PART

1

FRAMEWORK

CHAPTER

1

A Framework for Business Analysis and Valuation Using Financial Statements

This chapter outlines a comprehensive framework for financial statement analysis. Because financial statements provide the most widely available data on public corporations' economic activities, investors and other stakeholders rely on financial reports to assess the plans and performance of firms and corporate managers.

A variety of questions can be addressed by business analysis using financial statements, as shown in the following examples:

- A security analyst may be interested in asking: "How well is the firm I am following performing? Did the firm meet my performance expectations? If not, why not? What is the value of the firm's stock given my assessment of the firm's current and future performance?"
- A loan officer may need to ask: "What is the credit risk involved in lending a certain amount of money to this firm? How well is the firm managing its liquidity and solvency? What is the firm's business risk? What is the additional risk created by the firm's financing and dividend policies?"
- A management consultant might ask: "What is the structure of the industry in which the firm is operating? What are the strategies pursued by various players in the industry? What is the relative performance of different firms in the industry?"
- A corporate manager may ask: "Is my firm properly valued by investors? Is our investor communication program adequate to facilitate this process?"
- A corporate manager could ask: "Is this firm a potential takeover target? How much value can be added if we acquire this firm? How can we finance the acquisition?"
- An independent auditor would want to ask: "Are the accounting policies and accrual estimates in this company's financial statements consistent with my understanding of this business and its recent performance? Do these financial reports communicate the current status and significant risks of the business?"

In the past century, we have seen two distinct models for channeling savings into business investments. Communist and socialist market economies have used central planning and government agencies to pool national savings and to direct investments in business enterprises. The failure of this model is evident from the fact that most of these economies have abandoned it in favor of the second model – the market model. In almost all countries in the world today, capital markets play an

important role in channeling financial resources from savers to business enterprises that need capital.

Financial statement analysis is a valuable activity when managers have complete information on a firm's strategies, and a variety of institutional factors make it unlikely that they fully disclose this information. In this setting outside analysts attempt to create "inside information" from analyzing financial statement data, thereby gaining valuable insights about the firm's current performance and future prospects.

To understand the contribution that financial statement analysis can make, it is important to understand the role of financial reporting in the functioning of capital markets and the institutional forces that shape financial statements. Therefore we present first a brief description of these forces; then we discuss the steps that an analyst must perform to extract information from financial statements and provide valuable forecasts.

THE ROLE OF FINANCIAL REPORTING IN CAPITAL MARKETS

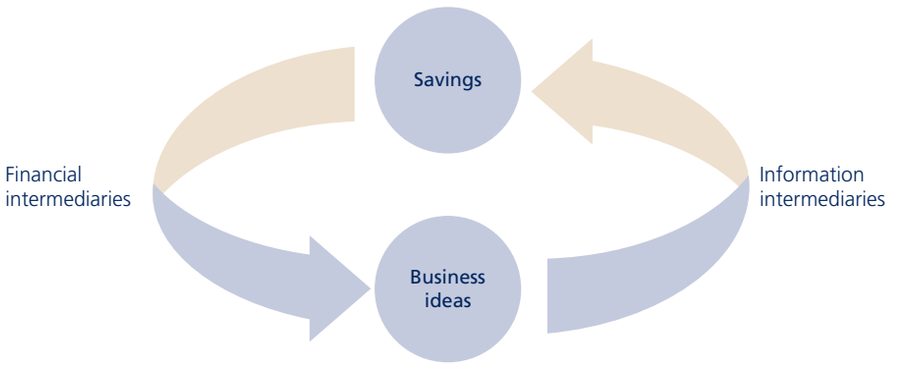
A critical challenge for any economy is the allocation of savings to investment opportunities. Economies that do this well can exploit new business ideas to spur innovation and create jobs and wealth at a rapid pace. In contrast, economies that manage this process poorly dissipate their wealth and fail to support business opportunities.

Figure 1.1 provides a schematic representation of how capital markets typically work. Savings in any economy are widely distributed among households. There are usually many new entrepreneurs and existing companies that would like to attract these savings to fund their business ideas. While both savers and entrepreneurs would like to do business with each other, matching savings to business investment opportunities is complicated for at least two reasons. First, entrepreneurs typically have better information than savers on the value of business investment opportunities. Second, communication by entrepreneurs to investors is not completely credible because investors know entrepreneurs have an incentive to inflate the value of their ideas.

These information and incentive issues lead to what economists call the "lemons" problem, which can potentially break down the functioning of the capital market.[1] It works like this. Consider a situation where half the business ideas are "good" and the other half are "bad." If investors cannot distinguish between the two types of business ideas, entrepreneurs with "bad" ideas will try to claim that their ideas are as valuable as the "good" ideas. Realizing this possibility, investors value both good and bad ideas at an average level. Unfortunately, this penalizes good ideas, and entrepreneurs with good ideas find the terms on which they can get financing to be unattractive. As these entrepreneurs leave the capital market, the proportion of bad ideas in the market increases. Over time, bad ideas "crowd out" good ideas, and investors lose confidence in this market.

The emergence of intermediaries can prevent such a market breakdown. Intermediaries are like a car mechanic who provides an independent certification of a used car's quality to help a buyer and seller agree on a price. There are two types of intermediaries in the capital markets. Financial intermediaries, such as venture capital firms, banks, collective investment funds, pension funds, and insurance companies, focus on aggregating funds from individual investors and analyzing different investment alternatives to make investment decisions. Information intermediaries,

FIGURE 1.1 Capital markets



such as auditors, financial analysts, credit-rating agencies, and the financial press, focus on providing information to investors (and to financial intermediaries who represent them) on the quality of various business investment opportunities. Both these types of intermediaries add value by helping investors distinguish "good" investment opportunities from the "bad" ones.

The relative importance of financial intermediaries and information intermediaries varies from country to country for historical reasons. In countries where individual investors traditionally have had strong legal rights to discipline entrepreneurs who invest in "bad" business ideas, such as in the U.K., individual investors have been more inclined to make their own investment decisions. In these countries, the funds that entrepreneurs attract may come from a widely dispersed group of individual investors and be channeled through public stock exchanges. Information intermediaries consequently play an important role in supplying individual investors with the information that they need to distinguish between "good" and "bad" business ideas. In contrast, in countries where individual investors traditionally have had weak legal rights to discipline entrepreneurs, such as in many Continental European countries, individual investors have been more inclined to rely on the help of financial intermediaries. In these countries, financial intermediaries, such as banks, tend to supply most of the funds to entrepreneurs and can get privileged access to entrepreneurs' private information.

Over the past decade, many countries in Europe have been moving towards a model of strong protection of investors' rights to discipline entrepreneurs and well-developed stock exchanges. In this model, financial reporting plays a critical role in the functioning of both the information intermediaries and financial intermediaries. Information intermediaries add value by either enhancing the credibility of financial reports (as auditors do), or by analyzing the information in the financial statements (as analysts and the rating agencies do). Financial intermediaries rely on the information in the financial statements to analyze investment opportunities, and supplement this information with other sources of information. In the following section, we discuss key aspects of the financial reporting system design that enable it to play effectively this vital role in the functioning of the capital markets.

FROM BUSINESS ACTIVITIES TO FINANCIAL STATEMENTS

Corporate managers are responsible for acquiring physical and financial resources from the firm's environment and using them to create value for the firm's investors. Value is created when the firm earns a return on its investment in excess of the return required by its capital suppliers. Managers formulate business strategies to achieve this goal, and they implement them through business activities. A firm's business activities are influenced by its economic environment and its own business strategy. The economic environment includes the firm's industry, its input and output markets, and the regulations under which the firm operates. The firm's business strategy determines how the firm positions itself in its environment to achieve a competitive advantage.

As shown in Figure 1.2, a firm's financial statements summarize the economic consequences of its business activities. The firm's business activities in any time period are too numerous to be reported individually to outsiders. Further, some of the activities undertaken by the firm are proprietary in nature, and disclosing these activities in detail could be a detriment to the firm's competitive position. The firm's accounting system provides a mechanism through which business activities are selected, measured, and aggregated into financial statement data.

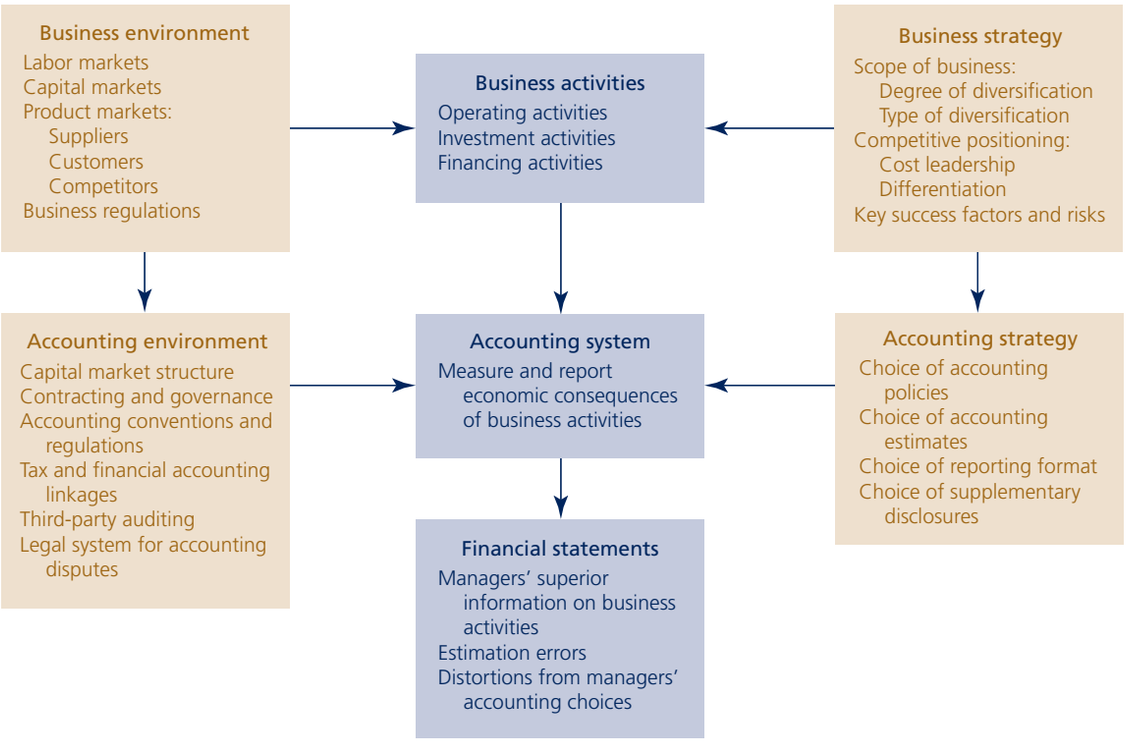
Intermediaries using financial statement data to do business analysis have to be aware that financial reports are influenced both by the firm's business activities and by its accounting system. A key aspect of financial statement analysis, therefore, involves understanding the influence of the accounting system on the quality of the financial statement data being used in the analysis. The institutional features of accounting systems discussed next determine the extent of that influence.

