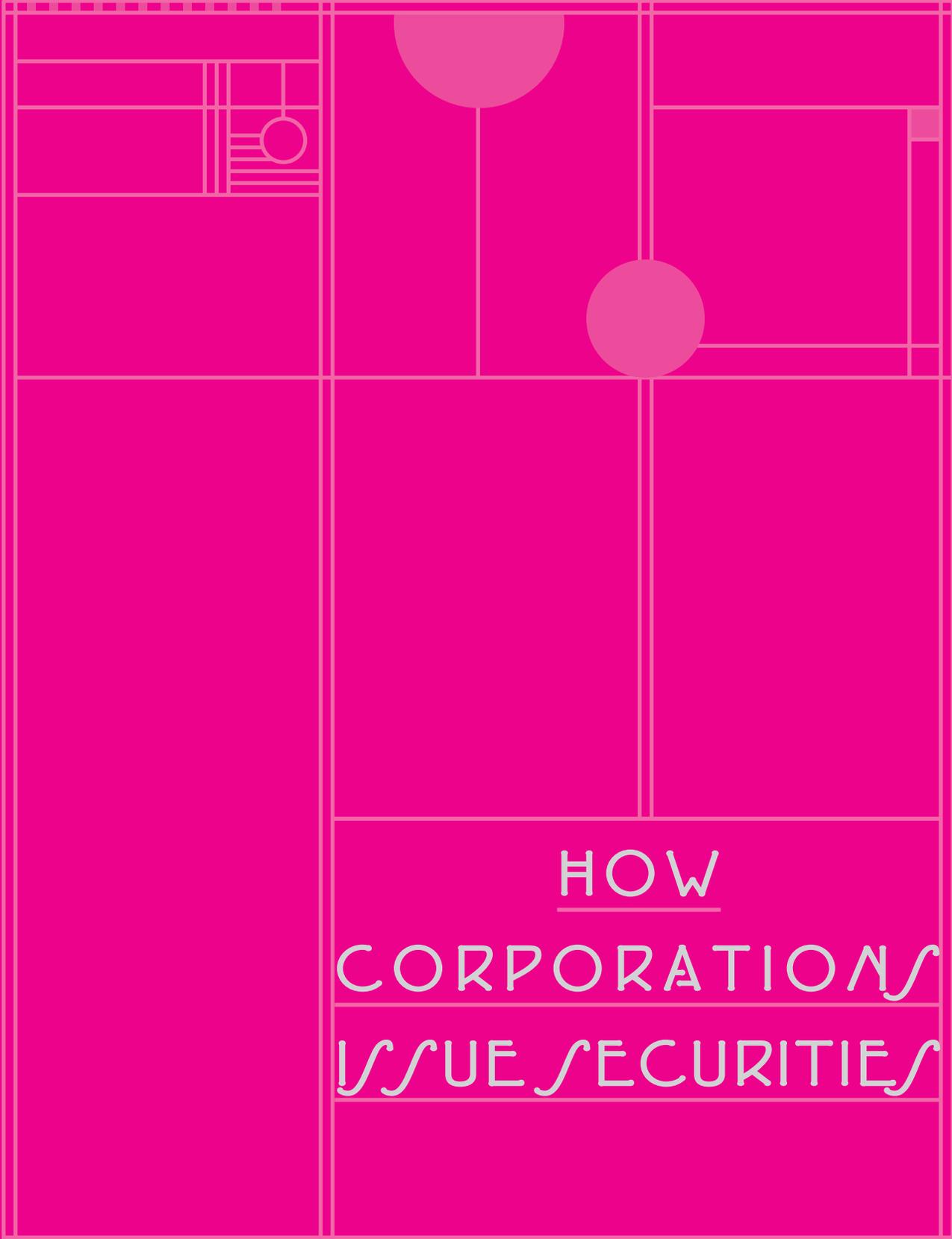


CHAPTER FIFTEEN



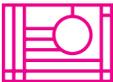
HOW
CORPORATIONS
ISSUE SECURITIES

IN CHAPTER 11 we encountered Marvin Enterprises, one of the most remarkable growth companies of the twenty-first century. It was founded by George and Mildred Marvin, two high-school dropouts, together with their chum Charles P. (Chip) Norton. To get the company off the ground the three entrepreneurs relied on their own savings together with personal loans from a bank. However, the company's rapid growth meant that they had soon borrowed to the hilt and needed more equity capital. Equity investment in young private companies is generally known as **venture capital**. Such venture capital may be provided by investment institutions or by wealthy individuals who are prepared to back an untried company in return for a piece of the action. In the first part of this chapter we will explain how companies like Marvin go about raising venture capital.

Venture capital organizations aim to help growing firms over that awkward adolescent period before they are large enough to go public. For a successful firm such as Marvin, there is likely to come a time when it needs to tap a wider source of capital and therefore decides to make its first public issue of common stock. The next section of the chapter describes what is involved in such an issue. We will explain the process for registering the offering with the Securities and Exchange Commission and we will introduce you to the underwriters who buy the issue and resell it to the public. We will also see that new issues are generally sold below the price at which they subsequently trade. To understand *why* that is so, we will need to make a brief sortie into the field of auction procedures.

A company's first issue of stock is seldom its last. In Chapter 14 we saw that corporations face a persistent financial deficit which they meet by selling securities. We will therefore look at how established corporations go about raising more capital. In the process we will encounter another puzzle: When companies announce a new issue of stock, the stock price generally falls. We suggest that the explanation lies in the information that investors read into the announcement.

If a stock or bond is sold publicly, it can then be traded on the securities markets. But sometimes investors intend to hold onto their securities and are not concerned about whether they can sell them. In these cases there is little advantage to a public issue, and the firm may prefer to place the securities directly with one or two financial institutions. At the end of this chapter we will explain how companies arrange a private placement.



15.1 VENTURE CAPITAL

On April 1, 2013, George and Mildred Marvin met with Chip Norton in their research lab (which also doubled as a bicycle shed) to celebrate the incorporation of Marvin Enterprises. The three entrepreneurs had raised \$100,000 from savings and personal bank loans and had purchased one million shares in the new company. At this *zero-stage* investment, the company's assets were \$90,000 in the bank (\$10,000 had been spent for legal and other expenses of setting up the company), plus the *idea* for a new product, the household gargle blaster. George Marvin was the first to see that the gargle blaster, up to that point an expensive curiosity, could be commercially produced using microgenetic refenestrators.

Marvin Enterprises' bank account steadily drained away as design and testing proceeded. Local banks did not see Marvin's idea as adequate collateral, so a transfusion of equity capital was clearly needed. Preparation of a *business plan* was a necessary first step. The plan was a confidential document describing the proposed product, its potential market, the underlying technology, and the resources (time, money, employees, plant, and equipment) needed for success.

Most entrepreneurs are able to spin a plausible yarn about their company. But it is as hard to convince a venture capitalist that your business plan is sound as to get a first novel published. Marvin's managers were able to point to the fact that they were prepared to put their money where their mouths were. Not only had they staked all their savings in the company but they were mortgaged to the hilt. This *signaled* their faith in the business.¹

First Meriam Venture Partners was impressed with Marvin's presentation and agreed to buy one million new shares for \$1 each. After this *first-stage* financing, the company's market-value balance sheet looked like this:

Marvin Enterprises First-Stage Balance Sheet (Market Values in \$ Millions)

Cash from new equity	\$1	\$1	New equity from venture capital
Other assets, mostly intangible	1	1	Original equity held by entrepreneurs
Value	<u>\$2</u>	<u>\$2</u>	Value

By accepting a \$2 million *after-the-money* valuation, First Meriam implicitly put a \$1 million value on the entrepreneurs' idea and their commitment to the enterprise. It also handed the entrepreneurs a \$900,000 paper gain over their original \$100,000 investment. In exchange, the entrepreneurs gave up half their company and accepted First Meriam's representatives to the board of directors.²

The success of a new business depends critically on the effort put in by the managers. Therefore venture capital firms try to structure a deal so that management has a strong incentive to work hard. That takes us back to Chapters 1 and 12, where we showed how the shareholders of a firm (who are the principals) need to provide incentives for the managers (who are their agents) to work to maximize firm value.

If Marvin's management had demanded watertight employment contracts and fat salaries, they would not have found it easy to raise venture capital. Instead the Marvin team agreed to put up with modest salaries. They could cash in only from appreciation of their stock. If Marvin failed they would get nothing, because First Meriam actually bought *preferred* stock designed to convert automatically into common stock when and if Marvin Enterprises succeeded in an initial public offering or consistently generated more than a target level of earnings. But if Marvin Enterprises had failed, First Meriam would have been first in line to claim any salvageable assets. This raised even further the stakes for the company's management.³

¹For a formal analysis of how management's investment in the business can provide a reliable signal of the company's value, see H. E. Leland and D. H. Pyle, "Informational Asymmetries, Financial Structure, and Financial Intermediation," *Journal of Finance* 32 (May 1977), pp. 371–387.

²Venture capital investors do not necessarily demand a majority on the board of directors. Whether they do depends, for example, on how mature the business is and on what fraction they own. A common compromise gives an equal number of seats to the founders and to outside investors; the two parties then agree to one or more additional directors to serve as tie-breakers in case a conflict arises. Regardless of whether they have a majority of directors, venture capital companies are seldom silent partners; their judgment and contacts can often prove useful to a relatively inexperienced management team.

³Notice the trade-off here. Marvin's management is being asked to put all its eggs into one basket. That creates pressure for managers to work hard, but it also means that they take on risk that could have been diversified away.

Venture capitalists rarely give a young company all the money it will need all at once. At each stage they give enough to reach the next major checkpoint. Thus in spring 2015, having designed and tested a prototype, Marvin Enterprises was back asking for more money for pilot production and test marketing. Its *second-stage* financing was \$4 million, of which \$1.5 million came from First Meriam, its original backers, and \$2.5 million came from two other venture capital partnerships and wealthy individual investors. The balance sheet just after the second stage was as follows:

Marvin Enterprises Second-Stage Balance Sheet (Market Values in \$ Millions)

Cash from new equity	\$4	\$4	New equity, second stage
Fixed assets	1	5	Equity from first stage
Other assets, mostly intangible	9	5	Original equity held by entrepreneurs
Value	\$14	\$14	Value

Now the after-the-money valuation was \$14 million. First Meriam marked up its original investment to \$5 million, and the founders noted an additional \$4 million paper gain.

