THIRD EDITION

INVESTMENT BANKS, HEDGE FUNDS, AND PRIVATE EQUITY

DAVID P. STOWELL

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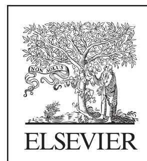

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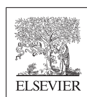

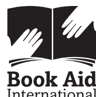

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Preface

The world of finance dramatically changed following the global financial meltdown of 2007–09, and this change has continued following Brexit in 2016 and the new administration that took over in the United States during 2017. These significant events have caused governments and financial industry to look again at investment banks, hedge funds, and private equity through a new lens. Market participants have been significantly impacted, and attitudes toward risk, transparency, regulation, and compensation have changed. Investment banks, hedge funds, and private equity firms are at the epicenter of a transformed financial landscape, forging new roles and seeking new ways to create value within a paradigm of lower risk and greater regulation. This book provides an overview of investment banks, hedge funds, and private equity firms and describes the relationships between these organizations: how they both compete with and provide important services to each other, and the significant impact they have on corporations, governments, institutional investors, and individuals. Together, they have reshaped global financing and investing patterns, attracting envy and awe, but also criticism and concern. They dominate the headlines of the financial press and create wealth for many of their managers and investing clients. This book enables readers to better understand these heavily interconnected organizations, their impact on the global financial market, historical development, principal activities, regulatory environment, and risks and opportunities.

Ultimately, the objective of this book is to demystify investment banks, hedge funds, and private equity firms, revealing their key functions, compensation systems, unique role in wealth creation and risk management and their epic battle for investor funds, and corporate influence. After reading this book, the reader should better understand financial press headlines that herald massive corporate takeovers, corporate shareholder activism, large capital market financings and the myriad strategies, risks, and conflicts in the financial market landscape. The inclusion of case studies and spreadsheet models provides an analytical framework that allows the reader to apply the book's lessons to real-world financing, investing, and advisory activities.

TARGET AUDIENCE

The target audience for this book includes MBA, MSF, and Executive MBA students, and upper-level undergraduates who are focused on finance and investments. Investment banking classes can use this book as a primary text and corporate finance, and investments classes can use the book either as a secondary text or as a principal text when focused on hedge funds and private equity. In addition, professionals working at investment banks, hedge funds, and private equity firms can use the book to broaden understanding of their industry and competitors. Finally, professionals at law firms, accounting firms, and other firms that advise

investment banks, hedge funds, and private equity firms should find this book useful as a resource to better understand and assist their clients.

DISTINGUISHING FEATURES

This book is unique for two reasons. First, it is a product of a long career working for and with investment banks, hedge funds, and private equity firms, in addition to 12 years of teaching students about these institutions. Second, by addressing all three of these institutions in the same book, and focusing on their simultaneous competition and cooperation with each other, the book provides a more holistic view of the changing boundaries and real-world impact of these institutions than has previously been available.

I wrote this book following a 20-year career as an investment banker at Goldman Sachs, JP Morgan, and UBS, and an additional 4 years at O'Connor & Associates, a hedge fund that is now part of UBS. As an investment banker, in addition to completing numerous M&A, debt and equity financing, equity derivative, and convertible transactions with corporate clients, I worked with private equity firms (financial sponsors) as they acquired companies and pursued exit strategies through recapitalizations, M&A sales, and IPOs. Since 2005, I have been a professor of finance at Northwestern University's Kellogg School of Management, where I have had the privilege of teaching what I learned during my preacademic career, while completing ongoing research into the ever-changing landscape of investment banks, hedge funds, and private equity. Teaching these subjects in classrooms has provided greater objectivity and the opportunity to refine concepts and make them more relevant to students. This book is therefore a blend of practitioner's experience and academic experience, creating an educational offering that more fully opens the door to understanding the key participants in the global financial and advisory markets.