Accounting system feature 1: Accrual accounting

One of the fundamental features of corporate financial reports is that they are prepared using accrual rather than cash accounting. Unlike cash accounting, accrual accounting distinguishes between the recording of costs and benefits associated with economic activities and the actual payment and receipt of cash. Net profit is the primary periodic performance index under accrual accounting. To compute net profit, the effects of economic transactions are recorded on the basis of *expected*, not necessarily *actual*, cash receipts and payments. Expected cash receipts from the delivery of products or services are recognized as revenues, and expected cash outflows associated with these revenues are recognized as expenses.

The need for accrual accounting arises from investors' demand for financial reports on a periodic basis. Because firms undertake economic transactions on a continual basis, the arbitrary closing of accounting books at the end of a reporting period leads to a fundamental measurement problem. Because cash accounting does not report the full economic consequence of the transactions undertaken in a given period, accrual accounting is designed to provide more complete information on a firm's periodic performance.

FIGURE 1.2 From business activities to financial statements



Accounting system feature 2: Accounting standards and auditing

The use of accrual accounting lies at the center of many important complexities in corporate financial reporting. Because accrual accounting deals with *expectations* of future cash consequences of current events, it is subjective and relies on a variety of assumptions. Who should be charged with the primary responsibility of making these assumptions? A firm's managers are entrusted with the task of making the appropriate estimates and assumptions to prepare the financial statements because they have intimate knowledge of their firm's business.

The accounting discretion granted to managers is potentially valuable because it allows them to reflect inside information in reported financial statements. However, because investors view profits as a measure of managers' performance, managers have incentives to use their accounting discretion to distort reported profits by making biased assumptions. Further, the use of accounting numbers in contracts between the firm and outsiders provides another motivation for management manipulation of accounting numbers. Earnings management distorts financial accounting data, making them less valuable to external users of financial statements. Therefore, the delegation of financial reporting decisions to corporate managers has both costs and benefits.

A number of accounting conventions have evolved to ensure that managers use their accounting flexibility to summarize their knowledge of the firm's business activities,

and not to disguise reality for self-serving purposes. For example, the measurability and conservatism conventions are accounting responses to concerns about distortions from managers' potentially optimistic bias. Both these conventions attempt to limit managers' optimistic bias by imposing their own pessimistic bias.

Accounting standards, such as International Financial Reporting Standards (IFRS), promulgated by the International Accounting Standards Board (IASB) and adopted by more than 70 countries worldwide, also limit potential distortions that managers can introduce into reported numbers.[2] Uniform accounting standards attempt to reduce managers' ability to record similar economic transactions in dissimilar ways, either over time or across firms.

Increased uniformity from accounting standards, however, comes at the expense of reduced flexibility for managers to reflect genuine business differences in their firm's financial statements. Rigid accounting standards work best for economic transactions whose accounting treatment is not predicated on managers' proprietary information. However, when there is significant business judgment involved in assessing a transaction's economic consequences, rigid standards that prevent managers from using their superior business knowledge would be dysfunctional. Further, if accounting standards are too rigid, they may induce managers to expend economic resources to restructure business transactions in order to achieve a desired accounting result.

Auditing, broadly defined as a verification of the integrity of the reported financial statements by someone other than the preparer, ensures that managers use accounting rules and conventions consistently over time, and that their accounting estimates are reasonable. Therefore auditing improves the quality of accounting data.

Third-party auditing may also reduce the quality of financial reporting because it constrains the kind of accounting rules and conventions that evolve over time. For example, the IASB considers the views of auditors in the standard-setting process. Auditors are likely to argue against accounting standards producing numbers that are difficult to audit, even if the proposed rules produce relevant information for investors.

The legal environment in which accounting disputes between managers, auditors, and investors are adjudicated can also have a significant effect on the quality of reported numbers. The threats of lawsuits and resulting penalties, which vary greatly in strength across countries, have the beneficial effect of improving the accuracy of disclosure. However, the potential for a significant legal liability might also discourage managers and auditors from supporting accounting proposals requiring risky forecasts, such as forward-looking disclosures.

Accounting system feature 3: Managers' reporting strategy

Because the mechanisms that limit managers' ability to distort accounting data add noise, it is not optimal to use accounting regulation to eliminate managerial flexibility completely. Therefore real-world accounting systems leave considerable room for managers to influence financial statement data. A firm's reporting strategy – that is, the manner in which managers use their accounting discretion – has an important influence on the firm's financial statements.

Corporate managers can choose accounting and disclosure policies that make it more or less difficult for external users of financial reports to understand the true economic picture of their businesses. Accounting rules often provide a broad set of

alternatives from which managers can choose. Further, managers are entrusted with making a range of estimates in implementing these accounting policies. Accounting regulations usually prescribe *minimum* disclosure requirements, but they do not restrict managers from *voluntarily* providing additional disclosures.

A superior disclosure strategy will enable managers to communicate the underlying business reality to outside investors. One important constraint on a firm's disclosure strategy is the competitive dynamics in product markets. Disclosure of proprietary information about business strategies and their expected economic consequences may hurt the firm's competitive position. Subject to this constraint, managers can use financial statements to provide information useful to investors in assessing their firm's true economic performance.

Managers can also use financial reporting strategies to manipulate investors' perceptions. Using the discretion granted to them, managers can make it difficult for investors to identify poor performance on a timely basis. For example, managers can choose accounting policies and estimates to provide an optimistic assessment of the firm's true performance. They can also make it costly for investors to understand the true performance by controlling the extent of information that is disclosed voluntarily.

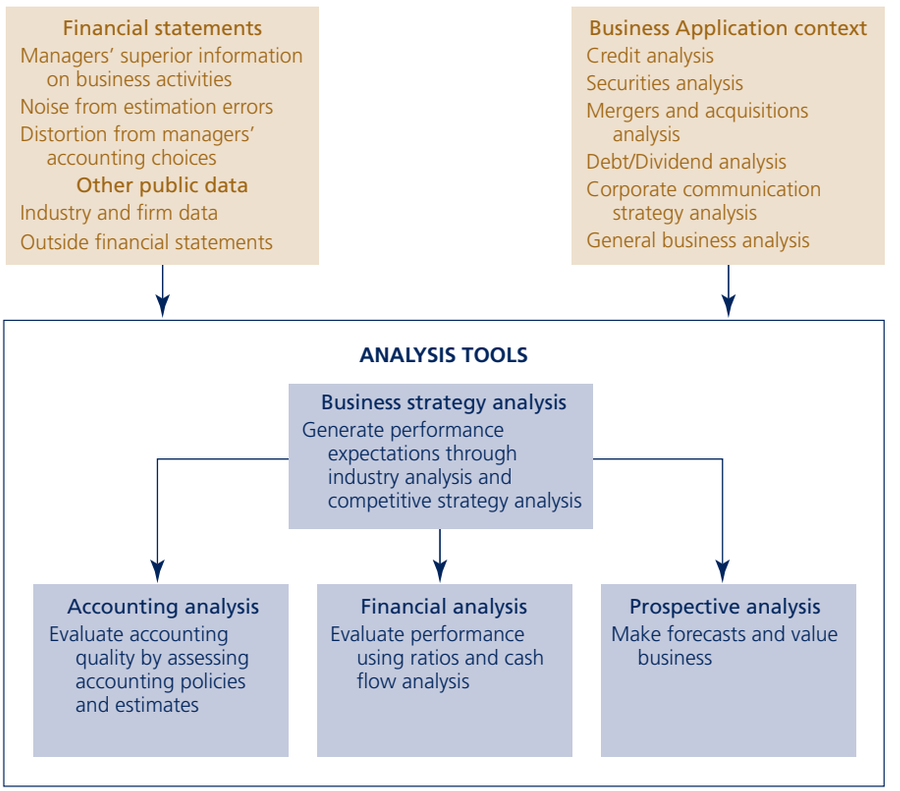
The extent to which financial statements are informative about the underlying business reality varies across firms and across time for a given firm. This variation in accounting quality provides both an important opportunity and a challenge in doing business analysis. The process through which analysts can separate noise from information in financial statements, and gain valuable business insights from financial statement analysis, is discussed next.

FROM FINANCIAL STATEMENTS TO BUSINESS ANALYSIS

Because managers' insider knowledge is a source both of value and distortion in accounting data, it is difficult for outside users of financial statements to separate true information from distortion and noise. Not being able to undo accounting distortions completely, investors "discount" a firm's reported accounting performance. In doing so, they make a probabilistic assessment of the extent to which a firm's reported numbers reflect economic reality. As a result, investors can have only an imprecise assessment of an individual firm's performance. Financial and information intermediaries can add value by improving investors' understanding of a firm's current performance and its future prospects.

Effective financial statement analysis is valuable because it attempts to get at managers' inside information from public financial statement data. Because intermediaries do not have direct or complete access to this information, they rely on their knowledge of the firm's industry and its competitive strategies to interpret financial statements. Successful intermediaries have at least as good an understanding of the industry economics as do the firm's managers, as well as a reasonably good understanding of the firm's competitive strategy. Although outside analysts have an information disadvantage relative to the firm's managers, they are more objective in evaluating the economic consequences of the firm's investment and operating decisions. Figure 1.3 provides a schematic overview of how business intermediaries use financial statements to accomplish four key steps: (1) business strategy analysis, (2) accounting analysis, (3) financial analysis, and (4) prospective analysis.

FIGURE 1.3 Analysis using financial statements



Analysis step 1: Business strategy analysis

The purpose of business strategy analysis is to identify key profit drivers and business risks, and to assess the company's profit potential at a qualitative level. Business strategy analysis involves analyzing a firm's industry and its strategy to create a sustainable competitive advantage. This qualitative analysis is an essential first step because it enables the analyst to frame the subsequent accounting and financial analysis better. For example, identifying the key success factors and key business risks allows the identification of key accounting policies. Assessment of a firm's competitive strategy facilitates evaluating whether current profitability is sustainable. Finally, business analysis enables the analyst to make sound assumptions in forecasting a firm's future performance. We discuss business strategy analysis in further detail in Chapter 2.

Analysis step 2: Accounting analysis

The purpose of accounting analysis is to evaluate the degree to which a firm's accounting captures the underlying business reality. By identifying places where there is accounting flexibility, and by evaluating the appropriateness of the firm's accounting policies and estimates, analysts can assess the degree of distortion in a

firm's accounting numbers. Another important step in accounting analysis is to "undo" any accounting distortions by recasting a firm's accounting numbers to create unbiased accounting data. Sound accounting analysis improves the reliability of conclusions from financial analysis, the next step in financial statement analysis. Accounting analysis is the topic in Chapters 3 and 4.