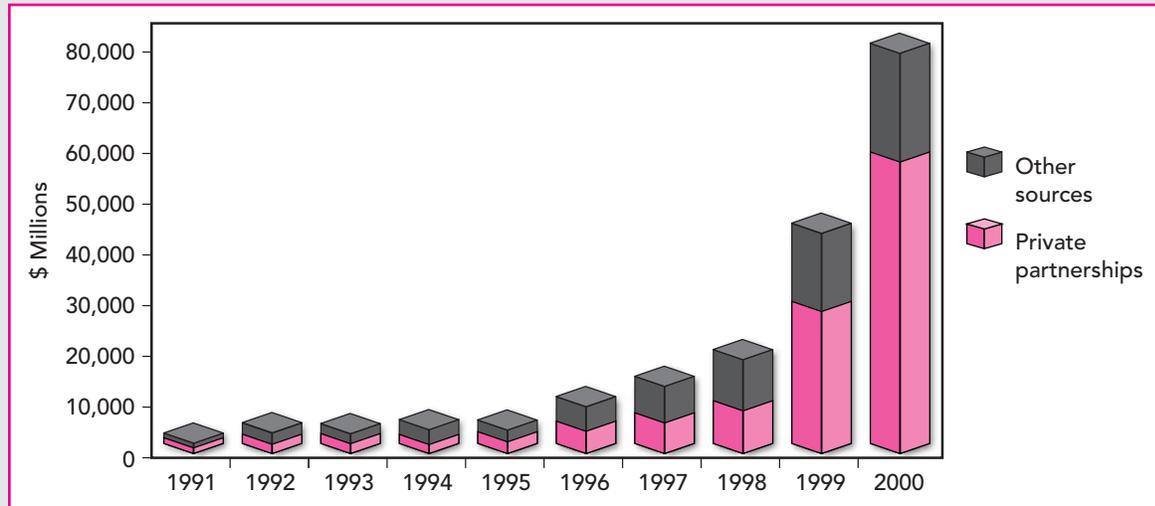
Does this begin to sound like a (paper) money machine? It was so only with hindsight. At stage 1 it wasn't clear whether Marvin would ever get to stage 2; if the prototype hadn't worked, First Meriam could have refused to put up more funds and effectively closed the business down.⁴ Or it could have advanced stage 2 money in a smaller amount on less favorable terms. The board of directors could also have fired George, Mildred, and Chip and gotten someone else to try to develop the business.

In Chapter 14 we pointed out that stockholders and lenders differ in their cash-flow rights and control rights. The stockholders are entitled to whatever cash flows remain after paying off the other security holders. They also have control over how the company uses its money, and it is only if the company defaults that the lenders can step in and take control of the company. When a new business raises venture capital, these cash-flow rights and control rights are usually negotiated separately. The venture capital firm will want a say in how that business is run and will demand representation on the board and a significant number of votes. The venture capitalist may agree that it will relinquish some of these rights if the business subsequently performs well. However, if performance turns out to be poor, the venture capitalist may automatically get a greater say in how the business is run and whether the existing management should be replaced.

For Marvin, fortunately, everything went like clockwork. Third-stage *mezzanine financing* was arranged,⁵ full-scale production began on schedule, and gargle blasters were acclaimed by music critics worldwide. Marvin Enterprises went public on February 3, 2019. Once its shares were traded, the paper gains earned by First Meriam

⁴If First Meriam had refused to invest at stage 2, it would have been an exceptionally hard sell convincing another investor to step in its place. The other outside investors knew they had less information about Marvin than First Meriam and would have read its refusal as a bad omen for Marvin's prospects.

⁵Mezzanine financing does not necessarily come in the third stage; there may be four or five stages. The point is that mezzanine investors come in late, in contrast to venture capitalists who get in on the ground floor.

**FIGURE 15.1**

U.S. venture capital disbursements by type of fund.

Source: Venture Economics/National Venture Capital Association.

and the company's founders turned into fungible wealth. Before we go on to this initial public offering, let us look briefly at the venture capital markets today.

The Venture Capital Market

Most new companies rely initially on family funds and bank loans. Some of them continue to grow with the aid of equity investment provided by wealthy individuals, known as *angel investors*. However, the bulk of the capital for adolescent companies comes from specialist venture-capital firms, which pool funds from a variety of investors, seek out fledgling companies to invest in, and then work with these companies as they try to grow. Figure 15.1 shows how the amount of venture capital investment has increased. During the heady days of 2000 venture capital funds invested nearly \$140 billion in some 16,000 different companies.

Most venture capital funds are organized as limited private partnerships with a fixed life of about 10 years. The management company is the general partner, and the pension funds and other investors are limited partners. Some large industrial firms, such as Intel, General Electric, and Sun Microsystems also act as *corporate venturers* by providing equity capital to new innovative companies.⁶ Finally, in the United States the government provides cheap loans to small-business investment companies (SBICs) that then relend the money to deserving entrepreneurs. SBICs occupy a small, specialized niche in the venture capital markets.

Venture capital firms are not passive investors. They provide ongoing advice to the firms that they invest in and often play a major role in recruiting the senior

⁶See, for example, H. Chesbrough, "Designing Corporate Ventures in the Shadow of Private Venture Capital," *California Management Review* 42 (Spring 2000), pp. 31–49.

management team. This advice can be valuable to businesses in their early years and helps them to bring their products more quickly to market.⁷

Venture capitalists may cash in on their investment in two ways. Sometimes, once the new business has established a track record, it may be sold out to a larger firm. However, many entrepreneurs do not fit easily into a corporate bureaucracy and would prefer instead to remain the boss. In this case, the company may decide, like Marvin, to go public and so provide the original backers with an opportunity to “cash out,” selling their stock and leaving the original entrepreneurs in control. A thriving venture capital market therefore needs an active stock exchange, such as Nasdaq, that specializes in trading the shares of young, rapidly growing firms.⁸

In many countries, such as those of continental Europe, venture capital markets have been slower to develop. But this is changing and investment in high-tech ventures in Europe has begun to blossom. This has been helped by the formation of new European exchanges that model themselves on Nasdaq. These mini-Nasdaqs include Aim in London, Neuer Markt in Frankfurt, and Nouveau Marché in Paris.

For every 10 first-stage venture capital investments, only two or three may survive as successful, self-sufficient businesses, and rarely will they pay off as big as Marvin Enterprises. From these statistics come two rules for success in venture capital investment. First, don't shy away from uncertainty; accept a low probability of success. But don't buy into a business unless you can see the *chance* of a big, public company in a profitable market. There's no sense taking a long shot unless it pays off handsomely if you win. Second, cut your losses; identify losers early, and if you can't fix the problem—by replacing management, for example—throw no good money after bad.

How successful is venture capital investment? Since you can't look up the value of new start-up businesses in *The Wall Street Journal*, it is difficult to say with confidence. However, *Venture Economics*, which tracks the performance of over 1,200 venture capital funds, calculated that from 1980 to 2000 investors in these funds would have earned an average annual return of nearly 20 percent after expenses.⁹ That is about 3 percent a year more than they would have earned from investing in the stocks of large public corporations.



15.2 THE INITIAL PUBLIC OFFERING

Very few new businesses make it big, but venture capitalists keep sane by forgetting about the many failures and reminding themselves of the success stories—the investors who got in on the ground floor of firms like Federal Express, Genentech,

⁷For evidence on the role of venture capitalists in assisting new businesses, see T. Hellman and Manju Puri, “The Interaction between Product Market and Financial Strategy: The Role of Venture Capital,” *Review of Financial Studies* 13 (2000), pp. 959–984; and S. N. Kaplan and P. Stromberg, “How Do Venture Capitalists Choose Investments,” working paper, Graduate School of Business, University of Chicago, August 2000.

⁸This argument is developed in B. Black and R. Gilson, “Venture Capital and the Structure of Capital Markets: Banks versus Stock Markets,” *Journal of Financial Economics* 47 (March 1998), pp. 243–277.

⁹See www.ventureeconomics.com/news_ve. Gompers and Lerner, who studied the period 1979–1997, found somewhat higher returns (see P. A. Gompers and J. Lerner, “Risk and Reward in Private Equity Investments: The Challenge of Performance Assessment,” *Journal of Private Equity*, Winter 1997, pp. 5–12). In a study of a large sample of individual venture capital investments Cochrane tackles the problem of measuring returns on investments that remain unmarketable. The average *annually compounded* return on his sample is 57 percent, though the average *continuously compounded* return is much lower (see J. Cochrane, “The Risk and Return of Venture Capital,” NBER Working Paper No. 8066, 2001).

Compaq, Intel, and Sun Microsystems. When First Meriam invested in Marvin Enterprises, it was not looking for cash dividends from its investment; instead it was hoping for rapid growth that would allow Marvin to go public and give First Meriam an opportunity to cash in on some of its gains.

By 2019 Marvin had grown to the point at which it needed still more capital to implement its second-generation production technology. At this point it decided to make an **initial public offering** of stock or **IPO**. This was to be partly a *primary* offering; that is, new shares were to be sold to raise additional cash for the company. It was also to be partly a *secondary* offering; that is, the venture capitalists and the company's founders were looking to sell some of their existing shares.

Often when companies go public, the issue is solely intended to raise new capital for the company. But there are also occasions when no new capital is raised and all the shares on offer are being sold as a secondary offering by existing shareholders. For example, in 1998 Du Pont sold off a large part of its holding in Conoco for \$4.4 billion.¹⁰

Some of the biggest IPOs occur when governments sell off their shareholdings in companies. For example, the British government raised \$9 billion from its sale of British Gas stock, while the secondary offering of Nippon Telegraph and Telephone by the Japanese government brought in nearly \$13 billion.

For Marvin there were other benefits from going public. The market value of its stock would provide a readily available measure of the company's performance and would allow Marvin to reward its management team with stock options. Because information about the company would become more widely available, Marvin could diversify its sources of finance and reduce its costs of borrowing. These benefits outweighed the expense of the public issue and the continuing costs of administering a public company and communicating with its shareholders.

Instead of going public, many successful entrepreneurs may decide to sell out to a larger firm or they may continue to operate successfully as private, unlisted companies. Some very large companies in the United States are private. They include Bechtel, Cargill, and Levi Strauss. In other countries it is more common for large companies to remain privately owned. For example, since 1988 there have been only 70 listings of new, independent, nonfinancial companies on the Milan Stock Exchange.¹¹

Arranging an Initial Public Offering¹²

Once Marvin had made the decision to go public, its first task was to select the *underwriters*. Underwriters act as financial midwives to a new issue. Usually they play a triple role: First they provide the company with procedural and financial advice, then they buy the issue, and finally they resell it to the public.

After some discussion Marvin settled on Klein Merrick as the managing underwriter and Goldman Stanley as the co-manager. Klein Merrick then formed a syndicate of underwriters who would buy the entire issue and reoffer it to the public.

