The Business of Investment Banking

THE BUSINESS OF INVESTMENT BANKING

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Preface

The Business of Investment Banking provides a comprehensive description of major activities in investment banking and the trend towards one-stop shopping and globalization. In particular, this book goes beyond the subjects and contents covered in traditional investment banking books. This book provides a comprehensive coverage on subjects that are an integral part of the business but are missing in most other books in the field, such as foreign listing on Wall Street, emerging markets, proprietary trading, repurchase transactions, operations, and money management. This book presents an investment banker's perspective on what the environment is and how to best manage it. It is written to provide information that improves a reader's intuition and background similar to what can be gained through an internship at an investment bank.

The book is designed for use as a professional reference and academic text suitable for business professionals and upper-level undergraduate or graduate investment banking and capital market courses. For practitioners, it demonstrates how decisions in one area affect performance and opportunities in other areas of financial services and thus provides a comprehensive view of managing the investment bank. The objective is to provide professionals relevant and in-depth information in order to compete in the investment banking business. For someone new to the global capital markets, the text describes the full range of investment banking activities and the strategic decision-making process.

The Business of Investment Banking begins in the first chapter with an overview of the investment banking business, not just underwriting and mergers and acquisitions but also proprietary trading, global presence, and money management. The subsequent chapters can be divided into four parts: basic business, global perspective, trading and risk management, and special topics.

Part One (Chapters 2 to 6) introduces the basic business areas. The book first describes in detail the process of venture capital investment and mergers and acquisitions. The process includes sourcing, investigation, negotiation, valuation, letter of intent, merger agreement, legal opinions, and regulatory filings. Investment bankers' fees and venture capital exit strategies are also analyzed. On the subject of underwriting, the mechanics, process, pricing, distribution, and underwriting risks are described. Aftermarket trading is an integral part of underwriting. In discussing the government securities market, it is essential to discuss the primary dealer's responsibility, hedging, and regulation. The primary dealer's bidding strategy at the auction goes beyond the standard fixed-income valuation principle. The intricacy of Treasury coupon rolls and the when-issued transactions are also described. On the subject of municipal bond markets, the coverage offers insights on investment bankers' municipal financing techniques and regulatory compliance. The rules on financial contribution to elected officials, the so-called pay-to-play, and the disclosure requirements in both the primary and secondary markets have significantly affected the evolution of the $1.3 trillion municipal securities markets. Asset securitization is a growing trend. The ability to design new structures and bring in new asset types is the key to success.

Part Two (Chapters 7 to 10) presents the global perspective. A key feature of this book is the detailed coverage on how foreign firms list on Wall Street. This book discusses the foreign issuer's motivation to listing shares in the United States. The legal requirements of listing and the valuation and trading of depositary receipts are also examined. Euromarkets and emerging markets are naturally in the investment banking arena. Doing business in Japan and major European financial centers is part of the global presence. This book thoroughly covers the investment banking business in those markets, ranging from trading, underwriting, currency and liquidity risk, to settlements. The complexity of economic, political, and social environments in these markets poses a big challenge for investment banks. The inclusion of emerging markets and extensive coverage of the global markets in an investment banking text is new.

Part Three (Chapters 11 to 14) covers trading, fund management, and risk management. Another special feature of this book is the extensive coverage of proprietary trading and repurchase agreements markets. The contribution of proprietary trading at times accounts for as much as one-third or more of an investment bank's net income. This book offers an insider's perspective on the various approaches to trading. In addition, the repos and reverses markets are at the core of a dealer's business. Part Three also documents the development of these markets in the United States, Europe, and Japan. The current market practices and the use of these markets by the Fed, dealers, banks, and investors are described. Brokering, matched-book operations, and mismatched trading are examined. The emerging equity repo markets present an alternative financing source and a trading opportunity. Financial engineering has played a significant role in the business of investment banking. The emphasis here is on the examination of innovation process with a risk management perspective. In addition, Wall Street firms have added fund business as part of their one-stop shopping strategy. Today major investment banks are among the largest money managers.

