circumstances at different stages of their life, if they are individual investors, or in their unique investment policies, if they are institutional. For example, a married couple with children will naturally have to think about their children's education, while for a single individual this may not be a concern. An institutional investor, say an *endowment fund* (which entails the management of portfolios for the benefit of nonprofit institutions such as a university), usually applies a conservative investment policy, but such an objective may change given a substantial change in the university's circumstances. Finally, the amount of initial capital might be a constraint for a novice investor, but this may not be a real disadvantage if he chooses specific investment vehicles such as mutual funds (as we will see in Chapter 6).

A written description of an investor's return objectives and constraints along with his investment horizon and risk tolerance is known as the investor's *investment policy statement*. Such a statement serves as the foundation before the professional portfolio manager takes any investment action on behalf of the investor (his client). The next step is to create the investor's portfolio, execute it, and then monitor and evaluate it. Let us now explain briefly the (portfolio) investment management process.

1.4 The investment management process

Investment management refers to the professional management (investment) of a person's money (funds). Investment management is part of the *financial services industry*, which provides services to

individuals and companies in achieving their goals. We said above that once the client's investment policy statement is prepared, the next step is the construction of the actual portfolio (comprising of the asset allocation and security selection steps) and finally an evaluation of the portfolio's performance. It is important to stress that the process does not stop there. Once the portfolio is built, the manager (and the client) can't just sit back and relax! Since investing is an ongoing process, the portfolio must be continually monitored and adjusted, aligning it with the investor's objectives and constraints. This is a dynamic and systematic process that can be both simple and complex. We will treat the investment (management) process in greater detail in Chapter 2.

What is the objective of the investment management process? First of all, recognize that professional portfolio managers get paid for managing other people's money and that their pay is fee-based. This means that the more money a manager is handling, the greater the resulting fees and the higher the manager's salary. The objective of the portfolio manager is to use the inputs (i.e., funds, technology) as efficiently as possible in order to generate the greatest expected return possible for the client, given the constraints. The inputs are spelled out in the investor's policy statement and the constraints are the investor's risk tolerance and preferences. Thus, the objective of investment management is to maximize a client's expected return given his risk constraints.

What could the future for investment management hold? Gary Brinson, a 35-year veteran investment manager, argues that investment analysis and management will become more rigorous in the future.[2] In addition, the process of constructing global portfolios will change dramatically becoming much more focused and specific. For example, country equity asset allocation will be replaced by global sector or industry asset allocation. Furthermore, due to the fragmentation and lumpiness of investment management, investment advisers (and their clients) need to be more careful in recognizing the characteristics of the markets. He hopes that "investors will spend more time on an organization's investment philosophy, process and people than on past results and, when analyzing past performance data, will apply statistically rigorous performance evaluation".[3]

A recent book by R. Kahn on the future of investment management warns that the field is in a state of flux, as active management is under pressure, with investors switching from active to index funds; new financial products offer low-cost exposures to many active ideas; markets and regulations have changed significantly over the past ten to 20 years; and data and technology are evolving even more rapidly. He discusses various trends that have shaped the investment management field including indexing, smart beta investing, and pure alpha investing that necessitate goals beyond simple returns.[4]

1.5 The role of investment information

In order for an investor to achieve his objectives (given the constraints), it must be possible to obtain adequate information on the available investment choices. Some of the desirable properties of information are accuracy, timeliness, and relevance. Therefore, before making a final investment selection, the investor needs to ask questions such as, what type of information do I need? How and when can I use it?

Financial markets, as well as market participants such as brokerage firms, provide ample information on financial and real assets and the economy in general. Investors use this information to make rational choices among investment alternatives and meet their investment objectives. For example, an individual who plans to buy a house will need to know the specifics of obtaining a mortgage as well as the prevailing interest (or mortgage) rates. Similarly, another investor who wishes to save part of his income will need to know the savings rates and other comparable interest rates that banks in his neighborhood currently offer. Finally, asset prices and market interest rates guide a firm's management to appropriately select among investment projects and arrange for their financing.

There are numerous sources of information for investors on practically all sorts of investment alternatives. Investors can read newspapers, navigate the internet, watch television, listen to the radio, go to the library, or simply consult a company. When investors wish to obtain comprehensive and structured information, they may visit a brokerage firm (such as Schwab, Goldman Sachs, JPMorgan Chase) and pay a service fee. The brokers who offer such information are known as full-service firms, whereas those who do not provide information to their clients but only transact on their behalf are known as discount brokers. We will discuss these brokers and the sources of information in detail in Chapter 6. Table 1.2 contains some sources of financial and economic information an investor typically uses.

Despite the abundance of information (even public information), information is not free but comes with a cost. Economic intuition will help us understand why information is costly. Theoretically, an investor can collect enormous amounts of information about a specific security before making a decision. But the gathering of information is costly in terms of time, money, effort, etc. In addition, the amount of information will surely contain conflicting notions about the security in interest and the investor may not be able (or knowledgeable enough) to ignore this "noisy" information. Here, we assume that all available information may not be embedded in the current asset's price, which is why the investor searches for additional information (this is an important topic on informational efficiency and financial markets and will be discussed at length in Chapter 8). So the investor needs to balance the extra (marginal) cost of obtaining information with the marginal benefit of using the information before making a decision on the asset (to purchase, buy, or hold it), among other things.