¹⁰This is the largest U.S. IPO, but it is dwarfed by the Japanese telecom company NTT DoCoMo, which sold \$18 billion of stock in 1998 and handed out \$500 million in fees to the underwriters.

¹¹The reasons for going public in Italy are analyzed in M. Pagano, F. Panetta, and L. Zingales, "Why Do Companies Go Public? An Empirical Analysis," *Journal of Finance* 53 (February 1998), pp. 27–64.

¹²For an excellent case study of how one company went public, see B. Uttal, "Inside the Deal That Made Bill Gates \$350,000,000," *Fortune*, July 21, 1986.

Together with Klein Merrick and firms of lawyers and accountants, Marvin prepared a **registration statement** for the approval of the Securities and Exchange Commission (SEC).¹³ This statement is a detailed and somewhat cumbersome document that presents information about the proposed financing and the firm's history, existing business, and plans for the future.

The most important sections of the registration statement are distributed to investors in the form of a **prospectus**. In Appendix B to this chapter we have reproduced the prospectus for Marvin's first public issue of stock.¹⁴ Real prospectuses would go into much more detail on each topic, but this example should give you some feel for the mixture of valuable information and redundant qualification that characterizes these documents. The Marvin prospectus also illustrates how the SEC insists that investors' eyes are opened to the dangers of purchase (see "Certain Considerations" of the prospectus). Some investors have joked that if they read each prospectus carefully, they would not dare buy any new issue.

In addition to registering the issue with the SEC, Marvin needed to check that the issue complied with the so-called *blue-sky laws* of each state that regulate sales of securities within the state.¹⁵ It also arranged for its newly issued shares to be traded on the Nasdaq exchange.

The Sale of Marvin Stock

While the registration statement was awaiting approval, Marvin and its underwriters began to firm up the issue price. First they looked at the price–earnings ratios of the shares of Marvin's principal competitors. Then they worked through a number of discounted-cash-flow calculations like the ones we described in Chapters 4 and 11. Most of the evidence pointed to a market value of \$75 a share.

Marvin and Klein Merrick arranged a *road show* to talk to potential investors. Mostly these were institutional investors, such as managers of mutual funds and pension funds. The investors gave their reactions to the issue and indicated to the underwriters how much stock they wished to buy. Some stated the maximum price that they were prepared to pay, but others said that they just wanted to invest so many dollars in Marvin at whatever issue price was chosen. These discussions with fund managers allowed Klein Merrick to build up a book of potential orders.¹⁶ Although the managers were not bound by their responses, they knew that, if they wanted to keep in the underwriters' good books, they should be careful not to go back on their expressions of interest. The underwriters also were not bound to treat all investors equally. Some investors who were keen to

¹³The rules governing the sale of securities derive principally from the Securities Act of 1933. The SEC is concerned solely with disclosure and it has no power to prevent an issue as long as there has been proper disclosure. Some public issues are exempt from registration. These include issues by small businesses and loans maturing within nine months.

¹⁴The company is allowed to circulate a preliminary version of the prospectus (known as a *red herring*) before the SEC has approved the registration statement.

¹⁵In 1980, when Apple Computer Inc. went public, the Massachusetts state government decided the offering was too risky and barred the sale of the shares to individual investors in the state. The state relented later after the issue was out and the price had risen. Needless to say, this action was not acclaimed by Massachusetts investors.

States do not usually reject security issues by honest firms through established underwriters. We cite the example to illustrate the potential power of state securities laws and to show why underwriters keep careful track of them.

¹⁶The managing underwriter is therefore often known as the *bookrunner*.

buy Marvin stock were disappointed in the allotment that they subsequently received.

Immediately after it received clearance from the SEC, Marvin and the underwriters met to fix the issue price. Investors had been enthusiastic about the story that the company had to tell and it was clear that they were prepared to pay more than \$75 for the stock. Marvin's managers were tempted to go for the highest possible price, but the underwriters were more cautious. Not only would they be left with any unsold stock if they overestimated investor demand but they also argued that some degree of underpricing was needed to tempt investors to buy the stock. Marvin and the underwriters therefore compromised on an issue price of \$80.

Although Marvin's underwriters were committed to buy only 900,000 shares from the company, they chose to sell 1,035,000 shares to investors. This left the underwriters short of 135,000 shares or 15 percent of the issue. If Marvin's stock had proved unpopular with investors and traded below the issue price, the underwriters could have bought back these shares in the marketplace. This would have helped to stabilize the price and would have given the underwriters a profit on these extra shares that they sold. As it turned out, investors fell over themselves to buy Marvin stock and by the end of the first day the stock was trading at \$105. The underwriters would have incurred a heavy loss if they had been obliged to buy back the shares at \$105. However, Marvin had provided underwriters with a *green-shoe* option which allowed them to buy an additional 135,000 shares from the company. This ensured that the underwriters were able to sell the extra shares to investors without fear of loss.

In choosing Klein Merrick to manage its IPO, Marvin was influenced by Merrick's proposals for making an active market in the stock in the weeks after the issue.¹⁷ Merrick also planned to generate continuing investor interest in the stock by distributing a major research report on Marvin's prospects.¹⁸

The Underwriters

Companies get to make only one IPO, but underwriters are in the business all the time. Established underwriters are, therefore, careful of their reputation and will not handle a new issue unless they believe the facts have been presented fairly to investors. Thus, in addition to handling the sale of Marvin's issue, the underwriters in effect gave their seal of approval to it. This implied endorsement was worth quite a bit to a company like Marvin that was coming to the market for the first time.

Marvin's underwriters were prepared to enter into a firm commitment to buy the stock and then offer it to the public. Thus they took the risk that the issue might flop and they would be left with unwanted stock. Occasionally, where the sale of common stock is regarded as particularly risky, the underwriters may be

¹⁷On average the managing underwriter accounts for 40 to 60 percent of trading volume in the stock during the first 60 days after an IPO. See K. Ellis, R. Michaely, and M. O'Hara, "When the Underwriter is the Market Maker: An Examination of Trading in the IPO Aftermarket," *Journal of Finance* 55 (June 2000), pp. 1039–1074.

¹⁸The 25 days after the offer is designated as a *quiet period*. Merrick is obliged to wait until after this period before commenting on the valuation of the company. Survey evidence suggests that, in choosing an underwriter, firms place considerable importance on its ability to provide follow-up research reports. See L. Krigman, W. H. Shaw, and K. L. Womack, "Why Do Firms Switch Underwriters?" *Journal of Financial Economics* 60 (May–June 2001), pp. 245–284.

Underwriter	Value of Issues	Number of Issues
Merrill Lynch	\$353	1,566
Citigroup/Salomon Smith Barney	334	1,039
Credit Suisse First Boston	252	996
JP Morgan	232	818
Morgan Stanley Dean Witter	211	656
Lehman Brothers	193	660
Goldman Sachs	189	598
UBS Warburg	172	690
Deutsche Bank	166	573
Banc of America Securities	125	571

TABLE 15.1

The top managing underwriters January 2001 to September 2001. Values include global debt and equity issues. Figures in billions.

Source: Thomson Financial Investment Banking/Capital Markets (www.tfibcm.com).

prepared to handle the sale only on a best-efforts basis. In this case the underwriters promise to sell as much of the issue as possible but do not guarantee to sell the entire amount.¹⁹

Successful underwriting requires financial muscle, considerable experience, and an established reputation. The names of Marvin's underwriters are of course fictitious, but Table 15.1 shows that underwriting in the United States is dominated by the major investment banks and large commercial banks. Foreign players are also heavily involved in underwriting securities that are sold internationally.

Underwriting is not always fun. On October 15, 1987, the British government finalized arrangements to sell its holding of BP shares at £3.30 a share.²⁰ This huge issue involved more than \$12 billion and was underwritten by an international group of underwriters who marketed it in a number of countries. Four days after the underwriting was agreed, the October crash caused stock prices around the world to nose-dive. The underwriters unsuccessfully appealed to the British government to cancel the issue.²¹ By the closing date of the offer, the price of BP stock had fallen to £2.96, and the underwriters had lost more than a billion dollars.

Underwriters face another danger. When a new issue goes wrong and the stock performs badly, they may be blamed for overhyping the issue. For example, in December 1999 the software company Va Linux went public at \$30 a share. Next-day trading opened at \$299 a share, but then the stock price began to sag. As we write this in November 2001, the stock is selling for less than \$2. Disgruntled Va Linux investors sued the underwriters, complaining that the prospectus was "materially false." These underwriters had plenty of company; following the collapse of the "new economy" stocks in 2000, investors in almost one in three recent high-tech IPOs sued the underwriters.

¹⁹The alternative is to enter into an *all-or-none* arrangement. In this case, either the entire issue is sold at the offering price or the deal is called off and the issuing company receives nothing.

²⁰The issue was partly a secondary issue (the sale of the British government's shares) and partly a primary issue (BP took the opportunity to raise additional capital by selling new shares).

²¹The government's only concession was to put a floor on the underwriters' losses by giving them the opportunity to resell their stock to the government at £2.80 a share.

Costs of a New Issue

We have described Marvin's underwriters as filling a triple role—providing advice, buying the new issue, and reselling it to the public. In return they received payment in the form of a *spread*; that is, they were allowed to buy the shares for less than the *offering price* at which the shares were sold to investors.²² Klein Merrick as syndicate manager kept 20 percent of this spread. A further 25 percent of the spread was used to pay those underwriters who bought the issue. The remaining 55 percent went to the firms that provided the salesforce.

The underwriting spread on the Marvin issue amounted to 7 percent of the total sum raised from investors. Since many of the costs incurred by underwriters are fixed, you would expect that the percentage spread would decline with issue size. This in part is what we find. For example, a \$5 million IPO might carry a spread of 10 percent, while the spread on a \$300 million issue might be only 5 percent. However, Chen and Ritter found that with almost every IPO between \$20 and \$80 million the spread was exactly 7 percent.²³ Since it is difficult to believe that all these issues were equally costly to underwrite, this clustering at 7 percent is a puzzle.²⁴

In addition to the underwriting fee, Marvin's new issue entailed substantial administrative costs. Preparation of the registration statement and prospectus involved management, legal counsel, and accountants, as well as the underwriters and their advisers. In addition, the firm had to pay fees for registering the new securities, printing and mailing costs, and so on. You can see from the first page of the Marvin prospectus (Appendix B) that these administrative costs totaled \$820,000.

Underpricing of IPOs

Marvin's issue was costly in yet another way. Since the offering price was less than the true value of the issued securities, investors who bought the issue got a bargain at the expense of the firm's original shareholders.