Part Four (Chapters 15 to 17) focuses on special topics. Covered first is clearing and operations, a subject that is essential but frequently ignored. Understanding this aspect of the business is crucial to the prevention of failure and to ultimate success. Next comes a comprehensive coverage of securities regulation and ethics. Compliance with securities regulation is an essential part of the business. In ethics, company codes and traditions are usually the guide. It is important to maintain a high professional standard in areas such as confidentiality, firewalls, disclosure, due diligence, inside information, and self-dealing. Finally, commercial banks may engage in securities underwriting and dealing through Section 20 subsidiaries. The ratio of revenue from such ineligible activities has risen to 25% of the total revenue of the Section 20 company, and it is likely that the Glass–Steagall Act will eventually be repealed. What is the impact on the investment banking industry? What is the future trend in investment banking?

In summary, this book provides a comprehensive description of the investment banking business in an increasingly competitive global marketplace. In particular, the book describes in detail the current market practices in all relevant business segments. The objective is to provide an intuitive and rigorous analysis both for practicing professionals seeking to advance their professional development and for students interested in a career in capital markets.

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Investment Banking in Global Capital Markets

The business of investment banking is intensely competitive and is trending toward one-stop shopping and globalization. The scope of investment banking operations has increased to include all major capital market activities, such as underwriting, private placement, mergers and acquisitions, venture capital, market making, proprietary trading, financial engineering, clearing and settlement, and financing and money management. The securities business has also been consolidating. This introductory chapter describes the market environment on Wall Street and briefly outlines the coverage of each chapter.

THE BUSINESS OF INVESTMENT BANKING

Wall Street firms get their net revenues from a variety of sources. Investment banks no longer engage in investment banking operations only; they have ventured into other areas of financial services to meet clients' demands for one-stop shopping. On the other end of the financial services spectrum, commercial banks are taking advantage of the opportunities granted through Section 20 of the Glass–Steagall Act to manage clients' investment banking requirements. As global capital markets have become more integrated, Wall Street firms have moved to establish a local presence in major financial markets around the world and to enhance this presence with broad cross-border capabilities.

Sources of Income

Investment banking, principal transactions (trading and investment), commissions, asset management, and advisory fees are the main contributors to Wall Street's net revenues. For example, Morgan Stanley Dean Witter & Co., the largest Wall Street house in terms of capital, earned 23% of its revenue from investment banking, 31% from principal transactions, 17% from commissions, and 21% from asset management in 1997. Merrill Lynch, the largest if ranked by number of brokers, derived 18% from investment banking, 24% from trading and investment, 30% from commissions, and 18% from asset management during the same year. Even smaller investment banking boutiques such as Hambrecht & Quist, which does lots of technology underwriting, has diversified its income sources: 27% from investment banking, 35% from principal transactions, 13% from commissions, and 16% from advisory fees. The 1996 results

TABLE 1.1 Income Statements for Morgan Stanley Dean Witter (MSDW) and Merrill Lynch ($ Million)

	MSDW 1997	*MSDW 1996*	*Merrill 1997*	*Merrill 1996*
Investment banking	2,694 (23)	2,186 (24)	2,749 (18)	1,945 (15)
Principal transactions	3,654 (31)	2,745 (30)	3,769 (24)	3,454 (26)
Commissions	2,059 (17)	1,768 (19)	4,667 (30)	3,786 (29)
Asset management & services	2,505 (21)	1,717 (19)	2,789 (18)	2,261 (17)
Interest and dividends	10,455	8,580	17,087	12,899
Other	132	125	670	666
TOTAL REVENUES	**21,499**	**17,121**	**31,731**	**25,011**
Interest expense	9,633	7,909	16,062	11,895
NET REVENUES	**11,866**	**9,212**	**15,669**	**13,116**
Compensation and benefits	5,475 (46)	4,569 (50)	7,962 (51)	6,704 (51)
Occupancy and equipment	462	432	1,160	1,067
Brokerage, clearing, & exchange fees	448	316	505	413
Information processing & communications (depreciation & amortization)	602	512	446	411
Marketing and business development	393	296	597	514
Professional services	378	280	813	582
Other	511	390	1,136	859
Total noninterest expense	8,269	6,795	12,619	10,550
Income before income tax	3,597	2,417	3,050	2,566
Income tax expense	1,416	875	1,097	947
Dividends from subsidiaries			47	
NET INCOME	**2,181**	**1,542**	**1,906**	**1,619**