Here is an example. On average and on a consistent basis, money (mutual) funds managers have been unable to beat the stock market, that is, to earn a higher return than the aggregate

Table 1.2 Sources of financial and economic information

Newspapers	**Web address**
Wall Street Journal	online.wsj.com
Barron's	online.barrons.com
Investor's Business Daily	www.investors.com
Financial Times	www.ft.com
Periodicals	
The Economist	www.economist.com
BusinessWeek	www.businessweek.com
Forbes	www.forbes.com
Fortune	www.fortune.com
Web-based	
Yahoo! Finance	finance.yahoo.com
Bloomberg	www.bloomberg.com
Standard & Poor's	www2.standardandpoors.com
Morningstar	www.morningstar.com
Reuters/Eikon	www.reuters.com
Government	
Securities and Exchange Commission	www.sec.gov
Federal Reserve System	www.frb.org
Securities Investor Protection Corp.	www.sipc.org
FINRA	www.finra.og
SIMFA	www.simfa.org

market. Any informational advantage they (thought they) possessed was quickly dissipated through the (global) investment community and thus eliminated any excess gains to be made. This is true given the widespread availability of information and the speed with which such information is transmitted. So, any additional information that you might have collected or uncovered, as an individual investor, might not work to your benefit. We will explore this situation in greater detail in Chapter 9.

How do you feel about investing on your own? If you think that you are not knowledgeable, you are afraid or you are hesitant, do not despair! A recent study reveals that while 60% of affluent millennials do not feel knowledgeable about investing, those who learned about investing before they were 15 years old are twice as likely to feel like they understand the topic compared to those who did not.[5] *Investopedia* and *Chirp Research* surveyed 1,405 affluent Americans online, including 844 millennials aged 23–38. While the median household income for millennials in the US is $69,000 a year, the Investopedia study talked to millennials with a median household income of $132,000. But while this generation (and you, perhaps) may fear the (global) financial markets, the evolution of investment vehicles has made investing easier for millennials than it was for their parents.

So, where would you go to learn about investing, besides reading this textbook (among others) and taking relevant finance courses? We discussed the sources of information above, but millennials also learn about investing and keep up-to-date with financial information by talking to professionals. The above survey found that almost two-thirds of millennials believe financial advisors are the most trusted source of financial advice and information. More than half also trust financial information from books (58%), television shows (54%) and newspapers (53%). However, since you are a serious finance learner, you should always be cautious about investment (or any, for that matter) advice! We will learn of the various ways unscrupulous investment advisors and portfolio managers act in order to extract value from your investment portfolio. Simply by using your common sense and equipped with some knowledge, you should be able to navigate these uncharted waters.

1.6 Agency and ethical issues in investing

We stated in the beginning of this chapter that the investment environment is composed of the various securities and security markets as well as the various players in the economy. The players in any economy are households, businesses, the government, and the rest of the world. These players interact with one another on a daily basis and, because of this interaction, several problems (issues) emerge. In this subsection, we discuss three conflicts that arise when financial markets are not functioning efficiently. Conflicts arise among the firm's stakeholders (a *stakeholder* is anyone who has an interest, a stake, in the business such as owners, creditors, customers, the government, and so on). These conflicts are asymmetry of information, the agency problem, and the crisis in corporate governance. In addition, we will take up the subject of ethics in investing, which is always a current topic when people manage other people's money.

1.6.1 Asymmetric information

The problem of *asymmetric information* arises when one party has more (or better) information than the other party in a transaction. If the party with the additional information cannot reveal it to the other party, then we have an inefficient allocation of resources. Consider a similar example of the market for used cars, which highlighted George Akerlof's award of the Nobel in Economics in 2001 and his famous paper titled "The Market for Lemons: Quality, Uncertainty, and the Market

Mechanisms", published in 1970. The potential buyer of a used car cannot know how the car's previous owner drove it or its exact condition. In this case, the seller of the used car has more information that the potential buyer. The alternative would be to buy a similar used car from a dealer. The price of the dealer's used car would be higher than the price of the private person's used car. Only if you knew with certainty that these two used cars were nearly identical might you be indifferent between the two cars. In some cases, asymmetry of information is powerful enough to distort a market or shut it down completely.

Why is asymmetric information so crucial to an understanding of financial markets? Perhaps because it is related to people's needs for financial assets in the first place. People who trade financial assets have no intrinsic desire for the asset itself, they only care about how its value will change in the future. That means that while information is important for many products, when it comes to financial markets, information is the product.

Why should asymmetric information be of concern, particularly for investors? First, because asymmetric information poses significant problems to a firm's shareholders. For example, managers usually have better information than investors about the (uncertain) prospects of a proposed project. If the firm does not have sufficient funds internally to finance this project, it may be forced to raise those funds from new investors (new shareholders). A conflict may arise in this case because existing shareholders will be unwilling to share their portion of ownership with new investors as they will suffer a dilution (or spread) of earnings as a result. In addition, managers may have to give up an investment project that would potentially raise the wealth of both current and new shareholders. Foregoing a potentially profitable project because of such conflicts is economically wasteful and results in an inefficient allocation of resources.

Second, asymmetric information generates two equally important (and related) problems for firms and their stakeholders. One is *adverse selection*, which emerges when one person is more informed about the qualities of a commodity than another person and, as a result, the other less informed person runs the risk of purchasing the lower-quality commodity. For example, people who purchase health insurance know more about their personal health than their insurance companies. Furthermore, if these people have serious health problems, they will tend to buy more insurance compared to other people who are relatively healthy. So if insurance companies are to stay in business, they must price the provision of health care higher than average to reflect the costs of the sicker people, on average. This pricing policy, in turn, may discourage average healthy individuals from purchasing health insurance, which implies market failure.

The second problem of asymmetric information is moral hazard. *Moral hazard* is closely related to the agent-principal problem we discuss next. It arises when one party cannot effectively monitor the actions of another party who is hired to do a job (say, a manager in a corporation). As a result, the hired person has an incentive to shirk and/or work to benefit himself much more than his employer.