These costs of *underpricing* are hidden but nevertheless real. For IPOs they generally exceed all other issue costs. Whenever any company goes public, it is very difficult for the underwriters to judge how much investors will be willing to pay for the stock. Sometimes they misjudge demand dramatically. For example, when the prospectus for the IPO of Netscape stock was first published, the underwriters indicated that the company would sell 3.5 million shares at a price between \$12 and \$14 each. However, the enthusiasm for Netscape's Internet browser system was such that the underwriters increased the shares available to 5 million and set an issue price of \$28. The next morning the volume of orders was so large that trading was delayed by an hour and a half and, when trading did begin, the shares were quoted at \$71, over five times the underwriters' initial estimates.

²²In the more risky cases the underwriter usually receives some extra noncash compensation, such as warrants to buy additional common stock in the future.

²³H. C. Chen and J. R. Ritter, "The Seven Percent Solution," *Journal of Finance* 55 (June 2000), pp. 1105–1132.

²⁴Chen and Ritter argue that the fixed spread suggests the underwriting market is not competitive and the Justice Department was led to investigate whether the spread constituted evidence of price-fixing. Robert Hansen disagrees that the market is not competitive. See R. Hansen, "Do Investment Banks Compete in IPOs?: The Advent of the Seven Percent Plus Contract," *Journal of Financial Economics* 59 (2001) pp. 313–346.

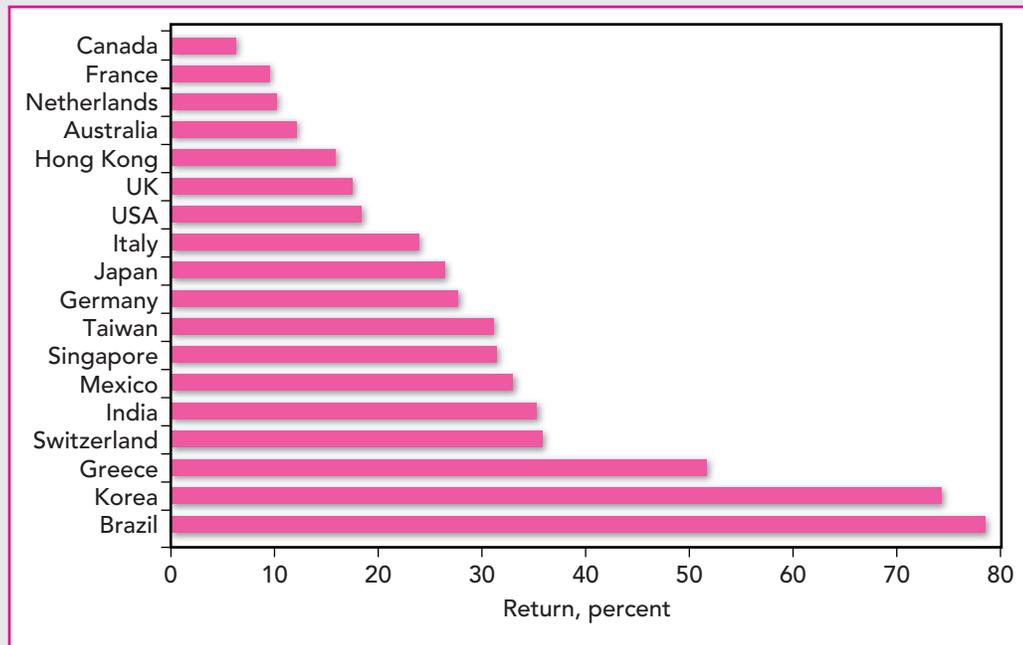


FIGURE 15.2

Average initial returns from investing in IPOs in different countries.

Source: T. Loughran, J. R. Ritter, and K. Rydqvist, "Initial Public Offerings: International Insights," *Pacific-Basin Finance Journal* 2 (1994), pp. 165–199, updated on www.bear.cba.ufl.edu/ritter.

We admit that the Netscape issue was unusual²⁵ but researchers have found that investors who buy at the issue price on average commonly realize very high returns over the following weeks. For example, a study by Ibbotson, Sindelar, and Ritter of nearly 15,000 U.S. new issues from 1960 to 2000 found average underpricing of 18.4 percent.²⁶ Figure 15.2 shows that the United States is not the only country in which IPOs are underpriced. In Brazil the gains from buying IPOs have averaged nearly 80 percent.²⁷

You might think that shareholders would prefer not to sell their stock for less than its market price, but many investment bankers and institutional investors argue that underpricing is in the interests of the issuing firm. They say that a low offering price on the initial offer raises the price of the stock when it is subsequently traded in the market and enhances the firm's ability to raise further capital.²⁸ Skeptics respond that investment bankers push for a low offering price because it

²⁵It does not, however, hold the record. That honor goes to Va Linux.

²⁶R. G. Ibbotson, J. L. Sindelar, and J. R. Ritter, "The Market's Problems with the Pricing of Initial Public Offerings," *Journal of Applied Corporate Finance* 7 (Spring 1994), pp. 66–74, updated on <http://bear.cba.ufl.edu/ritter>. As we saw in Chapter 13, there is some evidence that these early gains are not maintained and in the five years following an IPO the shares underperform the market.

²⁷There wasn't room on the chart to plot Chinese IPOs; their initial returns have averaged 257 percent.

²⁸For an analysis of how a firm could rationally underprice to facilitate subsequent stock issues, see I. Welch, "Seasoned Offerings, Imitation Costs and the Underpricing of Initial Public Offerings," *Journal of Finance* 44 (June 1989), pp. 421–449.

reduces the risk that they will be left with unwanted stock and makes them popular with their clients who are allotted stock.

Winner's Curse

Here is another reason that new issues may be underpriced. Suppose that you bid successfully for a painting at an art auction. Should you be pleased? It is true that you now own the painting, which was presumably what you wanted, but everybody else at the auction apparently thought that the picture was worth less than you did. In other words, your success suggests that you may have overpaid.

This problem is known as the *winner's curse*. The highest bidder in an auction is most likely to have overestimated the object's value and, unless bidders recognize this in their bids, the buyer will on average overpay. If bidders are aware of the danger, they are likely to adjust their bids down correspondingly.

The same problem arises when you apply for a new issue of securities. For example, suppose that you decide to apply for every new issue of common stock. You will find that you have no difficulty in getting stock in the issues that no one else wants. But, when the issue is attractive, the underwriters will not have enough stock to go around, and you will receive less stock than you wanted. The result is that your money-making strategy may turn out to be a loser. If you are smart, you will play the game only if there is substantial underpricing on average.

Here then we have a possible rationale for the underpricing of new issues. Uninformed investors who cannot distinguish which issues are attractive are exposed to the winner's curse. Companies and their underwriters are aware of this and need to underprice on average to attract the uninformed investors.²⁹



15.3 OTHER NEW-ISSUE PROCEDURES

Table 15.2 summarizes the main steps involved in making an initial public offering of stock in the United States. You can see that Marvin's new issue was a typical IPO in almost every respect. In particular most IPOs in the United States use the *bookbuilding* method in which the underwriter builds a book of likely orders and uses this information to set the issue price.

Although bookbuilding is rapidly gaining in popularity throughout the world,³⁰ firms and governments in different countries employ a variety of techniques for selling their securities. The main alternatives to bookbuilding are a fixed price offer or an auction. The fixed price offer is often used for IPOs in the UK. In this case the firm fixes the selling price and then advertises the number of shares on offer. If the price is set too high, investors will not apply for all the shares on offer and the underwriters will be obliged to buy the unsold shares. If the price is set too low, the applications will exceed the number of shares on offer and investors

²⁹Notice that the winner's curse would disappear if only investors knew what the market price was going to be. One response is to allow trading in a security before it has been issued. This is known as a *gray market* and is most common for debt issues. Investors can observe the price in the gray market and can be more confident that they are not overbidding when the actual issue takes place.

³⁰The growth in bookbuilding is discussed in A. E. Sherman, "Global Trends in IPO Methods: Book Building vs. Auctions," working paper, Department of Finance and Business Economics, University of Notre Dame, March 2001.

1. Company appoints managing underwriter (bookrunner) and co-manager(s). Underwriting syndicate formed.
2. Arrangement with underwriters includes agreement on spread (typically 7% for medium-sized IPOs) and on greenshoe option (typically allowing the underwriters to increase the number of shares bought by 15%).
3. Issue registered with SEC and preliminary prospectus (red herring) issued.
4. Roadshow arranged to market the issue to potential investors. Managing underwriter builds book of potential demand.
5. SEC approves registration. Company and underwriters agree on issue price.
6. Underwriters allot stock (typically with overallotment).
7. Trading starts. Underwriters cover short position by buying stock in the market or by exercising greenshoe option.
8. Managing underwriter makes liquid market in stock and provides research coverage.

TABLE 15.2

The main steps involved in making an initial public offering of stock in the United States.

will receive only a proportion of the shares that they applied for. Since the most underpriced offers are likely to be heavily oversubscribed, the fixed price offer leaves investors very exposed to the winner's curse.³¹

The alternative is to sell new securities by auction. In this case investors are invited to submit their bids, stating both how many securities they wish to buy and the price. The securities are then sold to the highest bidders. Most governments, including the U.S. Treasury, sell their bonds by auction. In recent years a few companies in the United States have made an IPO by auctioning stock on the Internet.

Notice that the bookbuilding method is in some ways like an auction, since potential buyers state how many shares they are prepared to buy at given prices. However, the bids are not binding and are used only as a guide to fix the price of the issue. Thus the issue price is commonly set below the price that is needed to sell the issue, and the underwriters are more likely to allot stock to their favorite clients and to those investors whose bids are most helpful in setting the issue price.³²

Types of Auction

Suppose that a government wishes to auction four million bonds and three would-be buyers submit bids. Investor *A* bids \$1,020 each for one million bonds, *B* bids \$1,000 for three million bonds, and *C* bids \$980 for two million bonds. The bids of the two highest bidders (*A* and *B*) absorb all the bonds on offer and *C* is left empty-handed. What price do the winning bidders, *A* and *B*, pay?

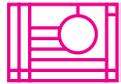
The answer depends on whether the sale is a *discriminatory auction* or a *uniform-price auction*. In a discriminatory auction every winner is required to pay the price that he or she bid. In this case *A* would pay \$1,020 and *B* would pay \$1,000. In a uniform-price auction both would pay \$1,000, which is the price of the lowest winning bidder (investor *B*).

³¹Mario Levis found that, though IPOs in the UK offered an average first-day return of nearly 9 percent in the period 1985–1988, an investor who applied for an equal amount of each IPO would have done little better than break even. See M. Levis, "The Winner's Curse Problem, Interest Costs and the Underpricing of Initial Public Offerings," *Economics Journal* 100 (1990), pp. 76–89.