Analysis step 3: Financial analysis

The goal of financial analysis is to use financial data to evaluate the current and past performance of a firm and to assess its sustainability. There are two important skills related to financial analysis. First, the analysis should be systematic and efficient. Second, the analysis should allow the analyst to use financial data to explore business issues. Ratio analysis and cash flow analysis are the two most commonly used financial tools. Ratio analysis focuses on evaluating a firm's product market performance and financial policies; cash flow analysis focuses on a firm's liquidity and financial flexibility. Financial analysis is discussed in Chapter 5.

Analysis step 4: Prospective analysis

Prospective analysis, which focuses on forecasting a firm's future, is the final step in business analysis. (This step is explained in Chapters 6, 7, and 8.) Two commonly used techniques in prospective analysis are financial statement forecasting and valuation. Both these tools allow the synthesis of the insights from business analysis, accounting analysis, and financial analysis in order to make predictions about a firm's future.

While the value of a firm is a function of its future cash flow performance, it is also possible to assess a firm's value based on the firm's current book value of equity, and its future return on equity (ROE) and growth. Strategy analysis, accounting analysis, and financial analysis, the first three steps in the framework discussed here, provide an excellent foundation for estimating a firm's intrinsic value. Strategy analysis, in addition to enabling sound accounting and financial analysis, also helps in assessing potential changes in a firm's competitive advantage and their implications for the firm's future ROE and growth. Accounting analysis provides an unbiased estimate of a firm's current book value and ROE. Financial analysis facilitates an in-depth understanding of what drives the firm's current ROE.

The predictions from a sound business analysis are useful to a variety of parties and can be applied in various contexts. The exact nature of the analysis will depend on the context. The contexts that we will examine include securities analysis, credit evaluation, mergers and acquisitions, evaluation of debt and dividend policies, and assessing corporate communication strategies. The four analytical steps described above are useful in each of these contexts. Appropriate use of these tools, however, requires a familiarity with the economic theories and institutional factors relevant to the context.

There are several ways in which financial statement analysis can add value, even when capital markets are reasonably efficient. First, there are many applications of financial statement analysis whose focus is outside the capital market context – credit analysis, competitive benchmarking, analysis of mergers and acquisitions, to name a few. Second, markets become efficient precisely because some market participants rely on analytical tools such as the ones we discuss in this book to analyze information and make investment decisions.

PUBLIC VERSUS PRIVATE CORPORATIONS

This book focuses primarily on public corporations. In some countries, financial statements of (unlisted) private corporations are also widely available. For example, the member states of the European Union (E.U.) require that privately held corporations prepare their financial statements under a common set of rules and make their financial statements publicly available. All corporations must prepare at least single company financial statements, while parent corporations of large groups must also prepare consolidated financial statements.[3] Consolidated financial statements are typically more appropriate for use in business analysis and valuation because these statements report the combined assets, liabilities, revenues, and expenses of the parent company and its subsidiaries. Single company financial statements report the assets, liabilities, revenues, and expenses of the parent company only and therefore provide little insight into the activities of subsidiaries.

E.U. law also requires that private corporations' financial statements be audited by an external auditor, although member states may exempt small corporations from this requirement.[4] The way in which private corporations in the E.U. make their financial statements available to the public is typically by filing these with a local public register that is maintained by agencies such as the companies register, the chamber of commerce, or the national bank.[5]

Private corporations' financial statements can be, and are being, used for business analysis and valuation. For example, venture capitalists, which provide equity funds to mostly private start-up companies, can use financial statements to evaluate potential investments. Nevertheless, although private corporations' financial statements are also subject to accounting standards, their usefulness in business analysis and valuation is less than that of public corporations' financial statements for the following reasons.[6] First, information and incentive problems are smaller in private corporations than in public corporations. Investors and managers of private corporations maintain close relationships and communicate their information through other means than public financial reports, such as personal communication or ad hoc reports. Because public reporting plays only a small role in communication, managers of private corporations have little incentive to make their public financial statements informative about the underlying business reality. Second, private corporations often produce one set of financial statements that meets the requirements of both tax rules and accounting rules. Tax rules grant managers less discretion in their assumptions than, for example, IFRS. Under tax rules, the recording of costs and benefits is also typically more associated with the payment and receipt of cash than with the underlying economic activities. Consequently, when private corporations' financial statements also comply with tax rules, they are less useful in assessing the corporations' true economic performance.[7]

SUMMARY

Financial statements provide the most widely available data on public corporations' economic activities; investors and other stakeholders rely on them to assess the plans and performance of firms and corporate managers. Accrual accounting data in financial statements are noisy, and unsophisticated investors can assess firms' performance only imprecisely. Financial analysts who understand managers'

disclosure strategies have an opportunity to create inside information from public data, and they play a valuable role in enabling outside parties to evaluate a firm's current and prospective performance.

This chapter has outlined the framework for business analysis with financial statements, using the four key steps: business strategy analysis, accounting analysis, financial analysis, and prospective analysis. The remaining chapters in this book describe these steps in greater detail and discuss how they can be used in a variety of business contexts.

DISCUSSION QUESTIONS

1. Matti, who has just completed his first finance course, is unsure whether he should take a course in business analysis and valuation using financial statements since he believes that financial analysis adds little value, given the efficiency of capital markets. Explain to Matti when financial analysis can add value, even if capital markets are efficient.

2. Accounting statements rarely report financial performance without error. List three types of errors that can arise in financial reporting.

3. Juan Perez argues that "learning how to do business analysis and valuation using financial statements is not very useful, unless you are interested in becoming a financial analyst." Comment.

4. Four steps for business analysis are discussed in the chapter (strategy analysis, accounting analysis, financial analysis, and prospective analysis). As a financial analyst, explain why each of these steps is a critical part of your job and how they relate to one another.

NOTES

1. G. Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* (August 1970): 488–500.
2. Other countries have similar standard-setting bodies. For example, in the U.S., accounting standards are called Generally Accepted Accounting Principles (U.S. GAAP) and are promulgated by the Financial Accounting Standards Board (FASB). The FASB and IASB cooperate to eliminate differences between U.S. GAAP and IFRS and to develop new common standards.
3. The Seventh E.U. Company Law Directive, which governs the preparation of consolidated financial statements in the E.U., defines large groups as those meeting at least two of the following three criteria in two consecutive years: (1) total assets above €14.6 million, (2) annual turnover above €29.2 million, and (3) more than 250 employees.
4. The Fourth E.U. Company Law Directive, which governs corporations' financial reporting in the E.U., defines small corporations as those failing to meet two of the following three criteria in two consecutive years: (1) total assets above €3.65 million, (2) annual turnover above €7.3 million, and (3) more than 50 employees.
5. It should be noted that although the E.U. regulations have partly harmonized private corporations' accounting, the accessibility of public registers varies greatly and private corporations' financial statements are therefore in practice not equally available across the E.U.
6. See R. Ball and L. Shivakumar, "Earnings Quality in UK Private Firms: Comparative Loss Recognition Timeliness," *Journal of Accounting and Economics* 39 (2005): 83–128, and

D. Burgstahler, L. Hail and C. Leuz, "The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms," *The Accounting Review* (forthcoming).

7. The influence of tax rules is particularly strong on single company financial statements, which in many countries are the basis for tax computations. Although the influence of tax rules on consolidated financial statements is less direct, tax considerations may still affect the preparation of these statements. For example, companies may support their aggressive tax choices by having the consolidated statements conform to the single company statements.

APPENDIX: DEFINING EUROPE

At various places in this book we refer to "Europe" and "European companies" without intending to imply that all European countries and companies are exactly alike. Because Europe's richness in diversity makes it impossible to describe the institutional details of each European country in detail, this book discusses primarily the commonalities between the countries that have chosen to harmonize the differences among their accounting systems. These countries are the 25 member states of the European Union as well as the three members of the European Economic Area (Iceland, Norway, and Liechtenstein), which are also committed to following E.U. accounting Directives. Of particular importance to the topic of this book is that, since 2005, companies from these 28 countries that have their shares publicly traded on a stock exchange are required to prepare their financial statements in accordance with IFRS. A special position is occupied by Switzerland, which is neither a member of the E.U. nor of the European Economic Area. Many of the issues that we address in this book also apply to a large group of Swiss listed companies, because Switzerland requires its listed companies with international operations to prepare IFRS-based financial statements.

In some of the chapters in this book we summarize the financial ratios, stock returns, and operational characteristics of a representative sample of listed European companies for illustrative purposes. This sample is composed of all domestic companies that were listed on one of the largest seven European stock exchanges (or their predecessors) between April 1989 (labeled the start of fiscal year 1989) and April 2006 (labeled the end of fiscal year 2005). Table 1.1 displays the seven largest European stock exchanges at the end of December 2005 and their countries of operation. The sample contains observations from 6,951 European companies operating in non-financial industries.

TABLE 1.1 European stock exchanges

Country	*Stock exchange*	*Total market capitalization of domestic companies at December 2005 (in € billions)*
Belgium	Euronext Brussels	244.6
Denmark	OMX Exchanges (combined)	680.4
Finland	OMX Exchanges (combined)	680.4
France	Euronext Paris	1,490.9
Germany	Deutsche Börse	1,035.3
Italy	Borsa Italiana	676.6
Netherlands	Euronext Amsterdam	528.1
Portugal	Euronext Lisbon	53.1
Spain	Bolsa y Mercados Españoles (BME)	813.8
Sweden	OMX Exchanges (combined)	680.4
Switzerland	SWX Swiss Exchange	793.1
United Kingdom	London Stock Exchange	2,599.4

Source: Eurostat and the World Federation of Exchanges. Euronext is a Pan-European exchange that was formed from the merger of the exchanges of Amsterdam, Brussels, Lisbon, and Paris. OMX Exchanges includes the exchanges of Copenhagen, Helsinki, Stockholm, Tallinn, Riga, and Vilnius. The reported market capitalizations of the Euronext segments represent the sizes of the individual segments. The reported market capitalization of the OMX Exchanges represents the total sum of the sizes of the individual segments.

CASE

The role of capital market intermediaries in the dot-com crash of 2000

The rise and fall of the internet consultants

In the summer of 1999, a host of Internet consulting firms made their debut on the Nasdaq. Scient Corporation, which had been founded less than two years earlier in March 1997, went public in May 1999 at an IPO price of $20 per share ($10 on a pre-split basis). Its close on the first day of trading was $32.63. Other Internet consulting companies that went public that year included Viant Corporation, IXL Enterprises, and US Interactive (see Exhibit 1).

The main value proposition of these companies was that they would be able to usher in the new Internet era by lending their information technology and web expertise to traditional "old economy" companies that wanted to gain Web-based technology, as well as to the emerging dot-com sector. Other companies like Sapient Corporation and Cambridge Technology Partners had been doing IT consulting for years, but this new breed of companies was able to capitalize on the burgeoning demand for Internet expertise.