Can you exploit asymmetric information to your advantage, as an individual investor? Perhaps. Consider this example. You are researching to find companies that you wish to invest in and thus you spend time, money, and effort to select among the thousands of possibilities. In order to have a chance at success, you should be able to uncover something that other investors have not found or simply do not know about. For example, if you look at the companies near where you live, it is possible to know a bit more about them (for instance, how they conduct business with the public, whether they give to the community, what their relationships with employees and suppliers are, and the like) than investors who live far away. Thus, you have an upper hand on the publicly available information because you know a bit more about the company that is not published anywhere, especially if you deal with it as a customer. Thus, by looking at such companies, you lower the cost of your search (for information) but increase your marginal benefit from the extra information you have. Thus you might profitably exploit such information asymmetry to your benefit, meaning that if you invest in the company you might be rewarded. See the Market Flash box.

MARKET FLASH

Reducing asymmetric information

Information asymmetry is adversely affecting all market agents and the competitive market in general, and consumers have to make decisions based on partial and often biased information. But today, a growing number of companies arm consumers with the same information that businesses have long had. With full information, consumers are able to see through marketing schemes, overpriced products, and inferior goods and services, and they can then offer their business to the companies that offer the highest quality offerings for the most reasonable price.

The auto industry is one such market in which buyers are increasingly gaining access to equal information and being put on a more level playing field. With publications on the values of new and used cars and appraisals services, consumers are now equipped to negotiate on more equal terms with the dealer. The real estate market is another market in which consumers are gaining more access to information with which to make more informed decisions. Realtors are now providing homebuyers with critical information like average home prices by neighborhood, a property's historic sale pricing, as well as details on similar homes for comparison purposes.

Source: Huffpost.com

1.6.2 The agent-principal problem

In a corporation, which is a legal entity separate from its owners (i.e., the stockholders) or principals, an agent (manager) is hired to manage the business by the principals. A *conflict* arises when *the agent* does not pursue actions in the best interests of *the principals*, as should be the ideal case. In fact, if stockholders are unable to monitor the performance of the manager, the manager may very well act in his own interest to the detriment of the stockholders. For instance, the manager may engage in actions that promote his own well-being, and display extravagance in public, knowing that the cost will be borne by stockholders. How do stockholders mitigate this problem? There are mechanisms in place that tie the manager's compensation to the realization of the objective of the corporation, which is the maximization of shareholder wealth. One such mechanism is stock options, which increase in value when the company's stock increases (which, naturally, is a result of prudent manager actions). Another, more drastic mechanism to ensure the best performance from the the manager is the threat of takeover by another company. When another firm acquires a firm that is underperforming, the latter firm's manager(s) are usually fired and replaced by officers from the takeover firm. Read the Market Flash box on conflicts.

Another conflict arises when the interests of shareholders and creditors are different. For example, consider the situation where the manager wants the corporation to engage in a risky project, without selling more shares to raise the funds to finance it, but borrowing money from creditors instead. The conflict arises because the stockholders know that if the project goes sour they will lose, but the creditors will still be paid. If the project is successful both creditors and shareholders will share the potential reward. Also, the creditors have another incentive to push for this investment, because they know that in the event of liquidation of the company, they will be first in line to be compensated. Consider another example of this conflict. Assume that stockholders persuade management to take on a venture that creditors find to be riskier than expected. The higher risk causes the value of existing debt to go down and thus put creditors (who have supplied additional capital to the firm) at risk. However, if the project goes well, all the rewards will accrue exclusively to the stockholders because creditors get only a fixed return. On the other hand, if the project fails bondholders may also have to share the loss. From the shareholders' point of view, this situation is a "heads I win, tails you lose" game, which may not be viewed well by creditors.

MARKET FLASH

Conflicts between managers and shareholders?

The Business Roundtable, an association of the most powerful chief executive officers (CEOs) in the US, announced in August 2019 that the era of shareholder prevalence, the principals, is over. America's corporate leaders now believe that they can decide freely whom they serve. However, agents argue that this decision is not for the principals to make. That American CEOs think they can choose their own masters attests not just to their own sense of entitlement, but also to the state of corporate America, which has spread its power all over the globe. For example, JPMorgan's Jamie Dimon, the chair of the Business Roundtable's own board of directors, served as both CEO and chair of the board of directors, in violation of corporate-governance principles that recommend separating these two positions.

For CEOs, maximization of the share price is everything. Why, then, would CEOs come out against a status quo that has allowed them to reign almost unchallenged, in favor of a stakeholder governance model that puts employees and the environment on an equal footing with shareholders? The answer is that share price primacy has ceased to protect CEOs in the way it once did and, most importantly, it has become a threat. The emergence of powerful shareholder blocs has changed the corporate-governance game as moving trillions of dollars of savings that need to be invested, institutional investors simply "rule".

American CEOs seem to have concluded that best defense is a good offense. But if they are serious about abandoning the shareholder-primacy model, they will need to engage in a variety of actions such as public statements and legal reforms, particularly the measures needed to hold corporate directors and officers accountable to the principals they serve.

Source: Katharina Pistor, *Financial News*, Aug 29, 2019, https://www.fnlondon.com/articles

1.6.3 Ethics in the marketplace

In addition to the problems discussed above, other kinds of behavior, by investment advisors or professional investment managers, are typically found in the marketplace and particularly in the investments area. This behavior might be motivated by the lax regulatory environment and by the trust that unsophisticated and uninformed investors place in the professional managers who are managing their money. Unethical or questionable behavior may also come from various market participants such as investment advisers, accountants, or investment banks, and in various forms like misrepresentation of a company's financial strength, manipulation of financial/accounting information, publishing misleading research, and so on. Specifically, within the institutional investor body there are state laws and "prudent man" laws (or *prudent investor rules*) that govern the professional manager's behavior and/or limit the allowable types of investments. In other words, such professionals have the *fiduciary responsibility* to serve the interests of their clients as best as they can. Unfortunately, some of them do not take that responsibility very seriously. Fortunately, however, these people amount to just a small fraction of the profession.