³²F. Cornelli and D. Goldreich, "Bookbuilding and Strategic Allocation," *Journal of Finance* 56 (December 2001), pp. 2337–2369.

It might seem from our example that the proceeds from a uniform-price auction would be lower than from a discriminatory auction. But this ignores the fact that the uniform-price auction provides better protection against the winner's curse. Wise bidders know that there is little cost to overbidding in a uniform-price auction, but there is potentially a very high cost to doing so in a discriminatory auction.³³ Economists therefore often argue that the uniform-price auction should result in higher proceeds.³⁴

Sales of bonds by the U.S. Treasury used to take the form of discriminatory auctions so that successful buyers paid their bid. However, governments do occasionally listen to economists, and the Treasury has now switched to a uniform-price auction. The Mexican government has also been sufficiently convinced to change from a discriminatory auction to a uniform-price auction.³⁵



15.4 SECURITY SALES BY PUBLIC COMPANIES

For most companies their first public issue of stock is seldom their last. As they grow, they are likely to make further issues of debt and equity. Public companies can issue securities either by offering them to investors at large or by making a rights issue that is limited to existing stockholders. General cash offers are now used for virtually all debt and equity issues in the United States, but rights issues are widespread in other countries and you should understand how they work. Therefore in Appendix A to this chapter we describe rights issues.

General Cash Offers

When a corporation makes a general cash offer of debt or equity in the United States, it goes through much the same procedure as when it first went public. In other words, it registers the issue with the SEC and then sells the securities to an underwriter (or a syndicate of underwriters), who in turn offers the securities to the public. Before the price of the issue is fixed the underwriter will build up a book of likely demand for the securities just as in the case of Marvin's IPO.

The SEC allows large companies to file a single registration statement covering financing plans for up to two years into the future. The actual issues can then be done with scant additional paperwork, whenever the firm needs the cash or thinks it can issue securities at an attractive price. This is called *shelf registra-*

³³In addition, the price in the uniform-price auction depends not only on the views of *B* but also on those of *A* (for example, if *A* had bid \$990 rather than \$1,020, then both *A* and *B* would have paid \$990 for each bond). Since the uniform-price auction takes advantage of the views of both *A* and *B*, it reduces the winner's curse.

³⁴Sometimes auctions reduce the winner's curse by allowing uninformed bidders to enter noncompetitive bids, whereby they submit a quantity but not a price. For example, in U.S. Treasury auctions investors may submit noncompetitive bids and receive their full allocation at the average price paid by competitive bidders.

³⁵Experience in the United States and Mexico with uniform-price auctions suggests that they do indeed reduce the winner's curse problem and realize higher prices for the seller. See K. G. Nyborg and S. Sundaresan, "Discriminatory versus Uniform Treasury Auctions: Evidence from When-Issued Transactions," *Journal of Financial Economics* 42 (1996), pp. 63–105; and S. Umlauf, "An Empirical Study of the Mexican Treasury Bill Auction," *Journal of Financial Economics* 33 (1993), pp. 313–340.

tion—the registration statement is “put on the shelf,” to be taken down and used as needed.

Think of how you as a financial manager might use shelf registration. Suppose your company is likely to need up to \$200 million of new long-term debt over the next year or so. It can file a registration statement for that amount. It then has prior approval to issue up to \$200 million of debt, but it isn’t obligated to issue a penny. Nor is it required to work through any particular underwriters; the registration statement may name one or more underwriters the firm thinks it may work with, but others can be substituted later.

Now you can sit back and issue debt as needed, in bits and pieces if you like. Suppose Merrill Lynch comes across an insurance company with \$10 million ready to invest in corporate bonds. Your phone rings. It’s Merrill Lynch offering to buy \$10 million of your bonds, priced to yield, say, 8½ percent. If you think that’s a good price, you say OK and the deal is done, subject only to a little additional paperwork. Merrill then resells the bonds to the insurance company, it hopes at a higher price than it paid for them, thus earning an intermediary’s profit.

Here is another possible deal: Suppose that you perceive a window of opportunity in which interest rates are temporarily low. You invite bids for \$100 million of bonds. Some bids may come from large investment banks acting alone; others may come from ad hoc syndicates. But that’s not your problem; if the price is right, you just take the best deal offered.

Not all companies eligible for shelf registration actually use it for all their public issues. Sometimes they believe they can get a better deal by making one large issue through traditional channels, especially when the security to be issued has some unusual feature or when the firm believes that it needs the investment banker’s counsel or stamp of approval on the issue. Consequently, shelf registration is less often used for issues of common stock or convertible securities than for garden-variety corporate bonds.

International Security Issues

Well-established companies are not restricted to the capital market in the United States; they can also sell securities in the international capital markets. The procedures for such issues are broadly similar to those used in the United States. Here are two points to note:

1. As long as the issue is not publicly offered in the United States, it does not need to be registered with the SEC. However, the company must still provide a prospectus or offering circular.
2. Frequently an international sale of bonds takes the form of a *bought deal*, in which case one or a few underwriters buy the entire issue. Bought deals allow companies to issue bonds at very short notice.

Large debt issues are now often split, with part sold in the international debt market and part registered and sold in the United States. Likewise with equity issues. For example, in 1992 Wellcome Trust, a British charitable foundation, decided to sell part of its holdings in the Wellcome Group. To handle the sale, it paid about \$140 million to a group of 120 underwriters from around the world. These underwriters collected bids from interested investors and forwarded them to Robert Fleming, a London merchant bank, which built up a book of the various bids. Particular classes of investors, such as existing shareholders or those who submitted

Type	Company	Issue Amount (\$ millions)	Underwriter's Spread
Common Stock:			
IPO	Torch Offshore	\$ 80	7.0 %
IPO	Alliance Imaging	122	7.0
IPO	United Surgical Partners	126	7.0
IPO	Tellium, Inc.	135	7.0
IPO	Agere Systems	3,600	3.9
Seasoned	National Golf Properties, Inc.	\$ 29.6	5.126%
Seasoned	Lifepoint Hospitals	92.8	5.0
Seasoned	Valspar Corp.	168	4.25
Seasoned	Raytheon Co.	343.8	3.745
Seasoned	Pepsico, Inc.	534.6	2.0
Seasoned	Allegheny Energy, Inc.	598.3	3.005
Debt (coupon rate, type, maturity):			
8.3% Subordinated notes, 2011	Bank of the West	\$ 50	.65 %
6.875% Medium-term notes, 2006	Maytag Corp.	185	.50
7.75% Notes, 2011	Shurgard Storage Centers	250	.65
8.5% Senior notes, 2011	Hilton Hotels	300	.875
5.875% Global bonds, 2004	American Home Products	500	.35
3.5% Convertible bonds, 2021	Cox Communications	685	2.25
7.45% Global bonds, 2031	Kellogg	1,100	.875
8.5% Senior notes, 2008	Calpine	1,500	1.00

TABLE 15.3

Gross underwriting spreads of selected issues, 2001. Spreads are percentages of gross proceeds.

their bids early, went to the front of the queue, while those who subsequently cut their bids or sold Wellcome stock were demoted.

By the end of the three-week issue period, Wellcome Trust was able to look at a demand curve showing how many shares investors were prepared to buy at each price. In the light of this information it decided to sell 270 million shares, with net proceeds of about \$4 billion. Some 1,100 institutions and 30,000 individuals ended up buying the shares. About 40 percent of the issue was sold outside the United Kingdom, mainly in the United States, Japan, France, and Germany.

The shares of many companies are now listed and traded on major international exchanges. British Telecom trades on the New York Stock Exchange, as do Sony, Fiat, Telefonos de Mexico, and so on.³⁶ Several of these companies also trade on overseas exchanges. Citigroup, one of the largest banks in the United States, trades in New York, London, Amsterdam, Tokyo, Zurich, Toronto, and Frankfurt, as well as several smaller exchanges.

Some companies' stocks do not trade at all in their home country. For example, in 1998 Radcom Ltd., an Israeli manufacturer of network test equipment,

³⁶Rather than issuing shares directly in the United States, foreign companies generally issue *American depository receipts* (ADRs). These are simply claims to the shares of the foreign company that are held by a bank on behalf of the ADR owners.

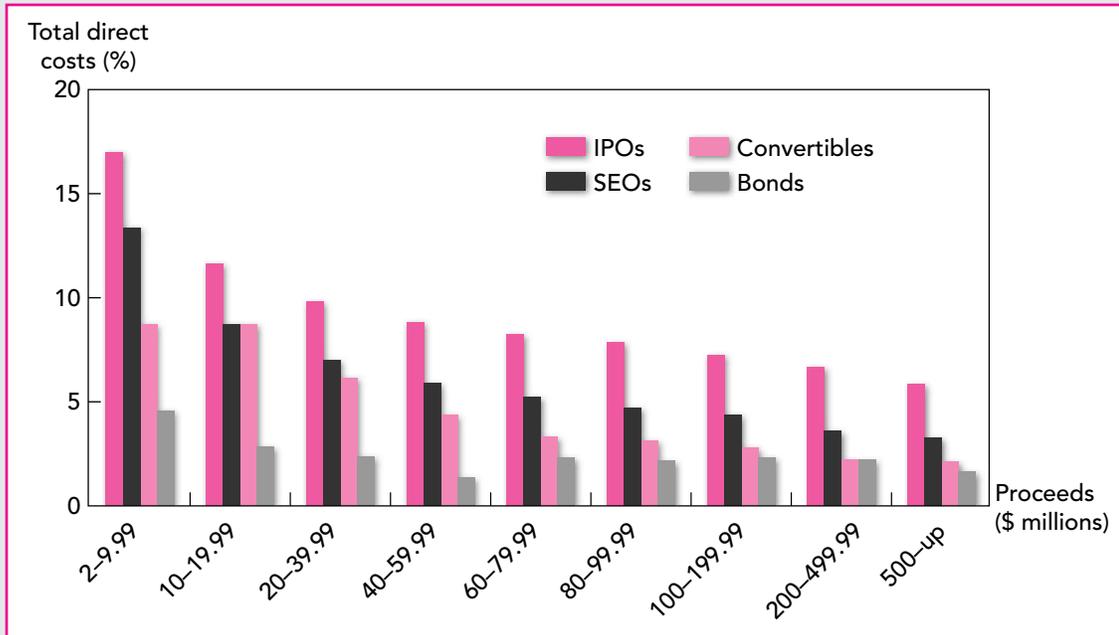


FIGURE 15.3

Total direct costs as a percentage of gross proceeds. The total direct costs for initial public offerings (IPOs), seasoned equity offerings (SEOs), convertible bonds, and straight bonds are composed of underwriter spreads and other direct expenses.