Over the following months, the stock prices of the Internet consultants rose dramatically. Scient traded at a high of $133.75 in March 2000. However, this was after a 2–1 split, so each share was actually worth twice this amount on a pre-split basis. This stock level represented a 1238 percent increase from its IPO price and a valuation of 62 times the company's revenues for the fiscal year 2000. Similar performances were put in by the other companies in this group. However, these valuation levels proved to be unsustainable. The stock prices of web consulting firms dropped sharply in April 2000 along with many others in the Internet sector, following what was afterwards seen as a general "correction" in the Nasdaq. The prices of the Web consultants seemed to stabilize for a while, and many analysts continued to write favorably about their prospects and maintained buy ratings on their stocks. But starting early in September 2000, after some bad news from Viant Corporation and many subsequent analyst downgrades, the stocks went into a free-fall. All were trading in the single digits by February of 2001, representing a greater than 95 percent drop from their peak valuations (see Exhibit 2).

The dramatic rise and fall of the stock prices of the Web consultants, along with many others in the Internet sector, caused industry observers to wonder how this could have happened in a relatively sophisticated capital market like that of the United States. Several well-respected venture capitalists, investment banks, accounting firms, financial analysts, and money management companies were involved in bringing these companies to market and rating and trading their shares (see Exhibit 3). Who, if anyone, caused the Internet stock price bubble? What, if anything, could be done to avoid the recurrence of such stock market bubbles?

Gillian Elcock, MBA '01, prepared this case under the supervision of Professor Krishna Palepu. *HBS Case 9–103–083.*

Context: The technology bull market

The 1980s and 1990s marked the beginning of a global technology revolution that started with the personal computer (PC) and led to the Internet era. Companies like Apple, Microsoft, Intel, and Dell Computer were at the forefront of this new wave of technology that promised to enhance productivity and efficiency through the computerization and automation of many processes.

The capital markets recognized the value that was being created by these companies. Microsoft, which was founded in 1975, had a market capitalization of over $600 billion by the beginning of 2000, making it the world's most valuable company, and its founder, Bill Gates, one of the richest men in the world. High values were also given to many of the other blue-chip technology firms such as Intel and Dell (Exhibit 4).

The 1990s ushered in a new group of companies that were based on information networks. These included AOL, Netscape, and Cisco. Netscape was a visible symbol of the emerging importance of the Internet: its browser gave regular users access to the World Wide Web, whereas previously the Internet had been mostly the domain of academics and experts. In March 2000, Cisco Systems, which made the devices that routed information across the Internet, overtook Microsoft as the world's most valuable company (based on market capitalization). This seemed further evidence of the value shift that was taking place from PC-focused technologies and companies to those that were based on the global information network.

It appeared obvious that the Internet was going to profoundly change the world through greater computing power, ease of communication, and the host of technologies that could be built upon it. Opportunities to build new services and technologies were boundless, and they were global in scale. The benefits of the Internet were expected to translate into greater economic productivity through the lowering of communication and transaction costs. It also seemed obvious that someone would be able to capitalize upon these market opportunities and that "the next Microsoft" would soon appear. No one who missed out on the original Microsoft wanted to do so the second time around.

A phrase that became popularized during this time was the "new economy." New economy companies, as opposed to old economy ones (exemplified by companies in traditional manufacturing, retail, and commodities), based their business models around exploiting the Internet. They were usually small compared to their old economy counterparts, with little need for their real-world "bricks and mortar" structures, preferring to outsource much of the capital intensive parts of the business and concentrate on the higher value-added, information-intensive elements. Traditional companies, finding their market shares and business models attacked by a host of nimble, specialized dot-com start-ups, lived in danger of "being Amazoned." To many, the new economy was the future and old economy companies would become less and less relevant.

The capital markets seemed to think similarly. From July 1999 to February 2000, as the Nasdaq Composite Index (which was heavily weighted with technology and Internet stocks) rose by 74.4 percent, the Dow Jones Industrial Average (which was composed mainly of old economy stocks) fell by 7.7 percent. Investors no longer seemed interested in anything that was not new economy.

Internet gurus and economists predicted the far-reaching effects of the Internet. The following excerpts represent the mood of the time:

> *Follow the personal computer and you can reach the pot of gold. Follow anything else and you will end up in a backwater. What the Model T was to the industrial era … the PC is to the information age. Just as people who rode the wave of automobile technology – from tire makers to fast food franchisers – prevailed in the industrial*

era, so the firms that prey on the passion and feed on the force of the computer community will predominate in the information era.[1]

George Gilder, 1992

* * * * *

Due to technological advances in PC-based communications, a new medium – with the Internet, the World Wide Web, and TCP/IP at its core – is emerging rapidly. The market for Internet-related products and services appears to be growing more rapidly than the early emerging markets for print publishing, telephony, film, radio, recorded music, television, and personal computers. … Based on our market growth estimates, we are still at the very early stages of a powerful secular growth cycle.[2]

Mary Meeker, Morgan Stanley Dean Witter, February 1996

* * * * *

The easy availability of smart capital – the ability of entrepreneurs to launch potentially world-beating companies on a shoestring, and of investors to intelligently spread risk – may be the new economy's most devastating innovation. At the same time, onrushing technological change requires lumbering dinosaurs to turn themselves into clever mammals overnight. Some will. But for many others, the only thing left to talk about is the terms of surrender.[3]

The Wall Street Journal, April 17, 2000

In the new economy, gaining market share was considered key because of the benefits of network effects. In addition, a large customer base was needed to cover the high fixed costs often associated with doing business. Profitability was of a secondary concern, and Netscape was one of the first of many Internet companies to go public without positive earnings. Some companies deliberately operated at losses because it was essential to spend a lot early to gain market share, which would presumably translate at a later point into profitability. This meant that revenue growth was the true measure of success for many Internet companies. Of course there were some dissenting voices, warning that this was just a period of irrational exuberance and the making of a classic stock market bubble. But for the most part, investors seemed to buy into the concept, as evidenced by the values given to several loss-making dot-coms (Exhibit 5).

Scient Corporation

The history of Scient, considered a leader in the Internet consulting space, is representative of what happened to the entire industry. The firm was founded in November 1997. Its venture capital backers included several leading firms such as Sequoia Capital and Benchmark Capital (see Exhibit 3).

Scient described itself as "a leading provider of a new category of professional services called eBusiness systems innovation" that would "rapidly improve a client's competitive position through the development of innovative business strategies

1. Mary Meeker and Chris DePuy, "U.S. Investment Research, Technology/New Media, The Internet Report" (Excerpt from Life After Television *by George Gilder, 1992), Morgan Stanley Dean Witter, February 1996.*
2. Mary Meeker and Chris DePuy, "U.S. Investment Research, Technology/New Media, The Internet Report," Morgan Stanley Dean Witter, February 1996.
3. John Browning and Spencer Reiss, "For the New Economy, the End of the Beginning," The Wall Street Journal*, April 17, 2000.*

enabled by the integration of emerging and existing technologies."[4] Its aim was to provide services in information technology and systems design as well as high-level strategy consulting, previously the domain of companies such as McKinsey and The Boston Consulting Group.

The company grew quickly to almost 2,000 people within three years, primarily organically. Its client list included AT&T, Chase Manhattan, Johnson & Johnson, and Homestore.com.[5] As with any consulting firm, its ability to attract and retain talented employees was crucial, since they were its main assets.

By the fiscal year ending in March 2000, Scient had a net loss of $16 million on revenues of $156 million (see financial statements in Exhibit 6). These revenues represented an increase of 653 percent over the previous year. Analysts wrote glowingly about the firm's prospects. In February 2000, when the stock was trading at around $87.25, a Deutsche Bank Alex Brown report stated:

> *We have initiated research coverage of Scient with a BUY investment rating on the shares. In our view Scient possesses several key comparative advantages: (1) an outstanding management team; (2) a highly scalable and leverageable operating model; (3) a strong culture, which attracts the best and the brightest; (4) a private equity portfolio, which enhances long-term relationships and improves retention; and (5) an exclusive focus on the high-end systems innovation market with eBusiness and industry expertise, rapid time-to-market and an integrated approach…. Scient shares are currently trading at roughly 27x projected CY00 revenues, modestly ahead of pure play leaders like Viant (24x) and Proxicom (25x), and ahead of our interactive integrator peer group average of just over 16x. Our 12-month price target is $120. It is a stock we would want to own.*[6]

And in March 2000, when the stock was at $77.75, Morgan Stanley, which had given Scient an "outperform" rating, wrote:

> *All said we believe Scient continues to effectively execute on what is a very aggressive business plan…. While shares of SCNT trade at a premium valuation to its peer group, we continue to believe that such level is warranted given the company's high-end market focus, short but impressive record of execution, and deep/experienced management team. As well, in our view there is a high probability of meaningful upward revisions to Scient's model.*[7]

Scient's stock reached a high of $133.75 in March 2000 but fell to $44 by June as part of the overall drop in valuation of most of the technology sector. In September the company announced it had authorized a stock repurchase of $25 million. But in December 2000 it lowered its revenue and earnings expectations for the fourth quarter due to the slowdown in demand for Internet consulting services. The company also announced plans to lay off 460 positions worldwide (over 20 percent of its workforce) as well as to close two of its offices, and an associated $40–$45 million restructuring charge. By February 2001 the stock was trading at $2.94.

Most of the analysts that covered Scient had buy or strong buy ratings on the company as its stock rose to its peak and even after the Nasdaq correction in April 2000. Then in September a warning by Viant Corporation of results that would come

4. Scient Corporation Prospectus, May 1999. Available from Edgar Online.
5. Scient Corporation website, <http://www.scient.com/non/content/clients/client_list/index.asp>
6. F. Mark D'Annolfo, William S. Zinsmeister and Jeffrey A. Buchbinder, "Scient Corporation Premier Builder of eBusinesses," Deutsche Bank Alex Brown, February 14, 2000.
7. Michael A. Sherrick and Mary Meeker, "Scient Corporation Quarter Update," Morgan Stanley Dean Witter, March 2, 2000.

in below expectations, due to a slowdown in e-business spending from large corporate clients, prompted many analysts to downgrade most of the companies in the sector, including Scient. Several large mutual fund companies were holders of Scient as its stock rose, peaked, and fell (see Exhibit 7).