Let us present some notable examples of such unethical behavior. In the early 2000s, Enron corporation (a company dealing in energy) mis-stated its financial statements and used questionable accounting practices to convince investors that the company was healthy. The company hid its huge debt and artificially inflated its earnings. The company went bankrupt in 2001 and its chief financial officers and other managers were indicted and/or paid significant fines. WorldCom corporation, the (then) number 2 long-distance telecommunications company in the US, declared bankruptcy in 2002, when it was revealed that shady and fraudulent accounting methods were used to cover the company's declining financial condition and to increase its share price. The company's chief executive officer (CEO) and chief financial officer (CFO) were found guilty in 2005 and were sentenced to jail. Parmalat, an Italian-based, multinational corporation dealing in dairy products,

claimed it had nonexistent accounts in US banks hiding its actual debt and transferring huge amounts of money to the founder's family business. The company's CEO went to jail in Italy and the company collapsed in 2004. In 2008, a wave of financial companies like Bear Stearns, Lehman Brothers, and others filed for bankruptcy or were liquidated because they were involved in risky securities in the housing industry and withheld those risks from their investors. These companies' CEOs either were under federal investigation or indicted. A recent unethical behavior incident was admitted by Wells Fargo's CEO, John Stumpf, who in a congressional hearing in 2016 apologized for the bank opening as many as 2 million bogus customer accounts that generated fees for the lender. "I accept full responsibility for all unethical sales practices", he said in the hearing. Finally, another example of unethical behavior by one of Wall Street's top brokers came to light in 2008/2009 which, as expected, burned many investors from a so-called Ponzi scheme. See Box 1.1 for details.

Other scandals involving a different kind of behavior rocked Wall Street in the 1990s. Accounting scandals involving the once-major accounting firm Arthur Andersen (in association with Enron and other corporations), or investment banking scandals such as Credit Suisse First Boston and Citigroup/Solomon Smith Barney banks. In Arthur Andersen's case, the company was barred from auditing companies' books and was ultimately dissolved. Investment bankers assist a firm to go public and launch a first-time stock offering called an initial public offering (more on that in Chapter 6). The firms allocated shares to preferred clients as a quid pro quo for their investment banking services. Several CEOs from these banks were indicted and sentenced to jail and/or required to pay huge fines. A recent incident (as of October 2019) of unethical conduct involved the company Infosys, where the US Securities and Exchange Commission cited anonymous whistleblowers (current Infosys employees), who said they had evidence that senior executives oversaw irregular accounting practices in order to boost the company's short-term financial statements.

Box 1.1 Ponzi scheme and Bernie Madoff

The Madoff scandal

One of the most severe financial frauds in the history of the United States came to the fore in 2008, when Bernard Madoff, a former NASDAQ chairman, was arrested by federal agents. The charge was that he ran, for years, a $50 billion "Ponzi scheme" and deceived investors by operating a securities business that lost money. Essentially, he was paying off some investors with the funds put up by other (new) investors in the business – which is the basis of a Ponzi scheme. The Securities and Exchange Commission (SEC) defines a Ponzi scheme as follows: "A Ponzi scheme is an investment fraud that involves the payment of purported returns to existing investors from funds contributed by new investors." Typically, such schemes tend to collapse when inflows of new money dry up or when existing investors want to cash out.

See the SEC's website http://www.sec.gov/answers/ponzi.htm

So what is being currently done to suppress future episodes of unethical behavior? Despite the mechanisms already in place to deter such wrongdoings, such as being cast (forced) out, and the increasing public outcry from consumers combined with the threat of activist investors, unscrupulous people have always found (and, naturally, will continue to find) ways around the laws to pursue their own self-interest. New laws have been enacted in recent years in response to these waves of unethical board practices (now called crises in *corporate governance*) that have resulted in severe financial crises, like the Sarbanes-Oxley Act of 2002, and the Securities and Exchange Commission's Fair Disclosure regulation put forth in 2000. The Sarbanes-Oxley Act created the Public

Company Accounting Oversight Board to oversee the auditing of companies, and it made CEOs personally responsible for certifying their firms' financial reports. The SEC's regulation prohibits the dissemination of relevant information to outsiders, such as analysts, before it is made public. The rationale for this is to quell biased analysts' research in exchange for other services by the company. A securities investor has some extra protection coming from the Securities Investor Protection Corporation (SIPC). SIPC is a nonprofit corporation that insures customer accounts (for up to $500,000) with brokerage member firms against failure. An investor can seek damages from a brokerage firm (that is, a firm that buys/sells securities on his behalf), if he is not happy with its advice and services. This is done via arbitration before a major stock exchange body (the National Association of Securities Dealers, NASD, as we will see in later chapters).

Finally, another way to deter such practices by professional managers and advisers is for the investor to shun such organizations. In other words, investors should reward institutions which apply ethical behavior or *social investing* and "punish" those that do not. As an example, investors might want to avoid investing in firms that pollute the environment irresponsibly. An actual example can be drawn from the 1980s, when US multinational corporations and other investors avoided investing (or doing business) in South Africa (because of apartheid).

1.6.4 Environmental, social, and governance

There is a new buzzword these days – Environmental-Social-Governance or ESG – comprising issues such as environmental (climate) concerns, social responsibility by corporations including socially-responsible investing efforts, and corporate governance. Let us briefly discuss each of them.