Source: I. Lee, S. Lochhead, J. R. Ritter, and Q. Zhao, "The Costs of Raising Capital," *Journal of Financial Research* 19 (Spring 1996), pp. 59-74.

raised \$30 million by an IPO in the United States. Its stock was not traded in Israel. The company thought it could get a better price and more active follow-on trading in New York.³⁷

The Costs of a General Cash Offer

Whenever a firm makes a cash offer of securities, it incurs substantial administrative costs. Also the firm needs to compensate the underwriters by selling them securities below the price that they expect to receive from investors. Table 15.3 lists underwriting spreads for a few issues in 2001. As the table shows, there are economies of scale in issuing securities: The underwriter's spread declines as the size of the issue increases. Spreads for debt securities are lower than for common stocks, less than 1 percent for many issues.

Figure 15.3 summarizes a study by Lee, Lochhead, Ritter, and Zhao of total issue costs (spreads plus administrative costs) for several thousand issues between 1990 and 1994.

³⁷"High-tech firms are much better understood and valued in the U.S." "[The issuers] get a better price, a shareholder base that understands their business, and they can get publicity in a major market for their products." These are representative quotes from M. R. Sesit, "Foreign Firms Flock to U.S. for IPOs," *The Wall Street Journal*, June 23, 1995, p. C1.

Market Reaction to Stock Issues

Economists who have studied seasoned issues of common stock have generally found that announcement of the issue results in a decline in the stock price. For industrial issues in the United States this decline amounts to about 3 percent.³⁸ While this may not sound overwhelming, the fall in market value is equivalent, on average, to nearly a third of the new money raised by the issue.

What's going on here? One view is that the price of the stock is simply depressed by the prospect of the additional supply. On the other hand, there is little sign that the extent of the price fall increases with the size of the stock issue. There is an alternative explanation that seems to fit the facts better.

Suppose that the CFO of a restaurant chain is strongly optimistic about its prospects. From her point of view, the company's stock price is too low. Yet the company wants to issue shares to finance expansion into the new state of Northern California.³⁹ What is she to do? All the choices have drawbacks. If the chain sells common stock, it will favor new investors at the expense of old shareholders. When investors come to share the CFO's optimism, the share price will rise, and the bargain price to the new investors will be evident.

If the CFO could convince investors to accept her rosy view of the future, then new shares could be sold at a fair price. But this is not so easy. CEOs and CFOs always take care to *sound* upbeat, so just announcing "I'm optimistic" has little effect. But supplying detailed information about business plans and profit forecasts is costly and is also of great assistance to competitors.

The CFO could scale back or delay the expansion until the company's stock price recovers. That too is costly, but it may be rational if the stock price is severely undervalued and a stock issue is the only source of financing.

If a CFO knows that the company's stock is *overvalued*, the position is reversed. If the firm sells new shares at the high price, it will help existing shareholders at the expense of the new ones. Managers might be prepared to issue stock even if the new cash was just put in the bank.

Of course, investors are not stupid. They can predict that managers are more likely to issue stock when they think it is overvalued and that optimistic managers may cancel or defer issues. Therefore, when an equity issue is announced, they mark down the price of the stock accordingly. Thus the decline in the price of the stock at the time of the new issue may have nothing to do with the increased supply but simply with the information that the issue provides.⁴⁰

Cornett and Tehranian devised a natural experiment which pretty much proves this point.⁴¹ They examined a sample of stock issues by commercial banks. Some of these issues were necessary to meet capital standards set by banking regulators. The rest were ordinary, voluntary stock issues designed to raise money for various corporate purposes. The necessary issues caused a much smaller drop in stock prices than the voluntary ones, which makes perfect sense. If the issue is outside

³⁸See, for example, P. Asquith and D. W. Mullins, "Equity Issues and Offering Dilution," *Journal of Financial Economics* 15 (January–February 1986), pp. 61–90.

³⁹Northern California seceded from California and became the fifty-second state in 2007.

⁴⁰This explanation was developed in S. C. Myers and N. S. Majluf, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics* 35 (1994), pp. 99–122.

⁴¹M. M. Cornett and H. Tehranian, "An Examination of Voluntary versus Involuntary Issuances by Commercial Banks," *Journal of Financial Economics* 35 (1994), pp. 99–122.

the manager's discretion, announcement of the issue conveys no information about the manager's view of the company's prospects.⁴²

Most financial economists now interpret the stock price drop on equity issue announcements as an information effect and not a result of the additional supply.⁴³ But what about an issue of preferred stock or debt? Are they equally likely to provide information to investors about company prospects? A pessimistic manager might be tempted to get a debt issue out before investors become aware of the bad news, but how much profit can you make for your shareholders by selling overpriced debt? Perhaps 1 or 2 percent. Investors know that a pessimistic manager has a much greater incentive to issue equity rather than preferred stock or debt. Therefore, when companies announce an issue of preferred or debt, there is a barely perceptible fall in the stock price.⁴⁴

There is, however, at least one puzzle left. As we saw in Chapter 13, it appears that the long-run performance of companies that issue shares is substandard. Investors who bought these companies' shares *after* the stock issue earned lower returns than they would have if they had bought into similar companies. This result holds for both IPOs and seasoned issues.⁴⁵ It seems that investors failed to appreciate fully the issuing companies' information advantage. If so, we have an exception to the efficient-market theory.



15.5 PRIVATE PLACEMENTS AND PUBLIC ISSUES

Whenever a company makes a public offering, it is obliged to register the issue with the SEC. It could avoid this costly process by selling the securities privately. There are no hard-and-fast definitions of a private placement, but the SEC has insisted that the security should be sold to no more than a dozen or so knowledgeable investors.

One of the drawbacks of a private placement is that the investor cannot easily resell the security. However, institutions such as life insurance companies invest huge amounts in corporate debt for the long haul and are less concerned about its marketability. Consequently, an active private placement market has evolved for corporate debt. Often this debt is negotiated directly between the company and the lender, but, if the issue is too large to be absorbed by one institution, the company will generally employ an investment bank to draw up a prospectus and identify possible buyers.

⁴²The "involuntary issuers" did make a choice: they could have foregone the stock issue and run the risk of failing to meet the regulatory capital standards. The banks that were more concerned with this risk were more likely to issue. Thus it's no surprise that Cornett and Tehranian found some drop in stock price even for the involuntary issues.

⁴³There is another possible information effect. Just as an unexpected increase in the dividend suggests to investors that the company is generating more cash than they thought, the announcement of a new issue may have the reverse implication. However, this effect cannot explain why the announcement of an issue of debt does not result in a similar fall in the stock price.

⁴⁴See L. Shyam-Sunder, "The Stock Price Effect of Risky vs. Safe Debt," *Journal of Financial and Quantitative Analysis* 26 (December 1991), pp. 549–558. Evidence on the price impact of issues of different types of security is summarized in C. Smith, "Investment Banking and the Capital Acquisition Process," *Journal of Financial Economics* 15 (January–February 1986), pp. 3–29.

⁴⁵See, for example, T. Loughran and J. R. Ritter, "The New Issues Puzzle," *Journal of Finance* 50 (March 1995), pp. 23–51.

As you would expect, it costs less to arrange a private placement than to make a public issue. This is a particular advantage for companies making smaller issues.

In 1990 the SEC relaxed its restrictions on who can buy and trade unregistered securities. The new rule, Rule 144A, allows large financial institutions (known as *qualified institutional buyers*) to trade unregistered securities among themselves. Rule 144A was intended to increase liquidity and reduce interest rates and issue costs for private placements. It was aimed largely at foreign corporations deterred by registration requirements in the United States. The SEC argued that such firms would welcome the opportunity to issue unregistered stocks and bonds which could then be freely traded by large U.S. financial institutions.

Rule 144A issues have proved very popular, particularly with foreign issuers. There has also been an increasing volume of secondary trading in Rule 144A issues.

SUMMARY

In this chapter we have summarized the various procedures for issuing corporate securities. We first looked at how infant companies raise venture capital to carry them through to the point at which they can make their first public issue of stock. We then looked at how companies can make further public issues of securities by a general cash offer. Finally, we reviewed the procedures for a private placement.

It is always difficult to summarize a summary. Instead we will remind you of some of the most important implications for the financial manager who must decide how to issue capital.

Larger is cheaper There are economies of scale in issuing securities. It is cheaper to go to the market once for \$100 million than to make two trips for \$50 million each. Consequently firms bunch security issues. That may often mean relying on short-term financing until a large issue is justified. Or it may mean issuing more than is needed at the moment in order to avoid another issue later.

Watch out for underpricing Underpricing is a hidden cost to the existing shareholders. Fortunately, it is usually serious only for companies that are selling stock to the public for the first time.

The winner's curse may be a serious problem with IPOs Would-be investors in an initial public offering (IPO) do not know how other investors will value the stock and they worry that they are likely to receive a larger allocation of the overpriced issues. Careful design of issue procedure may reduce the winner's curse.

New stock issues may depress the price The extent of this price pressure varies, but for industrial issues in the United States the fall in the value of the existing stock may amount to a significant proportion of the money raised. This pressure is due to the information that the market reads into the company's decision to issue stock.

Shelf registration often makes sense for debt issues by blue-chip firms Shelf registration reduces the time taken to arrange a new issue, it increases flexibility, and it

may cut underwriting costs. It seems best suited for debt issues by large firms that are happy to switch between investment banks. It seems less suited for issues of unusually risky or complex securities or for issues by small companies that are likely to benefit from a close relationship with an investment bank.

The Privileged Subscription or Rights Issue

APPENDIX A

Instead of making an issue of stock to investors at large, companies sometimes give their existing shareholders the right of first refusal. Such issues are known as *privileged subscription*, or *rights issues*. In some countries, such as the United States and Japan, rights issues have become a rarity and general cash offers are the norm. In Europe equity must generally be sold by rights, though companies have increasingly lobbied for the freedom to make general cash offers.

Here is an example of a rights issue. In January 2001 the French building-materials company, Lafarge, needed to raise €1.1 billion of new equity. It did so by offering its existing shareholders the right to buy one new share for every eight shares that they currently held. The new shares were priced at €80 each, nearly 20 percent below the preannouncement price of €99.65.

Imagine that you hold eight shares of Lafarge stock just prior to the rights issue. Your holding is therefore worth $8 \times €99.65 = €797.20$. Lafarge's offer gives you the opportunity to buy one additional share for €80. If you buy the new share, your holding increases to nine shares and the value of your holding increases by the extra €80 to $797.20 + 80 = €877.20$. Therefore after the issue the value of each share is no longer €99.65, but slightly lower at $877.20/9 = €97.47$.