As the major technology indices continued their slump during late 2000 and early 2001, and the stock prices of the Internet consulting firms floundered in the single digits, they received increasing attention from the press:

> *Examining the downfall of the eConsultants provides an excellent case study of failed business models. Rose-colored glasses, a lack of a sustainable competitive advantage, and a "me too" mentality are just some of the mistakes these companies made… . The eConsultants failed to do the one thing that they were supposed to be helping their clients do – build a sustainable business model … many eConsultants popped up and expected to be able to take on the McKinseys and Booz Allens of the world. Now they are discovering that the relationships firmly established by these old economy consultants are integral to building a sustainable competitive advantage.*[8]

* * * * *

> *Seems like everything dot-com is being shunned by investors these days. But perhaps no other group has experienced quite the brutality that Web consultancies have. Once the sweethearts of Wall Street, their stocks are now high-tech whipping boys. Even financial analysts, who usually strive to be positive about companies they cover, seem to have given up on the sector. … Many of these firms were built on the back of the dot-com boom. Now these clients are gone. At the same time, pressure on bricks-and-mortar companies to build online businesses has lifted, leading to the cancellation or delay of Web projects.*[9]

The analysts who were formerly excited about Scient's prospects and had recommended the stock when it was trading at almost $80 per share now seemed much less enthusiastic. In January 2001, with the stock around $3.44, Morgan Stanley wrote:

> *We maintain our Neutral rating due to greater than anticipated market weakness, accelerating pricing pressure, the potential for increased turnover and management credibility issues. While shares of SCNT trade at a depressed valuation, we continue to believe that turnover and pricing pressure could prove greater than management's assumptions. While management indicated it would be "aggressive" to maintain its people, we still believe it will be difficult to maintain top-tier talent in the current market and company specific environment.*[10]

Performance of the Nasdaq

The performance of the stock prices of Scient and its peers mirrored that of many companies in the Internet sector. So dramatic was the drop in valuation of these companies that this period was subsequently often referred to as the "dot-com crash."

In the months following the crash, the equity markets essentially closed their doors to the Internet firms. Several once high-flying dot-coms, operating at losses and starved for cash, filed for bankruptcy or closed down their operations (see Exhibit 8).

8. Todd N. Lebor, "The Downfall of Internet Consultants," Fool's Den, Fool.com, December 11, 2000.
9. Amey Stone, "Streetwise: Who'll Help the Web Consultants?" BusinessWeek Online, February 15, 2001.
10. Michael A. Sherrick, Mary Meeker, and Douglas Levine, "Scient Corporation. Outlook Remains Cloudy, Adjusting Forecasts," Morgan Stanley Dean Witter, January 18, 2001.

The Nasdaq, which had reached a high of 5,132.52 in March of 2000 closed at 2,470.52 in December 2000, a drop of 52 percent from its high. As of February 2001 it had not recovered, closing at 2,151.83.

Capital market intermediaries

The role of intermediaries in a well functioning market

In a capitalist economy, individuals and institutions have savings that they want to invest, and companies need capital to finance and grow their businesses. The capital markets provide a way for this to occur efficiently. Companies issue debt or equity to investors who are willing to part with their cash now because they expect to earn an adequate return in the future for the risk they are taking.

However, there is an information gap between investors and companies. Investors usually do not have enough information or expertise to determine the good investments from the bad ones. And companies do not usually have the infrastructure and know-how to directly receive capital from investors. Therefore, both parties rely on intermediaries to help them make these decisions. These intermediaries include accountants, lawyers, regulatory bodies (such as the SEC in the United States), investment banks, venture capitalists, money management firms, and even the media (see Exhibit 9). The focus of this case is on the equity markets in the United States.

In a well functioning system, with the incentives of intermediaries fully aligned in accordance with their fiduciary responsibility, public markets will correctly value companies such that investors earn a normal "required" rate of return. In particular, companies that go public will do so at a value which will give investors this fair rate of investment.

The public market valuation will have a trickle down effect on all intermediaries in the investment chain. Venture capitalists, who typically demand a very high return on investment, and usually exit their portfolio companies through an IPO, will do their best to ensure these companies have good management teams and a sustainable business model that will stand the test of time. Otherwise, the capital markets will put too low a value on the companies when they try to go public. Investment bankers will provide their expertise in helping companies to go public or to make subsequent offerings, and introducing them to investors.

On the other side of the process, portfolio managers, acting on behalf of investors will only buy companies that are fairly priced, and will sell companies if they become overvalued, since buying or holding an overvalued stock will inevitably result in a loss. Sell-side analysts, whose clients include portfolio managers and therefore investors, will objectively monitor the performance of public companies and determine whether or not their stocks are good or bad investments at any point in time. Accountants audit the financial statements of companies, ensuring that they comply with established standards and represent the true states of the firms. This gives investors and analysts the confidence to make decisions based on these financial documents.

The integrity of this process is critical in an economy because it gives investors the confidence they need to invest their money into the system. Without this confidence, they would not plow their money back into the economy but instead keep it under the proverbial mattress.

What happened during the dot-com bubble?

Many observers believed that something went wrong with the system during the dot-com bubble. In April 2001, *BusinessWeek* wrote about "The Great Internet Money

Game. How America's top financial firms reaped billions from the Net boom, while investors got burned."[11] The following month, *Fortune* magazine's cover asked "Can we ever trust Wall Street again?"[12] referring to the way in which, in some people's opinions, Wall Street firms had led investors and companies astray before and after the dot-com debacle.

The implications of the Internet crash were far reaching. Many companies that needed to raise capital for investment found the capital markets suddenly shut to them. Millions of investors saw a large portion of their savings evaporate. This phenomenon was a likely contributor to the sharp drop in consumer confidence that took place in late 2000 and early 2001. In addition, the actual decrease in wealth threatened to dampen consumer spending. These factors, along with an overall slowing of the U.S. economy, threatened to put the United States into recession for the first time in over 10 years.

On a more macro level, the dot-coms used up valuable resources that could have been more efficiently allocated within the economy. The people who worked at failed Internet firms could have spent their time and energy creating lasting value in other endeavors, and the capital that funded the dot-coms could have been plowed into viable, lasting companies that would have benefited the overall economy. However, it could be argued that there were benefits as well, and that the large investment in the technology sector positioned the United States to be a world leader in the future.

Nevertheless, the question remained: how could the dot-com bubble occur in a sophisticated capital market system like that of the United States? Why did the market allow the valuations of many Internet companies to go so high? What was the role of the intermediaries in the process that gave rise to the stock market bubble?

Key intermediaries

One way to try to answer some of these questions is to look more closely at some of the players in the investing chain. Much of the material in the following sections is derived from interviews with representatives from each sector.

Venture capitalists

Venture capitalists (VCs) provided capital for companies in their early stages of development. They sought to provide a very high rate of return to their investors for the associated risk. This was typically accomplished by selling their stake in their portfolio companies either to the public through an IPO, or to another company in a trade sale.

The partners in a VC firm typically had a substantial percentage of their net worth tied up in their funds, which aligned their interests with their investors. Their main form of compensation was a large share of profits (typically 20 percent) in addition to a relatively low fee based on the assets under management.

A large part of a VC's job was to screen good business ideas and entrepreneurial teams from bad ones. Partners at a VC firm were typically very experienced, savvy business people who worked closely with their portfolio companies to both monitor and guide them to a point where they have turned a business idea into a well managed, fully functional company that could stand on its own. In a sense, their role was to nurture the companies until they reached a point where they were ready to face the

11. Peter Elstrom, "The Great Internet Money Game. How America's top financial firms reaped billions from the Net boom while investors got burned," BusinessWeek e.biz, April 16, 2001.
12. Fortune*, May 14, 2001.*

scrutiny of the public capital markets after an IPO. Typically, companies would not go public until they had shown profits for at least three quarters.[13]

After the dot-com crash, some investors and the media started pointing fingers at the venture capitalists that had invested in many of the failed dot-coms. They blamed them for being unduly influenced by the euphoria of the market, and knowingly investing in and bringing public companies with questionable business models, or that had not yet proven themselves operationally. Indeed, many of the dot-coms went public within record time of receiving VC funding – a study of venture-backed initial public offerings showed that companies averaged 5.4 years in age when they went public in 1999, compared with 8 years in 1995.[14]

Did the venture capital investing process change in a way that contributed to the Internet bubble of 2000? According to a partner at a venture capital firm that invested in one of the Internet consulting companies, the public markets had a tremendous impact on the way VCs invested during the late 1990s.[15] He felt that, because of expectations of high stock market valuations, VC firms invested in companies during the late 1990s that they would not have invested in under ordinary circumstances. He also believed that the ready availability of money affected the business strategies and attitudes of the Internet companies: "If the [management] team knows $50 million is available, it acts differently, i.e., 'go for market share.'"

The VC partner acknowledged that VCs took many Internet companies public very early, but he felt that the responsibility of scrutinizing these companies lay largely with the investors that subscribed to the IPOs: "If a mutual fund wants to invest in the IPO of a company that has no track record, profitability, etcetera but sees it as a liquidity event, it has made a decision to become a VC. Lots of mutual funds thought 'VC is easy, I want a piece of it.'"

Investment bank underwriters

Entrepreneurs relied on investment banks (such as Goldman Sachs, Morgan Stanley Dean Witter and Credit Suisse First Boston) in the actual process of doing an initial public offering, or "going public." Investment banks provided advisory financial services, helped the companies price their offerings, underwrite the shares, and introduce them to investors, often in the form of a road show.

Investment banks were paid a commission based on the amount of money that the company manages to raise in its offering, typically of the order of 7 percent.[16] Several blue-chip firms were involved in the capital-raising process of the Internet consultants (see Exhibit 3), and they also received a share of the blame for the dot-com crash in the months that followed it. In an article entitled "Just Who Brought Those Duds to Market?," the *New York Times* wrote:

> *… many Wall Street investment banks, from top-tier firms like Goldman, Sachs … to newer entrants like Thomas Weisel Partners … have reason to blush. In one blindingly fast riches-to-rags story, Pets.com filed for bankruptcy just nine months after Merrill Lynch took it public.*

13. Peter Elstrom, "The Great Internet Money Game. How America's top financial firms reaped billions from the Net boom while investors got burned," BusinessWeek e.biz, April 16, 2001.
14. Shawn Neidorf, "Venture-Backed IPOs Make a Comeback," Venture Capital Journal*, August 1, 1999.*
15. Limited partners are the investors in a venture capital fund; the venture capital firm itself usually serves as the general partner.
16. Source: case writer interview.

Of course, investment banks that took these underperforming companies public may not care. They bagged enormous fees, a total of more than $600 million directly related to initial public offerings involving just the companies whose stocks are now under $1.

… How did investment banks, paid for their expert advice, pick such lemons?[17]

Sell-side analysts

Sell-side analysts worked at investment banks and brokerage houses. One of their main functions was to publish research on public companies. Each analyst typically followed 15 to 30 companies in a particular industry, and his or her job involved forming relationships with and talking to the managements of the companies, following trends in the industry, and ultimately making buy or sell recommendations on the stocks. The recommendations analysts made could be very influential with investors. If a well respected analyst downgraded a stock, the reaction from the market could be severe and swift, resulting in a same-day drop in the stock price. Sell-side analysts typically interacted with buy-side analysts and portfolio managers at money management companies (the buy-side) to market or "sell" their ideas. In addition, they usually provided support during a company's IPO process, providing research to the buy-side before the company actually went public. Sell-side analysts were usually partly compensated based on the amount of trading fees and investment banking revenue they helped the firm to generate through their research.