1.6.4.1 Social responsibility issues

An issue worthy of attention is *social responsibility*, which refers to the efforts that businesses make to enhance society's welfare. ESG grew out of a sense of social responsibility and now includes additional concerns**,** such as lower crop yields, defaulted loans, and political conflicts/instability. Some relevant questions must be addressed regarding social responsibility. For example, should businesses act in the best interest of their shareholders (owners), or be responsible for the welfare of all other stakeholders in general? Surely businesses have an ethical responsibility to provide a safe product, safe environments for their workers, and so on. However, socially responsible actions have costs, and if one firm acts in that manner and another does not, the former will be at a disadvantage in many respects. This, in turn, may make the firm less competitive, incur higher borrowing costs, and cause its stock price to decline. Let us consider the following scenario to trace the impact on investors. An investor is considering investing in two firms, one that behaves in a socially responsible manner and another that does not. In all likelihood, most investors will ignore the former firm for the following reason: why should the investor of one corporation subsidize society to a greater extent than another corporation? But does all this mean that firms should not engage in a socially responsible manner? No. Firms realize that socially responsible behavior is not only good for society, but also a benefit for them in the long run. Hence social responsibility is desirable and investors are very much cognizant of that.

In general today, several tenets make up social awareness. A company's recruitment policy is one, and this is becoming a key concern to investors worldwide. The broader the pool of talent open to an employer, the greater is the chance of finding the optimum person for the job and thus bringing greater value to the company. Another tenet covers human rights or the general health and welfare of employees. One more element of social responsibility is consumer protection, as it is increasingly recognized that consumers have a right to a degree of protection, evidenced by the growth in damages.

A related issue is *socially responsible investing* (SRI), which encompasses additional socially conscious investment activities such as those that do not harm the environment, that protect human rights and that generally promote (and maximize) the social good. Investors concerned with SRI are urged to avoid companies that pollute the environment, apply unfair labor practices, or engage in unethical business practices. In general, socially conscious investors use three investment strategies to maximize both their return and the social good: they remove their investment portfolios from abuser firms (called screening), they take an active role in discussing general societal or business-governance concerns (called shareholder activism), and they direct their investment activities toward less-advantaged communities (known as community investing). According to the 2019 *Report on Socially Responsible Investing Trends*, "total US-domiciled assets under management using SRI strategies grew from $8.7 trillion at the start of 2016 to $12.0 trillion at the start of 2018, an increase of 38 percent. This represents 26 percent of the $46.6 trillion in total US assets under professional management".[6]

1.6.4.2 Environmental issues

The threat of climate change and the growing depletion of resources are pressing issues today. Global investors realize that they need to factor sustainability issues into their investment choices, since such issues generate negative (and elusive) externalities, such as influences on the functioning and revenues of the company that affect the revenue streams and supply chains of companies. In general, every area of the debate from the depletion of resources to the future of industries dependent upon diminishing raw materials, to the question of the obsolescence of a company's product or service is becoming central to the value attributed to that company.

1.6.4.3 Corporate governance issues

Corporate governance comprises the mechanisms, processes, and relations by which corporations are controlled and operated to alleviate the problem of agency relationships. In essence, it outlines the distribution of rights and responsibilities among the stakeholders of the corporation (such as the board of directors, managers, shareholders, creditors, auditors, regulators, and others). Corporate governance practices can be seen as attempts to align the interests of stakeholders. Another reason for the impetus in the corporate governance practices of modern corporations, particularly in relation to accountability, was the high-profile collapses of a number of big corporations in the early 2000s (most of which involved accounting fraud) and the recent global financial crisis. As a result, since then a large (and growing) number of corporations have included in their websites a section on corporate governance (and responsibility).

A number of academic and professional studies have clearly demonstrated a positive relationship between high performance on relevant ESG issues and superior (corporate) financial performance. A study by Harvard Business School's Eccles, Ioannou and Serafeim (2014) found that companies that developed organizational processes to measure, manage, and communicate performance on ESG issues in the early 1990s outperformed a carefully matched control group over the next 18 years.[7] In a different but related study on corporate sustainability, Khan, Serafeim and Yoon (2016) demonstrated the positive relationship between high performance on relevant ESG issues and superior financial performance.[8]

In 2017, environmental-social-governance (ESG) investments grew 25% from 2015, accounting for about one-quarter of all professionally managed investments globally.[9] A 2017 study by *Nordea Equity Research* reported that from 2012 to 2015, the companies with the highest ESG ratings outperformed the lowest-rated firms by as much as 40%. In 2018, Bank of America Merrill Lynch found that firms with a better ESG record than their peers produced higher three-year returns, were more likely to become high-quality stocks, were less likely to have large price declines, and were

less likely to go bankrupt.[10] ESG issues are a "hot topic" as money managers and other institutional investors worldwide realize the value of these three items (environment, social conditions, and corporate governance) for their clients and companies alike. It is no wonder that universities and companies have dedicated vast resources to studying the trends in these items.

Overall, responsible investing is widely understood as the integration of ESG factors into investment processes and decision making. ESG factors cover issues that traditionally are not part of financial analysis and hence they need to be included in the decision-making process. This might include how corporations respond to climate change, how effective their safety policies are in the protection against accidents, how they manage their supply chains, how they treat their workers, and whether they have a corporate culture that builds trust and fosters innovation.

1.7 So why study investments?

We end this chapter with an important question: why did you enter in the field of finance (and its subcategory, investments) as a college student? Well, in order to answer this question – and, of course, answers will vary among students (but not much!) – let us recall why people invest. People invest for reasons such as earning a higher income on top of their normal income, enjoying potential capital appreciation from their investments, securing (to the extent possible) a better retirement, or even for the thrill of the act itself. Investing is practical and is a means to an end. Therefore, for all the above reasons you have decided to enter this exciting field, or perhaps because you have heard that employment opportunities in the areas of finance and investments are growing and are highly rewarding, or because you simply wished to follow your parents' careers.