How much is your right to buy one new share for €80 worth? The answer is €17.47. An investor, who could buy a share worth €97.47 for €80, would be willing to pay €17.47 for the right to do so.

It should be clear on reflection that Lafarge could have raised the same amount of money on a variety of terms. For example, instead of a 1-for-8 at €80, it could have made a 1-for-4 at €40. In this case it would have sold twice as many shares at half the price. If you held eight Lafarge shares before the issue, you could subscribe for two new shares at €40 each. This would give you 10 shares in total worth $797.20 + (2 \times 40) = €877.20$. After the issue the value of each share would be $877.20/10 = €87.72$. This is less than in the case of the 1-for-8 issue but then you would have the compensation of owning 10 rather than 9 shares. Suppose you wanted to sell your right to buy a new share for €40? Investors would be prepared to pay you €47.72 for this right. They would then pay over €40 to Lafarge and receive a share with a market value of €87.72.

Our example illustrates that, as long as the company successfully sells the new shares, the issue price in a rights offering is irrelevant.⁴⁶ That is *not* the case in a general cash offer. If the company sells new stock for less than the market will bear, the buyer makes a profit at the expense of existing shareholders. Although this

⁴⁶If the share price stayed at €97.47, Lafarge's shareholders would be very happy to buy new shares for €80. However, if the price fell below €80, shareholders would no longer exercise their option to buy new shares. To guard against this possibility, it is common to arrange standby agreements requiring the underwriters to buy any unwanted stock.

danger creates a natural presumption in favor of the rights issue, it can be argued that underpricing is a serious problem only in the case of an initial public offer, when a rights issue is not a feasible alternative.

APPENDIX B Marvin's New-Issue Prospectus⁴⁷

PROSPECTUS
900,000 Shares
Marvin Enterprises Inc.
Common Stock (\$.10 par value)

Of the 900,000 shares of Common Stock offered hereby, 500,000 shares are being sold by the Company and 400,000 shares are being sold by the Selling Stockholders. See "Principal and Selling Stockholders." The Company will not receive any of the proceeds from the sale of shares by the Selling Stockholders.

Before this offering there has been no public market for the Common Stock. **These securities involve a high degree of risk. See "Certain Considerations."**

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION NOR HAS THE COMMISSION PASSED ON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	Price to Public	Underwriting Discount	Proceeds to Company ¹	Proceeds to Selling Stockholders ¹
Per share	\$80.00	\$5.60	\$74.40	\$74.40
Total ²	\$72,000,000	\$5,040,000	\$37,200,000	\$29,760,000

¹Before deducting expenses payable by the Company estimated at \$820,000, of which \$455,555 will be paid by the Company and \$364,445 will be paid by the Selling Stockholders.

²The Company has granted to the Underwriters an option to purchase up to an additional 135,000 shares at the initial public offering price, less the underwriting discount, solely to cover over-allotment.

The Common Stock is offered subject to receipt and acceptance by the Underwriters, to prior sale, and to the Underwriters's right to reject any order in whole or in part and to withdraw, cancel, or modify the offer without notice.

Klein Merrick Inc.

February 3, 2019

No person has been authorized to give any information or to make any representations, other than as contained therein, in connection with the offer contained in this Prospectus, and, if given or made, such information or representations must not be relied upon. This Prospectus does not constitute an offer of any securities other than the registered securities to which it relates or an offer to any person in any jurisdiction where such an offer would be unlawful. The delivery of this Prospectus at any time does not imply that information herein is correct as of any time subsequent to its date.

⁴⁷Most prospectuses have content similar to that of the Marvin prospectus but go into considerably more detail. Also we have omitted Marvin's financial statements.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE COMMON STOCK OF THE COMPANY AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

Prospectus Summary

The following summary information is qualified in its entirety by the detailed information and financial statements appearing elsewhere in this Prospectus.

The Offering

Common Stock offered by the Company 500,000 shares
Common Stock offered by the Selling Stockholders 400,000 shares
Common Stock to be outstanding after this offering 4,100,000 shares

Use of Proceeds

For the construction of new manufacturing facilities and to provide working capital.

The Company

Marvin Enterprises Inc. designs, manufactures, and markets gargle blasters for domestic use. Its manufacturing facilities employ integrated microcircuits to control the genetic engineering processes used to manufacture gargle blasters.

The Company was organized in Delaware in 2013.

Use of Proceeds

The net proceeds of this offering are expected to be \$36,744,445. Of the net proceeds, approximately \$27.0 million will be used to finance expansion of the Company’s principal manufacturing facilities. The balance will be used for working capital.

Certain Considerations

Investment in the Common Stock involves a high degree of risk. The following factors should be carefully considered in evaluating the Company:

Substantial Capital Needs The Company will require additional financing to continue its expansion policy. The Company believes that its relations with its lenders are good, but there can be no assurance that additional financing will be available in the future.

Licensing The expanded manufacturing facilities are to be used for the production of a new imploding gargle blaster. An advisory panel to the U.S. Food and Drug Administration (FDA) has recommended approval of this product for the U.S. market but no decision has yet been reached by the full FDA committee.

Dividend Policy

The company has not paid cash dividends on its Common Stock and does not anticipate that dividends will be paid on the Common Stock in the foreseeable future.

Management

The following table sets forth information regarding the Company’s directors, executive officers, and key employees.

Name	Age	Position
George Marvin	32	President, Chief Executive Officer, & Director
Mildred Marvin	28	Treasurer & Director
Chip Norton	30	General Manager

George Marvin—George Marvin established the Company in 2013 and has been its Chief Executive Officer since that date. He is a past president of the Institute of

Gargle Blasters and has recently been inducted into the Confrèrie des gargarisateurs. *Mildred Marvin*—Mildred Marvin has been employed by the Company since 2013. *Chip Norton*—Mr. Norton has been General Manager of the Company since 2013. He is a former vice-president of Amalgamated Blasters, Inc.

Executive Compensation

The following table sets forth the cash compensation paid for services rendered for the year 2018 by the executive officers:

Name	Capacity	Cash Compensation
George Marvin	President and Chief Executive Officer	\$300,000
Mildred Marvin	Treasurer	220,000
Chip Norton	General Manager	220,000

Certain Transactions

At various times between 2014 and 2017 First Meriam Venture Partners invested a total of \$8.5 million in the Company. In connection with this investment, First Meriam Venture Partners was granted certain rights to registration under the Securities Act of 1933, including the right to have their shares of Common Stock registered at the Company's expense with the Securities and Exchange Commission.

Principal and Selling Stockholders

The following table sets forth certain information regarding the beneficial ownership of the Company's voting Common Stock as of the date of this prospectus by (i) each person known by the Company to be the beneficial owner of more than 5 percent of its voting Common Stock, and (ii) each director of the Company who beneficially owns voting Common Stock. Unless otherwise indicated, each owner has sole voting and dispositive power over his or her shares.

Name of Beneficial Owner	Common Stock				
	Shares Beneficially Owned Prior to Offering		Shares to Be Sold	Shares Beneficially Owned After Offer ¹	
	Number	Percent		Number	Percent
George Marvin	375,000	10.4	60,000	315,000	7.7
Mildred Marvin	375,000	10.4	60,000	315,000	7.7
Chip Norton	250,000	6.9	80,000	170,000	4.1
First Meriam Venture Partners	1,700,000	47.2	—	1,700,000	41.5
TFS Investors Centri-Venture Partnership	260,000	7.2	—	260,000	6.3
Henry Pobble	260,000	7.2	—	260,000	6.3
Georgina Sloberg	180,000	5.0	—	180,000	4.4
	200,000	5.6	200,000	—	—

¹Assuming no exercise of the Underwriters' overallotment option.

Description of Capital Stock

The Company's authorized capital stock consists of 10,000,000 shares of voting Common Stock.

As of the date of this Prospectus, there are 10 holders of record of the Common Stock. Under the terms of one of the Company's loan agreements, the Company may not pay cash dividends on Common Stock except from net profits without the written consent of the lender.

Underwriting

Subject to the terms and conditions set forth in the Underwriting Agreement, the Company has agreed to sell to each of the Underwriters named below, and each of the Underwriters, for whom Klein Merrick Inc. are acting as Representatives, has severally agreed to purchase from the Company, the number of shares set forth opposite its name below.

Underwriters	Number of Shares to Be Purchased
Klein Merrick, Inc.	300,000
Goldman Stanley, Inc.	300,000
Salomon, Buffett & Co.	100,000
Orange County Securities	100,000
Bank of New England	100,000

In the Underwriting Agreement, the several Underwriters have agreed, subject to the terms and conditions set forth therein, to purchase all shares offered hereby if any such shares are purchased. In the event of a default by any Underwriter, the Underwriting Agreement provides that, in certain circumstances, purchase commitments of the nondefaulting Underwriters may be increased or the Underwriting Agreement may be terminated.

There is no public market for the Common Stock. The price to the public for the Common Stock was determined by negotiation between the Company and the Underwriters and was based on, among other things, the Company's financial and operating history and condition, its prospects and the prospects for its industry in general, the management of the Company, and the market prices of securities for companies in businesses similar to that of the Company.

Legal Matters

The validity of the shares of Common Stock offered by the Prospectus is being passed on for the Company by Dodson and Fogg and for the Underwriters by Kenge and Carboy.

Experts

The consolidated financial statements of the Company have been so included in reliance on the reports of Hooper Firebrand, independent accountants, given on the authority of that firm as experts in auditing and accounting.

Financial Statements

[Text and tables omitted.]

The best sources on venture capital are the specialized journals. See, for example, recent issues of Venture Capital Journal. The paper by Gompers and Lerner provides a review of the venture capital industry. Sahlman's paper is a very readable analysis of how venture capital financing is structured to provide the right incentives and Kaplan and Stromberg's paper examines a sample of venture capital investments:

P. A. Gompers and J. Lerner: "The Venture Capital Revolution," *Journal of Economic Perspectives*, 15:145-168 (Spring 2001).