Source: Adapted from *1997 Annual Report*. Morgan Stanley Dean Witter Discover and Merrill Lynch.
Note: Number in parenthesis is percentage relative to net revenues.

were similar. Table 1.1 lists income statements of Morgan Stanley Dean Witter and Merrill Lynch for fiscal years 1996–1997.

Merrill Lynch earned a higher proportion of income from commissions. It has aggressively bought into fund business; assets under management grew to $446 billion at year-end 1997, up from $212 billion in 1996. Income from asset management increased from $1.717 billion in 1996 to $2.505 billion by 1997 at Morgan Stanley Dean Witter, with assets under management soaring from $58 billion to $338 billion. Two additional observations are worth noting: Interest expense is the largest expense item, signifying the high leverage on Wall Street, and employee compensation takes away almost half of the net revenues. This is necessary because the company's success depends on highly specialized and skilled individuals, and competition for key personnel has been increasing. Most firms retain employees with incentives, such as a bonus plan and stock options.

Income components for other major investment banks and boutiques are listed in Table 1.2. Bear Stearns, Lehman Brothers, Donaldson Lufkin Jenrette (DLJ), and Hambrecht & Quist did not derive significant earnings from asset management. Investment banking boutique Hambrecht & Quist earned a higher percentage of net revenues from investment banking. Friedman Billings is the only firm that still has most of its eggs in one basket. It earned 81% of net revenues from investment banking in 1997.

TABLE 1.2 Major Income Components and Compensation Expenses for Investment Banks (as percent of net revenues)

	Bear Stearns		*Lehman Brothers*		*DLJ*		*Paine Webber*		*J.P. Morgan*		*Hambrecht & Quist*		*Frieman Billings*	
	1997	*1996*	*1997*	*1996*	*1997*	*1996*	*1997*	*1996*	*1997*	*1996*	*1997*	*1996*	*1997*	*1996*
Investment banking	19	20	34	29	24	26	11	11	16	13	27	40	81	61
Principal transactions	45	42	37	46	18	22	26	27	36	39	35	26		
Commissions	21	23	11	11	21	21	35	37	9	9	13	10	12	31
Corporate finance fees					22	17					16	10		
Asset management							12	12	10	10			8	7
Compensation and benefits	49	49	51	51	57	56	59	59	42	42	52	51	62	57

Source: Adapted from Company Annual Reports, 10-Ks, and earnings reports.

The Blurring of Commercial and Investment Banking

A growing number of clients prefer to deal with a single financial advisor for all capital needs. Thus, many investment and commercial banks see the need to combine talents. On March 6, 1997, the Federal Reserve Board raised the amount of revenue that a bank's Section 20 subsidiary can earn from underwriting and dealing in securities to 25% of its total revenue. The new ceiling set off a flurry of deal making. Recent headline deals include Bankers Trust's acquisition of Alex. Brown, NationsBank's marriage with Montgomery Securities, BankAmerica's acquisition of Robertson Stephens, First Union's linkup with Wheat First Butcher Singer Securities, and U.S. Bancorp's takeover of Piper Jaffray.

Another reason that banks want to operate securities activities is that they are profitable. Wall Street earned an estimated \$12.4 billion of pretax profits in 1997, up from the 1996 record level of \$11.3 billion. Returns on equity (ROE) have been in the range of 20–30%, except in 1994, when the industry recorded a 3.3% ROE. Table 1.3 lists Wall Street profits and ROEs from 1992 to 1997.

TABLE 1.3 Wall Street Profits

Year	*Pre-tax profits ($ billion)*	*% Return on Equity*
1992	6.2	22.8
1993	8.6	27.1
1994	1.1	3.3
1995	7.4	20.9
1996	11.3	29.1
1997	12.4	29.3

Source: Adapted from *SIA 1997 Annual Report*.