In general, finance is divided into three related areas of study: investments, financial markets and institutions, and corporate finance. Obviously, the area of *investments* involves the decisions made by individuals, companies, and institutions when forming investment portfolios. As mentioned earlier, the greater investments area also includes investment management or the services provided by professional retail and institutional agents to individual investors and companies. The area of *financial markets and institutions* (or *money and capital markets* or *money and banking*) deals with the various financial markets, institutions, and instruments that interact with the four players in the economy. Specifically, financial markets supply the means by which households, businesses, and governments obtain financing. Financial institutions are the intermediaries in the financial markets because they create the financial instruments that enable the above players to achieve their functions (and goals). Global financial markets (or the global financial environment) are explored in detail in Chapter 4. Finally, *corporate finance* (or financial management) deals with the operation (running or management) of the firm itself. This includes managerial functions like investment and financing decisions, planning and forecasting, and dealing with the financial markets.

So, you have ample choices to start a professional career in the fields of accounting, finance and investments, in particular. According to the United States' *Bureau of Labor Statistics*, the national mean wage for financial analysts (with a Bachelor's degree) in 2018 was $85,660. Table 1.3 shows other types of jobs and their pays for the Accounting and Finance fields, both in the US and UK. As you see, the pays are hefty and vary across types of jobs in both countries. In sum, a major in finance opens up many rewarding careers in the field itself and related fields such as economics, management, accounting, law, academia, etc.

But even if you entered the field of (finance and) investments without necessarily seeking a job there (perhaps you wish to be a lawyer or an academic economist), you would still need to understand finance, in general, and investments, in particular, in order to make simple everyday decisions. For example, you should know how to compare investment alternatives offered by your bank, or to determine which is a better deal when obtaining a mortgage or refinancing an existing

Table 1.3 Selected finance and accounting pays, 2018–19

United States			
	Corporate acct	**Public acct**	**Financial services**
Chief Financial Officer	$192,500	$200,000	
Treasurer	$185,000		
Vice President, Finance	$176,500		
Director of Finance	$145,500		
Controller	$115,000	$125,000	
Divisional Controller	$140,000		
Assistant Controller	$103,500		
Accountant (3 to 5 Years)		$70,000	
Accountant (1 to 3 Years)		$60,000	
Financial Planning & Analysis (3 to 5 Years)		$75,000	
Financial Planning & Analysis (1 to 3 Years)		$65,000	
Internal Auditor (3 to 5 Years)			$85,000
Internal Auditor (1 to 3 Years)			$68,000
Regulatory Reporting (3 to 5 Years)			$75,000
Regulatory Reporting (1 to 3 Years)			$57,750
Financial Analyst	$75,000		
Tax Accountant	$65,000		
United Kingdom			
Hedge fund, entry level			$150–325k (£145–237k)
Private equity analyst			$114.1k (£91k)
Investment banking division, analyst			$150k (£91k)
Sales and trading, investment bank			$125–135k (£60k–80k)
Quantitative risk analyst			$80–100k (£65–85k)
Regulatory reporting accountant, newly-qualified			$92k (£74k)
Internal auditor, financial services			$87k (£70k)
Private banking relationship manager, Singapore			S$52–94k (£30–54k)

Sources: https://corporatefinanceinstitute.com/resources/careers/compensation/finance-salary-guide/ https://news.efinancialcareers.com/uk-en/181008/nine-best-high-paying-entry-level-jobs-finance

one. Therefore the study of investments is a highly rewarding one for all practical purposes, enabling you personally to feel good about making wise lifetime decisions.

1.8 Chapter summary

In this chapter, the investment environment and the way an investor should begin making investment choices were addressed. The idea is to carefully define the specific objectives and balance them against the constraints in order to make the best decision. This is a daunting task for not only individual investors but also for professional (or institutional) investors. The investment environment is vast and complex; unless the investor is cognizant of its way of functioning and caveats, he might not be able to effectively realize or achieve his goals. Although individual investors always have the option of seeking professional advice on investment alternatives, they can also seek investment

education from a nonprofit institution called the Chartered Financial Analyst (CFA) Institute. Its mission includes the establishment of a *code of ethics and professional conduct*, in which the guidelines for appropriate professional investment behavior are outlined. Box 1.2 describes this organization's mission.

Next, the various sources of obtaining information on various investment instruments (vehicles) as well as on the various financial institutions so as to compare among instruments and select the ones that would (or should) offer you the best risk-return combination were discussed. Some issues that arise because of the nature of a corporation such as asymmetric information, adverse selection, and agency conflicts were also presented. The sources of asymmetry and its consequences (and benefits) were explored. The discussion also involved the reasons why conflicts might arise between managers and shareholders and between shareholders and creditors. The chapter concluded with the question "Why should you study finance and investments?" We arrived at the conclusion that such knowledge is not only useful for practitioners in the areas of investments, capital markets, and corporate finance – the three interrelated areas of finance – but also for making decisions in everyday life.

Box 1.2 CFA's code of ethics and conduct

The CFA Institute Code of Ethics and Standards of Professional Conduct (Code and Standards) are fundamental to the values of the CFA Institute and essential to achieving its mission to lead the investment profession globally by setting high standards of education, integrity, and professional excellence. High ethical standards are critical to maintaining the public's trust in financial markets and in the investment profession.