In the months following the dot-com crash, sell-side technology and Internet analysts found themselves the target of criticism for having buy ratings on companies that had subsequently fallen drastically in price. Financial cable TV channel CNBC ran a report called "Analyzing the Analysts," addressing the issue of whether or not they were to blame for their recommendations of tech stocks. A March 2001 article in *The Wall Street Journal* raised similar issues after it was reported that J.P. Morgan Chase's head of European research sent out a memo requiring all the company's analysts to show their stock recommendation changes to the company involved and to the investment banking division.[18] The previously mentioned issue of *Forbes* featured an article criticizing Mary Meeker, a prominent Internet analyst.[19] And a *Financial Times* article entitled "Shoot all the analysts" made a sweeping criticism of their role in the market bubble:

… instead of forecasting earnings per share, they were now in the business of forecasting share prices themselves. And those prices were almost always very optimistic. Now, at last, they have had their comeuppance. Much of what many of them have done in the past several years has turned out to be worthless. High-flying stocks that a year ago were going to be cheap at twice the price have halved or worse – and some analysts have been putting out buy recommendations all the way down. … They should learn a little humility and get back to analysis.[20]

Responding to the media criticism of financial analysts, Karl Keirstead, a Lehman Brothers analyst who followed Internet consulting firms, stated:

It is too easy as they do on CNBC to slam the analysts for recommending stocks when they were very expensive. In the case of the Internet consulting firms, looking

17. Andrew Ross Sorkin, "Just Who Brought Those Duds to Market?" New York Times*, April 15, 2001.*
18. Wade Lambert and Jathon Sapsford, "J.P. Morgan Memo to Analysts Raises Eyebrows," The Wall Street Journal*, March 22, 2001.*
19. Peter Elkind, "Where Mary Meeker Went Wrong," Fortune*, May 14, 2001.*
20. "Shoot all the analysts," Financial Times*, March 20, 2001.*

back before the correction in April 2000, the fundamentals were "nothing short of pristine." The companies were growing at astronomical rates, and it looked as though they would continue to do so for quite a while. Under these assumptions, if you modeled out the financials for these companies and discounted them back at a reasonable rate, they did not seem all that highly valued.[21]

Keirstead also pointed out that there were times when it was legitimate to have a buy rating on a stock that was "overvalued" based on fundamentals:

The future price of a stock is not always tied to the discounted value of cash flow or earnings, it is equal to what someone is willing to pay. This is especially true in periods of tremendous market liquidity and huge interest in young companies with illiquid stocks and steep growth curves that are difficult to project. The valuation may seem too high, but if the fundamentals are improving and Street psychology and hype are building, the stock is likely to rally. Stock pickers must pay as much attention to these factors as the company and industry fundamentals.

When asked his view on why the buy-side institutions went along with the high valuations that these companies were trading for, Keirstead commented, "A lot of buy-side analysts and portfolio managers became momentum investors in disguise. They claimed in their mutual fund prospectus that they made decisions based on fundamental analysis. Truth is, they played the momentum game as well."

Keirstead also commented on the criticism analysts had received for being too heavily influenced by the possibility of banking deals when making stock recommendations. He stated that this claim was "completely over-rated." Though there was some legitimacy to the argument and some of analysts' compensation did come from investment banking fees, it was a limited component. Analysts also got significant fees from the trading revenue they generated and from their published rankings.[22] He pointed out that critics' arguments were ludicrous because if analysts only made decisions based on banking fees, it would jeopardize their rankings and credibility with their buy-side clients. However, he did note that the potential deal flow could have distorted the view of some technology analysts during the boom.

Finally, Keirstead described the bias that was present on the sell side to be bullish:

To be negative when you are a sell-side analyst is to be a contrarian, to stick your neck out. You take a lot of heat, it's tough. And it would have been the wrong call for the last four years. Had I turned short in 1999 when these stocks seemed overvalued, I would have missed a 200 percent increase in the stocks. My view was: I can't be too valuation-sensitive. The stocks are likely to rise as long as the fundamentals hold, and that's the position a lot of analysts took.

Consistent with this optimistic bias, there were very few sell recommendations from analysts during the peak of the Internet stock bubble. According to financial information company First Call, more than 70 percent of the 27,000 plus recommendations outstanding on some 6,000 stocks in November 2000 were strong buys or buys, while fewer than 1percent were sells or strong sells.[23]

21. Source: case writer interview.

22. Several financial journals publish analyst rankings. The most prominent is Institutional Investor magazine, which publishes annual rankings of sell-side analysts by industry. These rankings are very influential in the analyst and investment community.

23. Walter Updegrave, "The ratings game," Money, *January 2001.*

Buy-side analysts and portfolio managers

The "buy-side" refers to institutions that do the actual buying and selling of public securities, such as mutual fund companies, insurance companies, hedge funds, and other asset managers.

There were two main roles on the buy side: analysts and portfolio managers. Buy-side analysts had some of the same duties as their sell-side counterparts. They were usually assigned to a group of companies within a certain industry and were responsible for doing industry research, talking to the companies' management teams, coming up with earning estimates, doing valuation analysis, and ultimately rating the stock prices of the companies as either "buys" or "sells." The analyst's job was not yet complete, however. Though they did not publish their research, buy-side analysts needed to convince the portfolio managers within their company to follow their recommendations.

Portfolio managers were the ones who actually managed money, whether it was a retail mutual fund or an institutional account. Though they listened to the recommendations of the analysts, they were the ones who were ultimately responsible for buying or selling securities.

The compensation of the buy-side analysts was often linked to how well their stock recommendations did, and in the case of portfolio managers, compensation was determined by the performance of their funds relative to an appropriate benchmark return. These compensation schemes were designed to align the incentives of buy-side analysts and portfolio managers with the interests of investors.

Why then, did so many buy-side firms buy and hold on to the Internet consulting firms during the market bubble? Did they really believe the companies were worth what they were trading for? Or did they know they were overvalued, but invest in them anyway for other reasons?

According to a former associate at a large mutual fund company, many people within his company knew that most of the Internet companies were overvalued before the market correction, but they felt pressure to invest anyway:

> *My previous employer is known as a value investor, growth at a reasonable price. At first the general impression in the firm was that a lot of the Internet firms would blow up, that they didn't deserve these valuations. But articles were written about my company … that it was being left behind because it was not willing to invest in the Internet companies. Some of the analysts at the firm began to recommend companies simply because they knew that the stock prices would go up, even though they were clearly overvalued. And portfolio managers felt that if they didn't buy the stocks, they would lag their benchmarks and their competitors – they are rewarded on a one-year term horizon and three-year horizon. It is very important to meet their benchmark, it makes up a material part of their compensation. In addition, they compare against the performance of their peers for marketing purposes.*[24]

The role of information

The accounting profession

Independent accountants audited the financial statements of public companies to verify their accuracy and freedom from fraud. If they were reasonably satisfied, they provided an unqualified opinion statement which was attached to the company's

24. Source: case writer interview.

public filings. If auditors were not fully satisfied, this was noted as well. Investors usually took heed of the auditor's opinion as it provided an additional level of assurance of the quality of the information they were receiving from companies.

In the year 2000, the accounting profession in the United States was dominated by five major accounting firms, collectively referred to as "The Big Five" (PriceWaterhouseCoopers, Deloitte & Touche, KPMG, Ernst & Young, and Arthur Andersen). The top 100 accounting firms had roughly a 50 percent share of the market and the Big Five account for about 84 percent of the revenues of the top 100.[25] However, the Big Five made up an even larger percentage of the auditing activity of Internet IPOs. Of the 410 Internet services and software IPOs between January 1998 and December 2000, 373 of them, or 91 percent, were audited by one of the Big Five accountants.[26]

During the aftermath of the dot-com crash, these firms came under some criticism for not adequately warning investors about the precarious financial position of some of the companies. *The Wall Street Journal* wrote an article addressing the fact that many dot-coms that went bankrupt were not given "going concern" clauses by their auditors. A going concern clause was included by an auditor if it had a substantial doubt that the company would be able to remain in operation for another 12 months:

> *In retrospect, critics say, there were early signs that the businesses weren't sustainable, including their reliance on external financing, rather than money generated by their own operations, to stay afloat. You wonder where some of the skepticism was… critics say many auditors appear to have presumed the capital markets would remain buoyant. For anybody to have assumed a continuation of those aberrant, irrational conditions was in itself irrational and unjustifiable whether it was an auditor, a board member or an investor….*[27]

However, in the same article, accountants defended their actions by noting that going concern judgments were subjective, and that they were not able to predict the future any better than the capital markets.

Dr. Howard Schilit, founder and CEO of CFRA, an independent financial research organization,[28] believed that accountants certainly had to take a part of the blame for what happened. In his opinion, they "looked the other way when they could have been more rigorous in doing their work."[29] However, he noted that the outcome may not have been materially different even if they did.

One particular criticism he had was that many accountants didn't look closely enough at the substance of transactions and didn't do enough questioning of the circumstances surrounding sales contracts. His hope was that accountants "go back and learn what the basic rules are of when revenues should be booked. The rules haven't changed whether this is the new economy or old economy."

FASB: A regulator

The Financial Accounting Standards Boards (FASB) was an independent regulatory body in the United States whose mission was to "establish and improve standards of

25. "Accounting Today Top 100 Survey Shows All Is Well," The CPA Journal*, May 1999.*
26. Information extracted from IPO web site <http: //www.ipo.com>
27. Johnathan Weil, "'Going Concerns': Did Accountants Fail to Flag Problems at Dot-Com Casualties?" The Wall Street Journal*, February 9, 2001.*
28. CFRA's mission is to warn investors and creditors about companies experiencing operational problems and particularly those that employ unusual or aggressive accounting practices to camouflage such problems.
29. Source: case writer interview.

financial accounting and reporting for the guidance and education of the public, including issuers, auditors, and users of financial information."[30] FASB standards were recognized by the Securities and Exchange Commission (SEC), which regulates the financial reporting of public companies in the United States.

The accounting practices of some new economy firms posed challenges for auditors and investors, and though some observers felt that the accountants were not doing a good enough job, others thought that the accounting rules themselves were too ambiguous, and this fact lent itself to exploitation by the companies.