Globalization

Rapid advances in information technology and greater cooperation among financial regulators have led to closer links in the international capital markets. Larger sums of money are moving across borders, and more countries have access to international finance. To serve clients better, major securities firms have gone global. The *Big Three*—Morgan Stanley Dean Witter, Merrill Lynch, and Goldman Sachs—have operations in almost all countries with significant capital market activities. Many other Wall Street firms have also pursued a globalization strategy. For example, Salomon Brothers linked up with Smith Barney to better position itself as a global player.

With all major Wall Street firms operating in at least one overseas market, international securities activities have grown sharply in importance for Wall Street, and U.S.-based investment banks have dominated global investment banking activities. Major firms earn between one-quarter and one-half of their revenues from overseas. At the same time, foreign financial institutions are expanding investment banking operations in the United States. Major foreign firms with operations in the United States include Deutsche Morgan Grenfell, SBC Warburg Dillon Read, Union Bank of Switzerland, HSBC Capital Markets, Credit Suisse First Boston, CIBC Oppenheimer, NatWest Markets, Daiwa, and Nomura.

SCOPE OF THIS BOOK

The Business of Investment Banking covers the major activities essential to investment banking, including venture capital, mergers and acquisition, underwriting, financing, asset securitization, trading, financial engineering, fund management, emerging markets, and international markets. Successful bankers need to understand the changing regulatory environment and the back-office functions, as well.

Venture Capital and Acquisitions

Investment banks are involved with venture capital investments. This includes venture capital fund management, taking the portfolio companies public, or selling out to other businesses. Most investment banks have venture capital operations. Venture capital typically provides capital and strategic guidance to companies that may be recently formed and rapidly growing, but not yet large enough to access the public equity markets. Venture investing includes startups, growth stage, buyouts, and consolidation and company turnaround. Chapter 2, "Venture Capital Markets," describes venture capital operations, investment agreements, and exit strategies. Mergers and acquisitions (M&As) are an integral part of investment banking business. Investment bankers take in billions of dollars in fees each year. U.S. M&As set a record in 1996 at $626 billion. Volume in 1997 continued the upward trend, with $919 billion in value of deals. Chapter 3, "Mergers and Acquisitions," covers strategic planning, valuation, financing, closing, and legal considerations. Top advisors in the United States include Merrill Lynch, Goldman Sachs, Morgan Stanley Dean Witter, Salomon Smith Barney, Lehman Brothers, Lazard Freres, Credit Suisse First Boston, J. P. Morgan, Bear Stearns, and DLJ.

Securities Underwriting

Most Wall Street firms offer a full range of capital raising and corporate finance service, from initial public offerings (IPOs) and secondary equity offerings, to debt financing, to private placements. Chapter 4, "Stock Underwriting," describes the process of bringing securities to the public. The volume of IPOs climbed to $37.62 billion in 1997, from $35.86 billion in 1996. Secondary equity offerings recorded a volume of $46.84 billion in 1997, versus the 1996 level of $56.97 billion. Top underwriters include Goldman Sachs, Merrill Lynch, Morgan Stanley Dean Witter, Credit Suisse First Boston, and J.P. Morgan.

Corporate nonconvertible bond issuance surged to $564 billion in 1997, a 58% surge from the full year 1996 total of $356.2 billion. Major Wall Street firms are all active in fixed-income underwriting. Donaldson Lufkin Jenrette, Merrill Lynch, and Morgan Stanley Dean Witter claimed the top three positions in underwriting high-yield debt in 1997.

Investment banks, through their primary dealerships, actively participate in the government securities market. The annual issuance volume is huge—$2 trillion to $2.5 trillion in recent years. The government securities market is the largest and most liquid of all markets. Other fixed-income securities, such as agency issues, amount to additional hundreds of billions of dollars. Those markets for fixed-income securities are included in Chapter 5, "Underwriting Fixed-Income Securities."