The Code of Ethics

- Act with integrity, competence, diligence, respect, and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
- Place the integrity of the investment profession and the interests of clients above their own personal interests.
- Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
- Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
- Promote the integrity of, and uphold the rules governing, capital markets.
- Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

Standards of Professional Conduct

- Professionalism
- Integrity of capital markets
- Duties to clients
- Duties to employers
- Investment analysis, recommendations and action
- Conflicts of interest
- Responsibilities as a CFA institute member or CFA candidate

Source: CFA Institute

1.9 The plan of the textbook

The textbook consists of six parts, comprising the following chapters:

Part I (Investment Basics) contains Chapter 1, on the investment framework; Chapter 2, on the investment process and strategies; and Chapter 3, on risk and return.

Part II (Financial Markets, Intermediaries, and Instruments) consists of Chapter 4, on the global financial environment; Chapter 5, on the money and capital markets; and Chapter 6, which details the functions of investment bankers and investment companies.

Part III (Portfolio Theory) has three chapters: Chapter 7, on diversification and asset allocation; Chapter 8, on efficient diversification and capital market theory; and Chapter 9, on stock market efficiency and behavioral finance.

Part IV (Equity Portfolio Management) contains two chapters: Chapter 10, on equity and fundamental analysis, and Chapter 11, on equity valuation and relevant investment strategies.

Part V (Debt Securities) includes chapter 12, on bond fundamentals and valuation, and Chapter 13, on bond portfolio management and performance evaluation.

Finally, Part VI (Derivative Markets and Other Investments) has three chapters: Chapter 14, on option markets and valuation models, Chapter 15, on futures markets and strategies, and Chapter 16, which briefly discusses some current issues in investments including credit derivatives and alternative investments.

Applying economic analysis

Utility and efficiency

One of the central propositions in economics is that people obtain a higher utility (satisfaction) by engaging in a mutually beneficial exchange. This utility, however, is made possible by the presence and the efficient functioning of financial markets. Let us illustrate with a simple example. Assume that there are two people in an economy, Mr. Nick and Mr. Haris. Assume also that Mr. Nick wishes to spend less than his current income and Mr. Haris more than his current income (assume for simplicity the rates are the same for both individuals). Hence, Mr. Nick would be a lender (saver) and Mr. Haris a borrower (an investor). This also means that if Mr. Nick agreed to finance Mr. Haris' excess spending (consumption) then both parties would engage in a mutually beneficial exchange. They would be able to do that by having an intermediary create a contract (financial claim). Therefore, one of the functions of the financial markets would be to facilitate such exchanges and allocate the resources efficiently. A variation of the above would be for the economy to allocate the saved resources (money here) into other uses such as capital goods (or real assets) like plant and equipment instead of consumer goods. In this way, both individuals would have the ability to enjoy more goods and services in the future thanks to the accumulation and use of (more) factors of production. Again, financial markets are at the heart of transferring funds from Mr. Nick to Mr. Haris, who could own such factors of production. In sum, the role of financial markets would be to enhance the utilities of both individuals and reduce, at the same time, the cost of providing the opportunity to enjoy goods and services. In other words, if one person's utility is increased without reducing another person's utility, then economic efficiency is achieved.

International focus

Causes and consequences of the financial crisis of 2008

The financial (credit) crisis of 2007/8 began in the US housing market; experts say that it started as a bubble. This was because the real estate market in the US peaked in 2006, ending up with a sharp decline in the values of the underlying securities. Therefore, the owners of such securities – the mortgage-backed

securities and the collateralized debt obligations – who are scattered throughout the world, suffered severe losses. In addition, the financial institutions that originated the mortgage loans and those who owned such securities were equally damaged. Major US and European financial giants – like Lehman Brothers, American International Group, Merrill Lynch, Freddie Mac – who owned such securities ended up collapsing or being "taken over" by the government. The impact was immediately felt in the stock markets worldwide which ended up collapsing. Investor trust in the global financial system was shattered. Naturally the declines in equity markets impacted the real economy, as it hampered the ability of financial institutions to extend further lending (financing) to economic agents (like households, businesses, and the government), which slowed down economic activity and raised unemployment. Defaults by home-owners and foreclosures on their properties rose to unprecedented highs in the US and spread throughout Europe and Asia.

The International Monetary Fund (IMF) estimated that banks in the US and Europe lost more than $1 billion on such assets (termed "toxic assets") from 2007 to mid-2009. According to IMF estimates, US bank losses amounted to 60% and Eurozone (and British) to about 40%. Finally, many world political leaders started massive efforts to shore up their financial markets in an effort to abate the crisis's impact and save their nations from default. However, some nations (like Greece) were forced to seek IMF assistance in order to survive through this truly global financial crisis.

In general the financial crisis has brought into question national financial architectures as regards systemic financial institutions and the evaluation of risks and vulnerabilities. The global nature of the financial crisis has made it clear that integrated financial markets have benefits and risks, with huge global economic consequences.

Lessons of our times

Lessons of the global financial crisis

The crisis has forced anew the debate on whether macroeconomic policy should be concerned with high asset price increases and leverage. It has also underscored the deficiencies in national financial regulation and supervision. Several voices in both academia and world organizations have voiced their concern about the way the global financial system functions and proposed various ways to fix the system and avoid future financial crises of that magnitude. Specifically, they propose the following reform agendas.

1. Macroeconomic Policy Lessons

These lessons involve the objectives and implementation of monetary and fiscal policies as well as the regulatory environment.

2. Redesigning Prudential Regulation and Supervision

It is accepted that one cause of the global financial crisis was the deficiencies or shortcomings in the countries' financial regulatory environment. Suggestions include better and prudential supervision of financial institutions, capital regulation, and liquidity issues. The consequences of financial activities need to be better understood so that improved information disclosure, corporate governance practices, and greater coordination within and across countries can be implemented.