**FURTHER
READING**

- W. A. Sahlman: "Aspects of Financial Contracting in Venture Capital," *Journal of Applied Corporate Finance*, 1:23–26 (Summer 1988).
- S. N. Kaplan and P. Stromberg, "Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts," *Review of Financial Studies*, forthcoming.
- There have been a number of studies of the market for initial public offerings of common stock. Good articles to start with are:*
- K. Ellis, R. Michaely, and M. O'Hara: "When the Underwriter Is the Market Maker: An Examination of Trading in the IPO Aftermarket," *Journal of Finance*, 55:1039–1074 (June 2000).
- F. Cornelli and D. Goldreich: "Bookbuilding and Strategic Allocation," *Journal of Finance* 56 (December 2001), pp. 2337–2369.
- R. G. Ibbotson, J. L. Sindelar, and J. R. Ritter: "The Market's Problems with the Pricing of Initial Public Offerings," *Journal of Applied Corporate Finance*, 7:66–74 (Spring 1994).
- T. Loughran and J. R. Ritter: "The New Issues Puzzle," *Journal of Finance*, 50:23–51 (March 1995).
- K. Rock: "Why New Issues Are Underpriced," *Journal of Financial Economics*, 15:187–212 (January–February 1986).
- A useful introduction to the design of auction procedures is:*
- P. Milgrom, "Auctions and Bidding: A Primer," *Journal of Economic Perspectives*, 3:3–22 (1989).
- The significant and permanent fall in price after a seasoned stock issue in the United States is documented in the Asquith and Mullins paper. Myers and Majluf relate this price fall to the information associated with security issues:*
- P. Asquith and D. W. Mullins: "Equity Issues and Offering Dilution," *Journal of Financial Economics*, 15:61–90 (January–February 1986).
- S. C. Myers and N. S. Majluf: "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," *Journal of Financial Economics*, 13:187–222 (June 1984).

QUIZ

- After each of the following issue methods we have listed two types of issue. Choose the one more likely to employ that method.
 - Rights issue (*initial public offer/further sale of an already publicly traded stock*)
 - Rule 144A issue (*international bond issue/U.S. bond issue by a foreign corporation*)
 - Private placement (*issue of existing stock/bond issue by an industrial company*)
 - Shelf registration (*initial public offer/bond issue by a large industrial company*)
- Each of the following terms is associated with one of the events beneath. Can you match them up?
 - Best efforts
 - Bookbuilding
 - Shelf registration
 - Rule 144A

Events:

 - Investors indicate to the underwriter how many shares they would like to buy in a new issue and these indications are used to help set the price.
 - The underwriter accepts responsibility only to *try* to sell the issue.
 - Some issues are not registered but can be traded freely among qualified institutional buyers.
 - Several tranches of the same security may be sold under the same registration. (A "tranche" is a batch, a fraction of a larger issue.)
- Explain what each of the following terms or phrases means:
 - Venture capital
 - Primary offering

- c. Secondary offering
 - d. Registration statement
 - e. Winner's curse
 - f. Bought deal
4. For each of the following pairs of issues, which is likely to involve the lower proportionate underwriting and administrative costs?
 - a. A large issue/a small issue.
 - b. A bond issue/a common stock issue.
 - c. Initial public offering/subsequent issue of stock.
 - d. A small private placement of bonds/a small general cash offer of bonds.
 5. True or false?
 - a. Venture capitalists typically provide first-stage financing sufficient to cover all development expenses. Second-stage financing is provided by stock issued in an IPO.
 - b. Large companies' stocks may be listed and traded on several different international exchanges.
 - c. Stock price generally falls when the company announces a new issue of shares. This is attributable to the information released by the decision to issue.
 6. Look back at the prospectus for Marvin's IPO (Appendix B):
 - a. If there is unexpectedly heavy demand for the issue, how many extra shares can the underwriter buy?
 - b. How many shares are to be sold in the primary offering? How many will be sold in the secondary offering?
 - c. One day post-IPO, Marvin shares traded at \$105. What was the degree of underpricing? How does that compare with the average degree of underpricing for IPOs in the United States?
 - d. There are three kinds of cost to Marvin's new issue—underwriting expense, administrative costs, and underpricing. What was the *total* dollar cost of the Marvin issue?
 7. You need to choose between making a public offering and arranging a private placement. In each case the issue involves \$10 million face value of 10-year debt. You have the following data for each:
 - *A public issue:* The interest rate on the debt would be 8.5 percent, and the debt would be issued at face value. The underwriting spread would be 1.5 percent, and other expenses would be \$80,000.
 - *A private placement:* The interest rate on the private placement would be 9 percent, but the total issuing expenses would be only \$30,000.
 - a. What is the difference in the proceeds to the company net of expenses?
 - b. Other things being equal, which is the better deal?
 - c. What other factors beyond the interest rate and issue costs would you wish to consider before deciding between the two offers?
 8. In what ways does the bookbuilding method of selling new issues differ from a formal auction?
 9. Associated Breweries is planning to market unleaded beer. To finance the venture it proposes to make a rights issue at \$10 of one new share for each two shares held. (The company currently has outstanding 100,000 shares priced at \$40 a share.) Assuming that the new money is invested to earn a fair return, give values for the following:
 - a. Number of new shares.
 - b. Amount of new investment.
 - c. Total value of company after issue.
 - d. Total number of shares after issue.
 - e. Stock price after the issue.
 - f. Price of the right to buy one new share.

PRACTICE QUESTIONS

1. Here is a further vocabulary quiz. Briefly explain each of the following:
 - a. Zero-stage vs. first- or second-stage financing.
 - b. After-the-money valuation.
 - c. Mezzanine financing.
 - d. Road show.
 - e. Best-efforts offer.
 - f. Qualified institutional buyer.
 - g. Blue-sky laws.
2.
 - a. “A signal is credible only if it is costly.” Explain why management’s willingness to invest in Marvin’s equity was a credible signal. Was its willingness to accept only part of the venture capital that would eventually be needed also a credible signal?
 - b. “When managers take their reward in the form of increased leisure or executive jets, the cost is borne by the shareholders.” Explain how First Meriam’s financing package tackled this problem.
3. Describe the alternative procedures for IPOs of common stock. What are their advantages and disadvantages?
4. In the UK initial public offerings of common stock are usually sold by an *offer for sale*. Mr. Bean has observed that on average these stocks are underpriced by about 9 percent and for some years has followed a policy of applying for a constant proportion of each issue. He is therefore disappointed and puzzled to find that this policy has not resulted in a profit. Explain to him why this is so.
5. Get ahold of the prospectus for a recent IPO. How do the issue costs compare with (a) those of the Marvin issue and (b) those shown in Table 15.3? Can you suggest reasons for the differences?
6. Why are the costs of debt issues less than those of equity issues? List the possible reasons.
7. “For small issues of common stock, the issue costs to about 10 percent of the proceeds. This means that the opportunity cost of external equity capital is about 10 percentage points higher than that of retained earnings.” Does the speaker have a point?
8. There are three reasons that a common stock issue might cause a fall in price: (a) the price fall is needed to absorb the extra supply, (b) the issue causes temporary price pressure until it has been digested, and (c) management has information that stockholders do not have. Explain these reasons more fully. Which do you find most plausible? Is there any way that you could seek to test whether you are right?
9. In what circumstances is a private placement preferable to a public issue? Explain.
10. Construct a simple example to show the following:
 - a. Existing shareholders are made worse off when a company makes a cash offer of new stock below the market price.
 - b. Existing shareholders are *not* made worse off when a company makes a rights issue of new stock below the market price even if the new stockholders do not wish to take up their rights.
11. In 1998 the Pandora Box Company made a rights issue at \$5 a share of one new share for every four shares held. Before the issue there were 10 million shares outstanding and the share price was \$6.
 - a. What was the total amount of new money raised?
 - b. What was the value of the right to buy one new share?
 - d. What was the prospective stock price after the issue?
 - e. How far could the total value of the company fall before shareholders would be unwilling to take up their rights?

12. Problem 11 contains details of a rights offering by Pandora Box. Suppose that the company had decided to issue new stock at \$4. How many new shares would it have needed to sell to raise the same sum of money? Recalculate the answers to questions (b) to (d) in question 11. Show that the shareholders are just as well off if the company issues the shares at \$4 rather than \$5.

1. a. Why do venture capital companies prefer to advance money in stages? If you were the management of Marvin Enterprises, would you have been happy with such an arrangement? With the benefit of hindsight did First Meriam gain or lose by advancing money in stages?
 - b. The price at which First Meriam would invest more money in Marvin was not fixed in advance. But Marvin could have given First Meriam an *option* to buy more shares at a preset price. Would this have been better?
 - c. At the second stage Marvin could have tried to raise money from another venture capital company in preference to First Meriam. To protect themselves against this, venture capital firms sometimes demand first refusal on new capital issues. Would you recommend this arrangement?
2. Explain the difference between a uniform-price auction and a discriminatory auction. Why might you prefer to sell securities by one method rather than another?
3. Here is recent financial data on Pisa Construction, Inc.

CHALLENGE QUESTION

Stock price	\$40	Market value of firm	\$400,000
Number of shares	10,000	Earnings per share	\$4
Book net worth	\$500,000	Return on investment	8%

Pisa has not performed spectacularly to date. However, it wishes to issue new shares to obtain \$80,000 to finance expansion into a promising market. Pisa's financial advisers think a stock issue is a poor choice because, among other reasons, "sale of stock at a price below book value per share can only depress the stock price and decrease shareholders' wealth." To prove the point they construct the following example: "Suppose 2,000 new shares are issued at \$40 and the proceeds are invested. (Neglect issue costs.) Suppose return on investment doesn't change. Then

$$\text{Book net worth} = \$580,000$$

$$\text{Total earnings} = .08(580,000) = \$46,400$$

$$\text{Earnings per share} = \frac{46,400}{12,000} = \$3.87$$

Thus, EPS declines, book value per share declines, and share price will decline proportionately to \$38.70."

Evaluate this argument with particular attention to the assumptions implicit in the numerical example.

4. Do you think that there could be a shortage of finance for new ventures? Should the government help to provide such finance and, if so, how?

PART FOUR RELATED WEBSITES

Useful sources of aggregate data on corporate financing for U.S. corporations include:

www.census.gov/csd/qfr (balance sheets and income statements)

www.federalreserve.gov/releases (sources and uses of funds data)

Material on the changing capital structure of corporations is provided on:

http://fisher.osu.edu/fin/resources_education/credit

Sites on corporate governance and shareholder rights include:

www.corpgov.net

www.corpmon.com

www.thecorporatelibrary.com

For information on venture capital see:

www.ipo.com

www.nvca.org

www.redherring.com

www.tfibcm.com

www.thedeal.com

www.ventureeconomics.com

www.v1.com

www.vnpartners.com/primer (a useful primer on venture capital)

The following sites give information on recent IPOs:

www.hoovers.com/ipo

www.ipo.com

www.ipodata.com

www.redherring.com/ipo

www.thedeal.com

www.edgar-online.com/ipoexpress

Nasdaq provides a useful explanation of how to go public together with some data on new listings:

www.nasdaq.com/about/going_public.stm

Jay Ritter's home page is a mine of information on the behavior of IPOs:

<http://bear.cba.ufl.edu/ritter>

Underwriter league tables are published on:

www.tfibcm.com

This huge SEC database contains prospectuses and registration statements:

www.FreeEDGAR.com