Specific examples included the treatment of barter revenues in the case of companies that exchanged on-line advertising space, the practice of booking gross rather than net revenues in commission-based businesses (e.g., Priceline.com), and the issue of when to recognize revenues from long-term contracts (e.g., MicroStrategy Inc.). Given that the valuations of many Internet firms were driven by how quickly they grew revenues, there was a lot of incentive to inflate this number. In fact, the accounting practices of dot-coms became so aggressive that the SEC had to step in:

> *The Securities & Exchange Commission's crackdown on the aggressive accounting practices that have taken off among many dot-com firms really began … when it quietly issued new guidelines to refocus corporate management and investors…. To rein in what it saw as an alarming trend in inflated revenue reports, the SEC required companies using lax accounting practices to restate financial results by the end of their next fiscal year's quarter….*
>
> *The SEC has also directed the Financial Accounting Standards Board to review a range of Internet company accounting practices that could boost revenues or reduce costs unfairly. Under the scrutiny, more companies are likely to issue restatements of financial results….*[31]

In another spin on the issue, some questioned whether the accounting rules set out by the regulatory bodies had in fact become obsolete for the new economy. In July 2000, leaders in the accounting community told a Senate banking subcommittee that the United States needed "a new accounting model for the New Economy." A major concern of theirs was that the current rules did not allow companies to report the value of intangible assets on their balance sheets, such as customers, employees, suppliers and organization.[32] Others argued that the accounting rules caused Internet firms to appear unprofitable when they were actually making money. This was because old economy firms were allowed to capitalize their major investments such as factories, plants and equipment, whereas the rules did not allow capitalization of expenditures on R&D and marketing, which created value for many dot-com companies:

> *While Internet stocks may not be worth what they are selling for, the movement in their prices may not be as crazy as it seems. Many of these companies reporting losses actually make money – lots of it. It all has to do with accounting. Old-economy companies get to capitalize their most important investments, while new economy ones do not. While Amazon.com announces a loss almost every quarter, when it capitalizes its investments in intangibles that loss turns into a $400 million profit.*[33]

30. FASB web site: <http: //accounting.rutgers.edu/raw/fasb/>
31. Catherine Yang, "Earth to Dot-Com Accountants," BusinessWeek*, April 3, 2000.*
32. Stephen Barlas, "New accounting model demanded," Strategic Finance*, September 2000.*
33. Geoffrey Colvin, "The Net's hidden profits," Fortune*, April 17, 2000.*

Retail investors

The role of the general public in the dot-com craze cannot be ignored. In addition to the people who poured money into mutual funds, many retail investors began trading on their own, often electronically. A group of avid day traders grew up, some of whom quit their regular jobs to devote all their time and energy to trading stocks. Analysts estimated that they made up almost 18 percent of the trading volume of the NYSE and Nasdaq in 2000.[34] Sites such as Yahoo Finance grew in popularity, while chat rooms devoted to stocks and trading proliferated.

The number of accounts of Internet stock brokers like Etrade and Ameritrade grew rapidly (Etrade grew from 544 thousand brokerage accounts in 1998 to 3 million in 2000 and Ameritrade grew from 98 thousand accounts in 1997 to 1.2 million in 2000) as they slashed their commissions, some to as low as $8/trade compared to the $50–$300[35] charged by traditional brokerage firms. These companies were dot-coms themselves and they were able to slash prices partly because they were operating at losses that they were not penalized for by the capital markets. This gave rise to an interesting positive feedback loop: the Etrades of the world, funded by the dot-com frenzied capital markets, slashed their prices and therefore encouraged more trading, which continued to fuel the enthusiasm of investors for the markets.

The financial press also became increasingly visible during this period. Several publications like *Barrons* and *The Wall Street Journal* had always been very influential in the financial community. However, a host of other information sources, often on the web, sprang up to support the new demand for information. CNBC and CNNfn, major network channels devoted to the markets, often featured analysts and portfolio managers making stock recommendations or giving their views on the market.

Many of the retail investors did not know much about finance or valuation, and often didn't understand much about the companies whose shares they were buying. They were therefore likely to be heavily influenced by some of the intermediaries previously described, especially the financial press, and the sell-side analysts that publicly upgraded and downgraded companies.

These investors were pointed to by some as having had a large role in driving Internet valuations to the levels they went to. The reasoning was that other more sophisticated buyers such as the institutional money managers may have bought overvalued companies because they thought they could easily sell them later at even higher valuations to "dumb retail investors."

The companies themselves

The entrepreneurs who founded the Internet consulting companies, and the management teams who ran them, could almost be described as bystanders to the process that took the stock prices of their companies to such lofty highs and then punishing lows. However, they were profoundly affected by these changes in almost every aspect of their businesses.

Obviously there were many benefits to having a high stock price. According to a managing director (MD) at one of the Internet consultants, the company was facing a very competitive labor market while trying to grow organically, and having a stock that

34. Amy S. Butte, "Day Trading and Beyond. A New Niche Is Emerging," Bear Stearns Equity Research, April 2000.
35. Lee Patterson, "If you can't beat 'em…," Forbes*, August 23, 1999.*

was doing well helped with recruiting people since the option part of the compensation package was attractive.[36] He also explained that people were proud to be a part of the firm, partly because the stock was doing so well.

As the stock price of the company continued to rise higher and higher, the MD admitted that he did become afraid that the market was overvaluing the company, and that this doubt probably went all the way up to the CEO. As he put it, "We were trading at just absurd levels."

When asked about his thoughts on his firm's current stock price, the MD thought that the market had over-reacted and gone to the other extreme. He remarked that investors were worried that the Internet consulting firms were facing renewed competition from companies like IBM, the Big Five accounting firms, and the strategy consulting firms. Overall, though the rise and fall of the company's stock price was in many ways a painful experience, this MD thought that the market bubble presented a good opportunity that the company was able to capitalize upon. It was able to do a secondary offering at a high price and now had lots of cash on its balance sheet. His view was that "If you look at competitive sustainability [in this business], it could boil down to the company with the best balance sheet wins."

The blame game

In the aftermath of the dot-com crash, many tried to pinpoint whose fault it was that the whole bubble occurred in the first place. As mentioned previously, sell-side analysts, often the most visible group in the investment community, came under frequent attack in the media, as did to some extent venture capitalists, investment bankers, and even the accounting industry. Company insiders (including the founder of Scient) were also scrutinized for selling large blocks of shares when the stock prices of their companies were near their peaks.[37]

A *Wall Street Journal* article entitled "Investors, Entrepreneurs All Play the Blame Game" described how these various players were trying to blame each other for what happened:

> *With the tech-heavy Nasdaq Composite Index dancing close to the 2,000 mark – down from over 5,000 – Internet entrepreneurs and venture capitalists have stepped up their finger-pointing about just who's at fault for the technology meltdown, which continues to topple businesses and once-cushy lifestyles…. Fingers pointed right and left – from entrepreneurs to venture capitalists, from analysts to day traders to shareholders – and back around again.*[38]

The Internet stock market bubble was certainly not the first to occur. Other notable instances include the Tulip Craze of the seventeenth century and the Nifty Fifty boom of the 1970s. In these cases market valuations went to unsustainably high levels and ended with a sharp decrease in valuation that left many investors empty-handed.

But the question of what happened in this latest bubble remained: who, if anyone, could be blamed for the dot-com rise and crash? How did the various intermediaries described here affect or cause what happened? Was there really a misalignment of incentives in the system? If so, could it be fixed so that this sort of thing did not

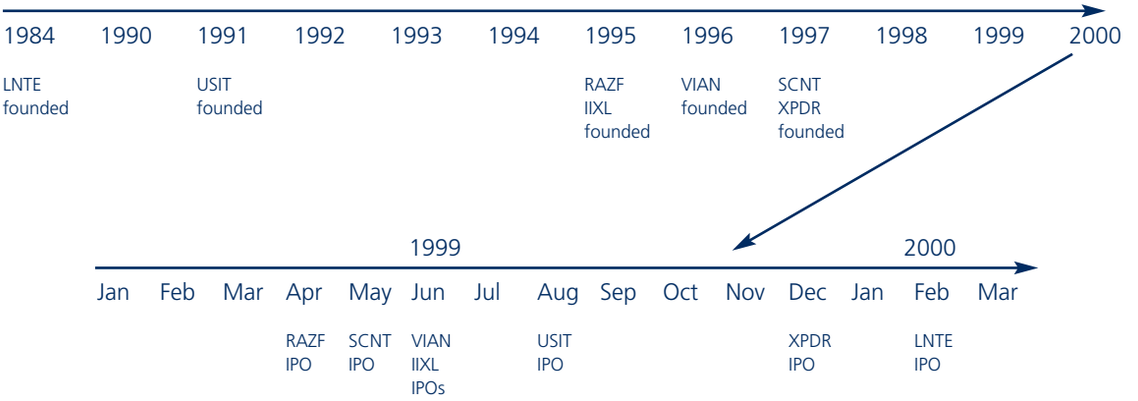
36. Source: case writer interview.
37. Mark Maremont and John Hechinger, "If Only You'd Sold Some Stock Earlier – Say $100 Million Worth," The Wall Street Journal*, March 22, 2001.*
38. Rebecca Buckman, "Investors, Entrepreneurs All Play the Blame Game," The Wall Street Journal*, March 5, 2001.*

happen in the future? Or were market bubbles an inevitable part of the way the economy functioned?

Questions

1. What is the intended role of each of the institutions and intermediaries discussed in the case for the effective functioning of capital markets?
2. Are their incentives aligned properly with their intended role? Whose incentives are most misaligned?
3. Who, if anyone, was primarily responsible for the Internet stock bubble?
4. What are the costs of such a stock market bubble? As a future business professional, what lessons do you draw from the bubble?

EXHIBIT 1 Timeline of the internet consultants: Founding and IPO



Sources: Edgar Online, Marketguide.com.

EXHIBIT 2 Internet consultants: Stock price highs and lows

Company	*IPO price*[a]	*Peak price*	*% Change IPO to peak*	*Date of peak*	*Price at end of Feb 2001*	*% Change from peak*
Scient	10	133.75	1,238%	10-Mar-00	2.94	–97.8%
Viant	8	63.56	695%	14-Dec-99	3.06	–95.2%
IXL Enterprises	12	58.75	390%	20-Jan-00	1.25	–97.9%
Lante	20	87.50	338%	29-Feb-00	1.81	–97.9%
Razorfish	8	56.94	612%	14-Feb-00	1.16	–98.0%
US Interactive	10	83.75	738%	4-Jan-00	0.56[b]	–99.3%
Xpedior	19	34.75	83%	10-Jan-00	0.69	–98.0%

Sources: Thomson Datastream.

a. Split adjusted.

b. Last trade on January 11, 2001. Filed for bankruptcy under Chapter 11 in January 2001.