3. Reform of the International Financial Architecture

Better surveillance of financial risks and vulnerabilities is needed, which can be achieved by closer cooperation among international agencies. Better information is essential in order to understand risk assessment.

Source: Adapted from S. Claessens, G. Dell'Ariccia, D. Igan and L. Laeven, Lessons and Policy Implications from the Global Financial Crisis, IMF Working Paper, February 2010.

Key concepts

Investment is the sacrifice you currently make for the expectation of higher future returns

Opportunity cost is defined as the value of an activity that must be given up in order to engage in another activity

Saving means sacrificing consumption today for greater consumption in the future

Real assets are tangible and can be used to produce a good or a service

Financial assets are intangible (or electronic entries) and represent claims on the revenues generated from real assets or claims created by the government

A ***security*** is a legal claim on the revenue streams of financial assets or real assets

A ***common stockholder*** is an investor who owns a share in a company and each share entitles the owner to one vote in the corporation's important financial matters

Preferred stock, although an equity security, also has the characteristics of a debt security

Debt securities, or fixed-income securities, promise a known, fixed stream of payments periodically until the end of their life (or maturity date)

Derivative securities, also known as contingent claims, are securities whose value is derived from (or contingent upon) the underlying asset(s)

In general, an ***option*** entitles (or gives the right, but not the obligation to) its owner to buy (a ***call option***) or sell (a ***put option***) something

A ***futures*** contract obliges the traders to buy or sell an asset at a prespecified price at a specified time frame

A ***retail*** or individual investor is one that has a "small" amount of money to invest, whereas an ***institutional*** is one who invests millions of dollars (or more)

Financial intermediaries are institutions that bring together lenders and borrowers of funds

Risk is defined as the probability that an adverse event is going to take place, or in the case of investors, that there could be an unexpected fluctuation in the rate of return of a security

A ***risk-loving*** investor is one who would take on a fair game (a fair game is one whose expected payoff is zero)

A ***risk-averse*** investor is one who is reluctant to accept risk

A ***risk-neutral*** (or indifferent) investor is one who does not care much about risk

Individual and institutional investor ***constraints*** are either internally defined, that is, arising from investors' specific circumstances and needs, or are externally imposed

Taxes, the ***regulatory environment***, ***liquidity***, ***age***, and the investor's ***investment horizon*** are examples of constraints

In order for an investor to achieve his or her objectives (given the constraints), it must be possible to obtain adequate ***information*** on the available investment choices

The problem of ***asymmetric information*** arises when one party has more (or better) information than the other party in a transaction

A ***principal-agent conflict*** arises when the agent does not pursue actions in the best interests of the owners, as should be the ideal case

Adverse selection emerges when one person is more informed about the qualities of a commodity than another person and, as a result, the other less informed person runs the risk of purchasing the lower-quality commodity

Moral hazard is another problem of the principal-agent problem

Unethical kinds of behavior by professional managers are typically found in the marketplace and particularly in investments

Social responsibility refers to the efforts that businesses make in enhancing society's welfare

Questions and problems

1. As a potential investor, what would be *your* objective(s) and constraints? What major trade-offs do *you* face?
2. Why is it inappropriate to say "I want to make as much money on my investments as possible"? What are you ignoring?
3. Take a look at the cafeteria in your college campus. You and most of the other students go there on a daily basis for food and drinks. If the male person working there to serve you is always shirking his work responsibilities, how would you advise him to help him keep his job?
4. We discussed the conflicts that arise between a company's manager and its stakeholders. Can you suggest some other ways to align a manager's goals to those of the firm's owners? You might want to scour the *Wall Street Journal* to find some relevant articles.
5. Consider the following scenario. Suppose your parents ask their neighbor (who consistently pays attention to the stock market because he is an active investor) for advice on a particular stock. Your parents want to decide if it makes sense to buy the stock. If the neighbor's opinion on the stock is favorable and he says that the company will do fine in the future, is it unethical to make such a statement? Answer the question assuming that your parents thought that your neighbor's opinion was based on a good knowledge of the company.
6. We discussed the conflicts that arise between existing and new stockholders when management wishes to undertake new projects financed by equity. Now, consider the following scenario. The management of the firm has no other means of financing a new risky project but to sell bonds. If bondholders knew of the project's riskiness (which might be greater than they would be willing to bear), they would refuse outright to provide the funds. Explain the outcome of such behavior by the bondholders. Do we have an instance of market failure? What if the bondholders did not know of the project's risk? What impact would that have on the bondholders' wealth (relative to that of the stockholders)?
7. We discussed social responsibility in the text. Can you advance an argument for the *mandatory* and for the *nonvoluntary* requirement of such behavior for firms by government law?
8. Would you be willing to accept more risk if you expected to earn a higher return? If so, which attitude toward risk would you have?
9. How do you understand the term *efficiency* when applied to the financial markets?
10. Classify the following assets as real or financial: factory, stock, option, pencil, knowledge, education.
11. Which business has more or less financial and/or real assets, a bank or IBM? What is each business's social function?
12. What are the social functions of financial intermediaries? Can you give some examples?
13. What is the objective of the investment management process?
14. Which actions currently exist to suppress future episodes of unethical behavior?

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13 You can also compute a bond's price using EXCEL. The relevant EXCEL function is *PRICE*. Inserting the above values along with the frequency input of 1 (for yearly payments or 2 for semiannual payments) you can obtain the same number(s) above.
14 The easiest approach is to use EXCEL and its function of *YIELD*. Thus, for the example above type in the cells 1/1/2000 for *settlement*, 1/1/2009 for *maturity*, 10% for *rate*, 112.47 for *price*, 100 for *redemption*, 1 for *frequency* (to denote yearly payments) and leave blank the *basis* input. Click OK to obtain 8%.
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