Asset Securitization

Asset securitization (Chapter 6) is the selling of securities backed by the cash flows from a pool of financial assets. It has revolutionized the way businesses are financed. It provides businesses with access to new sources of capital at lower costs, even after factoring in upfront analysis, structuring, and credit enhancement costs. The revolutionary process first began with mortgage pass-throughs and then moved to other asset types. Chapter 6 discusses the benefits and costs and the basic structure. One of the largest asset-backed markets is the mortgage securities market, with $1.8 trillion outstanding. The discussion covers prepayment risk, valuation, trading, and settlement. Other asset-backed issuances reached $180 billion in 1997. Collateralized bond obligations, which convert junk bonds to investment-grade investments, are recent additions to the asset-backed innovations.

Foreign Listing on Wall Street

Foreign companies seek U.S. listing to raise capital and gain liquidity. U.S. investors want to take advantage of new capital growth opportunities and diversify their portfolios by buying international securities. Chapter 7, "Foreign Listing on Wall Street," describes the listing process, the types of programs, and SEC regulations. The chapter provides a detailed explanation of sponsored American Depositary Receipts (ADRs), Rule 144A ADRs, and Global Depositary Receipts (GDRs). The last part of the chapter describes how to evaluate ADRs and the unique characteristics of trading ADRs.

International Capital Markets and Emerging Markets

The integration of the world's capital markets has accelerated dramatically over the last few years. Merrill Lynch is most aggressive in pursuing the global presence, with offices in Latin America, Australia, India, Singapore, and Korea, to name only a few. This book covers Japanese securities markets, Euromarkets and major European markets, and emerging markets.

Chapter 8, "Euromarkets and European Markets," covers the Euromarkets and the three largest capital markets in Europe: London, Frankfurt, and Paris. Euromarkets are global, trading around the clock in all major financial centers throughout the world. The first part of Chapter 8 examines the roles played by investment bankers in eurobonds, floating rate notes, euro commercial paper, and euro medium-term notes. The subsequent sections focus on the three largest European markets. The discussion provides a roadmap on how to participate in the London, Frankfurt, and Paris markets. The implications of the 1999 European Monetary Union (EMU) are also examined.

Chapter 9, "Japanese Securities Markets," provides an overview of the Japanese capital markets and explores the opportunities for Wall Street firms when Japan begins implementation of the *Big Bang* in 1998. Investment banking, brokerage, and money management are attractive areas of business for U.S. firms.

Emerging markets are an integral part of the global capital markets and are one of the fastest growing destinations for global investors. Chapter 10, "Emerging Markets," describes the complex process involved in doing business in emerging markets. The risk factors include liquidity risk, political instability, insufficient legal infrastructure, currency risk, and contagion effects. This chapter also studies the Brady bond markets, clearing and settlement, and emerging market derivatives.

Trading

Many investment banks put up a substantial amount of capital for proprietary trading (Chapter 11) as part of the firm's principal transactions. Such activities may involve a significant exposure to market, credit, and liquidity risks. Most investment banks earn a significant proportion of revenue from trading and investment. Outstanding players in trading include many of the best-known investment banking houses and hedge funds. Scientific-approach-based trading and arbitrage plays are high-stakes games. Directional strategies anticipate changes in absolute rate and price levels, while relative-value strategies anticipate changes in relationships between markets and classes of instruments. Day trading requires the trader's feel of the market. To succeed, day traders must understand that they are competing with the sharpest minds and have to handle it as a serious intellectual pursuit.

Repurchase Agreements

Repurchase agreements (repos) are extensively used in dealer financing, customer funding, and matched-book trading. In addition, understanding the market is essential to assessing value in the securities markets. The repo market has grown rapidly over the past several years, with the average daily amount outstanding topping $2 trillion. The market is expected to continue to grow, fueled by the increase in demand for funding and innovations in the marketplace. The relaxation of Regulation T will further benefit the fixed-income repo market and will, together with the National Securities Markets Improvement Act of 1996, help foster the equity repo market. Chapter 12, "Repurchase Transactions," provides a comprehensive coverage of the repo markets.