EXHIBIT 3 Intermediaries in the capital-raising process of the internet consultants

Company	*Venture capital stage investors*	*Investment bank underwriters*	*Auditors*[a]	*Analyst coverage*	*Selected institutional holders*	*Venture funding ($M)*	*IPO amount raised ($M)*[b]	*IPO underwriting fee ($M)*	*Percent institutional ownership*[c]
Scient	Sequoia Capital, Benchmark Capital, Stanford Univ., Capital Research, Morgan Stanley Venture Partners, Amerindo Investment Advisors, Palantir Capital	Morgan Stanley Dean Witter, Hambrecht & Quist, Thomas Weisel Partners	PWC	Merrill Lynch, Morgan Stanley Dean Witter, CSFB, Lehman Brothers, UBS Warburg, SG Cowen, others	Capital Research, Putnam, Janus, Vanguard, Wellingon, State Street	31.2	60	4.2	34% (66% of float)
Viant	Kleiner Perkins Caufield & Byers, Mohr Davidow Ventures, Information Associates, Trident Capital, BancBoston Capital, General Motors, Technology Crossover Ventures	Goldman Sachs, Credit Suisse First Boston, WIT Capital Corporation	PWC	Goldman Sachs, Merrill Lynch, Lehman Brothers, CSFB, Wasserstein Perella, Bear Stearns, others	Fidelity, T Rowe Price, Putnam, Franklin, State Street, Vanguard, American Century, Goldman Sachs Asset Management	32.2	48	3.4	34% (67% of float)
IXL	Greylock Mgmt., Chase Capital Partners, Flatiron Partners, GE Capital, Kelso & Co., TTC Ventures, CB Capital, Portage Venture Partners, Transamerica Technology Finance	Merrill Lynch, BancBoston Robertson Stephens, DLJ, SG Cowen	PWC	Merrill Lynch, Robinson Humphrey, First Union Capital, others	Capital Research, State Street, Vanguard, Goldman Sachs Asset Management, GE Asset Management	91.0	72	5.0	29% (108% of float)
Lante	Frontenac Co., Dell Ventures, MSD Capital	Credit Suisse First Boston, Deutsche Bank Alex Brown, Thomas Weisel Partners	PWC	CSFB, Deutsche Bank, Thomas Weisel Partners, others	Fidelity, State Street, Vanguard, Goldman Sachs Asset Management	26.8	80	5.6	3% (21% of float)
Razorfish	N/A	Credit Suisse First Boston, BancBoston Robertson Stephens, Deutsche Bank Alex Brown, Lehman Brothers	AA, PWC	CSFB, Lehman Brothers, SG Cowen, others	Janus, Capital Research, Fidelity, Vanguard, Goldman Sachs Asset Management	N/A	48	3.4	8% (14% of float)
US Interactive	Safeguard Scientific, Technology Leaders	Lehman Brothers, Hambrecht & Quist, Adams Harkness & Hill	KPMG	Lehman Brothers, Hambrecht & Quist, Deutsche Bank Alex Brown, others	T Rowe Price, Prudential, JP Morgan Investment Management, Credit Suisse Asset Mgmt.	N/A	46	2.0	4% (6% of float)
Xpedior	N/A	DLJ, First Union Securities, JP Morgan, The Robinson-Humphrey Group	E&Y	DLJ, First Union Securities, Robinson-Humphrey, others	Capital Research, T Rowe Price, Franklin, Vanguard, John Hancock	N/A	162	11.4	2% (10% of float)

Sources: VentureSource, Edgar Online, Thomson Datastream, Quicken.com, Lionshares.com.

a. PWC stands for PriceWaterhouseCoopers; AA for Arthur Anderson; E&Y for Ernst & Young.

b. Includes underwriting fee.

c. As of April 2001.

Capital market intermediaries in the dot-com crash

EXHIBIT 4 Market capitalization of major technology companies, January 2000

Company	*Market capitalization ($ billions)*[a]	*Stock Price (January 3, 2000)*
Microsoft	603	116.56
Intel	290	87.00
IBM	218	116.00
Dell Computer	131	50.88
Hewlett Packard	117	117.44
Compaq Computer	53	31.00
Apple Computer	18	111.94

Sources: Thomson Datastream, Edgar Online.

a. Based on share price close on January 3, 2000, and reported shares outstanding.

EXHIBIT 5 Market valuations given to loss-making dot-coms

Company	*Net income ('99/'00)*[a] *($ millions)*	*Market capitalization ($ billions)*[b]	*Stock price (January 3, 2000)*
Amazon.com	–720	30.8	89.38
DoubleClick	–56	30.1	268.00
Akamai Technologies	–58	29.7	321.25
VerticalNet	–53	12.4	172.63
Priceline.com	–1,055	8.4	51.25
*E*Trade*	–57	7.1	28.06
EarthLink	–174	5.2	44.75
Drugstore.com	–116	1.6	37.13

Sources: Thomson Datastream, Edgar Online.

a. As of end of 1999 or early 2000, depending on fiscal year end.

b. Based on share price close on January 3, 2000, and reported shares outstanding.

EXHIBIT 6 Scient: Consolidated financial statements

INCOME STATEMENT
(in thousands except per-share amounts)

	November 7, 1997 (inception) through March 31, 1998	Year ended March 31, 1999	Year ended March 31, 2000
Revenues	$179	$20,675	$155,729
Operating expenses:			
Professional services	102	10,028	70,207
Selling, general and administrative	1,228	15,315	90,854
Stock compensation	64	7,679	15,636
Total operating expenses	1,394	22,022	176,697
Loss from operations	(1,215)	(12,347)	(20,968)
Interest income and other, net	56	646	4,953
Net loss	$(1,159)	$(11,701)	$(16,015)
Net loss per share:			
Basic and diluted	$(0.10)	$(0.89)	$(0.29)
Weighted average shares	11,894	13,198	54,590

BALANCE SHEET
(in thousands except per-share amounts)

	March 31,	
	1999	**2000**
ASSETS		
Current assets:		
Cash and cash equivalents	$11,261	$108,102
Short-term investments	16,868	121,046
Accounts receivable, net	5,876	56,021
Prepaid expenses	811	4,929
Other	318	4,228
Total current assets	35,134	294,326
Long-term investments	—	3,146
Property and equipment, net	3,410	16,063
Other	268	219
	$38,812	$313,754
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Bank borrowings, current	$413	$1,334
Accounts payable	832	5,023
Accrued compensation and benefits	2,554	33,976
Accrued expenses	2,078	9,265
Deferred revenue	524	6,579
Capital lease obligations, current	625	2,624
Total current liabilities	7,026	58,801
Capital lease obligations, long-term	680	2,052
	8,835	61,718
Commitments and contingencies (Note 5)		
Stockholders' equity:		
Convertible preferred stock; issuable in series, $.0001 par value; 10,000 shares authorized; 9,012 and no shares issued and outstanding, respectively	1	—
Common stock: $.0001 par value; 125,000 shares authorized; 33,134 and 72,491 shares issues and outstanding, respectively	3	7
Additional paid-in capital	70,055	297,735
Accumulated other comprehensive loss	—	(47)
Unearned compensation	(27,222)	(16,784)
Accumulated deficit	(12,860)	(28,875)
Total stockholders' equity	29,977	252,036
	$38,812	$313,754

Sources: Scient Corporation 10-K; Edgar Online <http: //www.freedgar.com> (May 11, 2001).

EXHIBIT 7 Selected institutional holders of Scient Corporation, 1999–2000

	Quarter ended:						
Institution	*June 1999*	*September 1999*	*December 1999*	*March 2000*	*June 2000*	*September 2000*	*December 2000*
Capital Research	—	—	—	265	1,079,911	586,442	586,706
Putnam Investments	5,000	—	625,900	2,209,200	4,800,800	5,749,200	—
Wellington Management	—	—	—	—	—	—	803,000
State Street	—	12,450	38,167	52,867	89,667	180,668	672,352
Janus	267,300	273,915	483,730	775,085	1,359,700	4,382,250	—

Source: Edgar Online (SEC).

EXHIBIT 8 Dot-coms that filed for bankruptcy or closed operations *(selected list)*

August 2000
Auctions.com
Hardware.com
Living.com
SaviShopper.com
GreatCoffee

September 2000
Clickmango.com
Pop.com
FreeScholarships.com
RedLadder.com
DomainAuction.com
Gazoontite.com
Surfing2Cash.com
Affinia.com

October 2000
FreeInternet.com
Chipshot.com
Stockpower.com
The Dental Store
More.com
WebHouse
UrbanFetch.com
Boxman.com
RedGorilla.com
Eve.com
MyLackey.com
BigWords.com
Mortgage.com
MotherNature.com
Ivendor
TeliSmart.com

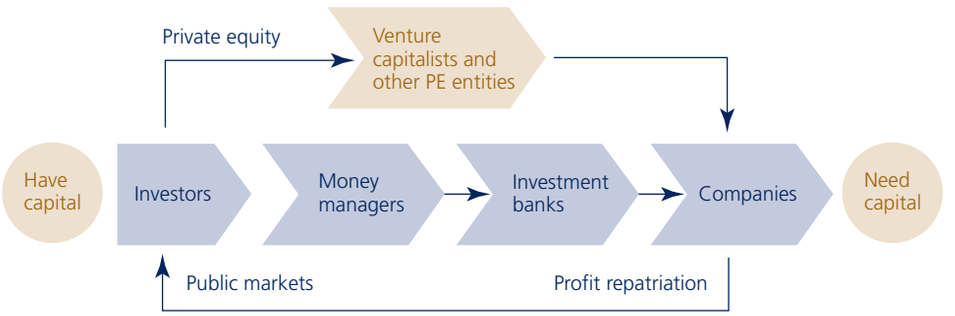
November 2000
Pets.com
Caredata.com
Streamline.com
Garden.com
Furniture.com
TheMan.com
Ibelieve.com
eSociety
UrbanDesign.com
HalfthePlanet.com
Productopia.com
BeautyJungle.com
ICanBuy.com
Bike.com
Mambo.com
Babystripes.com
Thirsty.com
Checkout.com

December 2000
Quepasa.com
Finance.com
BizBuyer.com
Desktop.com
E-pods.com
Clickabid.com
HeavenlyDoor.com
ShoppingList.com
Babygear.com
HotOffice.com
Goldsauction.com
AntEye.com
EZBid
Admart
I-US.com
Riffage.com

January 2001
MusicMaker.com
Mercata
Send.com
CompanyLeader.com
Zap.com
Savvio.com
News Digital Media
TravelNow.com
Foodline.com
LetsBuyIt.com
e7th.cm
CountryCool.com
Ibetcha.com
Fibermarket.com
Dotcomix
New Digital Media
GreatEntertaining.com
AndysGarage.com
Lucy.com
US Interactive

Sources: Johnathan Weil, "'Going Concerns': Did Accountants Fail to Flag Problems at Dot-Com Casualties?" *Wall Street Journal*, February 2001; Jim Battey, "Dot-com details: The numbers behind the year's e-commerce shake-out," *Infoworld*, March 2001.

EXHIBIT 9 Capital flows from investors to companies



Supporting intermediaries:					
	Brokers	Portfolio managers	Sell-side analysts	Sales force	Auditors
	Financial planners	Buy-side analysts	Investment bankers	Traders	Lawyers
	The media			Accountants	

Regulators: ← SEC, FASB, etc. →

Source: created by case writer