Financial Engineering

Chapter 13, "Financial Engineering," explains how competition among investment banking professionals to meet the needs of borrowers and investors—such as hedging, funding, arbitrage, yield enhancement, and tax purposes—drives the explosive growth in the structured and derivatives markets (rapidly approaching the $30 trillion mark). The junk bond and asset-backed markets provide borrowers with additional funding sources at lower costs. Structured notes add another dimension in the funding and investment spectrum. Transactions in repurchase agreements provide borrowers with lower funding costs and give lenders legal title to the collateral. Through swap contracting, borrowers and investors obtain a high degree of flexibility in asset–liability management at better terms. Credit derivatives are the new trend with widespread applications, but new products emerge all the time.

Money Management

Money management is an important segment of the capital markets and is becoming an integral part of the investment banking business. Chapter 14, "Money Management," explains why. For investment banking houses, fund business is not a question of whether to enter, but whether to "buy" or to "build." Wall Street firms are buying into fund management operations for obvious reasons. First of all, it is one of the most attractive segments of the financial services industry. It expands the scope of products and services that investment banks offer to clients. Furthermore, the income stream is less volatile than trading, underwriting, or mergers and acquisition. The affiliated funds also provide synergy to the bank's underwriting business.

Clearing and Settlement

Chapter 15, "Clearing and Settlement," describes the process of clearing and settlement for various types of securities. Clearing is processing a trade and establishing what the parties to the trade owe each other. Settlement is the transfer of cash and securities between the parties so the transaction can be completed. Clearing and settlement are usually referred to as the back-office operations. The first step in the clearing and settlement process is to convey the details of the trade from traders to the back office. The second step is to compare and match between the purchaser and the seller to ensure that they agree on what is to be traded and on what terms. The final phase is to deliver what has been promised in the trade.

Securities Regulation and Ethics

The main objectives of securities regulation (Chapter 16) are facilitating capital formation and protecting the interests of the investing public. Registration of new securities ensures full and accurate disclosure of material information. Exemptions of registration are available when the securities are sold to certain qualified institutional investors or the amount of issuance is limited. Active secondary-market trading is key to successful primary-market capital-raising activities. Hence, regulating sales and trading in the secondary markets is to ensure fairness and maintain public trust. Professional investment management has become an essential part of the capital markets. Regulation of investment companies and investment advisors is in the public interest and for the protection of investors. Furthermore, integrity and professionalism are basic to success on Wall Street.

Major Trends and Section 20 Subsidiaries

The final chapter (Chapter 17—"Investment Banking Trends and Section 20") outlines the major trends in the business of investment banking. Increasingly, the biggest profits are concentrated among a few industry titans and a handful of small, specialized boutiques. This is mainly driven by the trend of globalization and one-stop shopping. The crumbling Glass–Steagall Act permits large commercial banks to engage in securities underwriting and dealing, which might eventually threaten top investment banks. In addition to the analysis of the implications of Section 20 subsidiaries, this chapter also describes the process and requirements for the application of a Section 20 subsidiary.

SELECT BIBLIOGRAPHY

Bloch, E. *Inside Investment Banking.* Burr Ridge, IL: Irwin Professional Publishing, 1989.

Carroll, M. "Goldman's public deliberations." *Institutional Investor* (July 1998) pp. 11–18.

Celarier, M. "Chipping at the firewalls." *Euromoney* (December 1996): pp. 52–55.

Friedman, Billings, Ramsey Group, Inc. *IPO Prospectus.* December 22, 1997.

Hayes, S. L., and P. M. Hubbard. *Investment Banking.* Boston: Harvard Business School Press, 1990.

Johnson, H. J. *The Banker's Guide to Investment Banking.* Chicago, IL: Irwin Professional Publishing, 1996.

Kuhn, R. L. *Investment Banking.* New York: Harper & Row, 1990.

Mester, L. J. "Repealing Glass–Steagall: The past points the way to the future." *Business Review,* Federal Reserve Bank of Philadelphia, 1997.

Securities Industry Association. *1997 Annual Reports.*

Wall Street Journal. *Guide to Who's Who and What's What on Wall Street.* NY: Ballantine Books, 1998.