CASES

The inclusion of 12 independent cases facilitates greater understanding of the concepts described in the chapters. These cases focus on recent actual financial and advisory transactions and include a summary of risks, rewards, political considerations, impact on corporations and investors, competition, regulatory hurdles, and other subjects that are linked to chapter topics. The cases include questions for students and case notes and teaching suggestions for instructors. In addition, several cases include spreadsheet models that allow readers to create an analytical framework for considering choices, opportunities, and risks that are described in the cases. The cases are assembled together at the end of the book, but all are linked to preceding chapters. As a result, cases are designed to be used in conjunction with chapter reading to reinforce concepts and enhance learning.

THE WORLD HAS CHANGED

During 2008, Bear Stearns collapsed into a fire-sale to JP Morgan, Lehman Brothers declared bankruptcy, Fannie Mae and Freddie Mac were placed into US government conservatorship, the US government assumed majority control over AIG and injected over

$100 billion to keep it afloat, Countrywide and Merrill Lynch both sold themselves to Bank of America under duress, Wells Fargo bought Wachovia at the brink of bankruptcy, Washington Mutual went into receivership with its branches absorbed by JP Morgan, Goldman Sachs and Morgan Stanley became bank holding companies, and banks all over the world had to be rescued by their respective governments. In the United States, this included the rapid provision to banks of over $200 billion of equity capital by the US Treasury as part of a larger $700 billion rescue program, guarantees of debt and asset pools by the FDIC totaling many hundreds of billions of dollars, and an unprecedented expansion of the Federal Reserve's balance sheet by trillions of dollars as it provided credit based on almost any type of collateral. All of this occurred as the world experienced the most significant, globalized downturn since the Great Depression in the 1930s. Between 2008 and 2017, investment banks, hedge funds, and private equity firms have all come under increasing regulation and scrutiny. They have had to derisk their balance sheets and become more transparent. The imperative to improve relationships with governments and with the press has become abundantly clear. Many firms have had to downsize and change their business models as new competition has entered their arena and additional capital requirements have reduced margins and returns to investors. Ongoing debates regarding whether governments have done too little or too much regarding reducing volatility and risk continue to occupy management attention at many financial institutions.

The investment banking business, in many ways, will never be the same. Leverage has been reduced, some structured financial products have ceased to exist, and regulation has increased. However, the fundamental business remains the same: advising corporations and investors; raising and investing capital; executing trades as an intermediary and principal; providing research; making markets; and providing ideas and capital directly to clients. As investment banks reinvent some aspects of their business and learn to live in a world of decreased leverage and increased regulation, new opportunities loom large, while issues such as public perception, compensation, and risk management must be carefully worked through.

Hedge funds and private equity funds suffered significant reversals during 2008, with hedge funds recording investment losses of over 19% on average and private equity firms acknowledging similar potential losses to their investors. Although these results were undesirable and caused some investors to abandon funds, the global equity markets fared even worse, with the major US stock market indices dropping by more than 38% and other equity and nongovernment debt indices throughout the world posting similar, or greater, losses. Hedge funds and private equity have had to adjust to a changing landscape and reexplain their value proposition while contending with slower growth in assets under management and weaker returns. Although hedge fund assets under management has increased dramatically since the global financial crisis, 2016 was a very disappointing year for the industry in relation to returns, and some large investors have backed away from historical investment levels with these asset managers. Private equity funds have shown respectable returns over the past 8 years, and experienced significant growth in assets under management, but many smaller players have left the industry as limited partners search for differentiated platforms and sometimes direct investment opportunities.

Investment banks, hedge funds, and private equity firms have redefined their roles and developed new processes and business plans designed to maintain historical positions of power and influence. The world has changed, but these institutions will continue to have a

significant impact on global capital markets and M&A transactions. This book projects how they will achieve this, and the resultant impact on corporations, governments, institutional investors, and individuals.

STRUCTURE OF THE BOOK

The book is divided into three parts. The first part is comprised of 10 chapters that focus on investment banks. The second part includes five chapters that discuss hedge funds and five chapters that review the activities of private equity firms. The third part of the book includes 12 cases that focus on recent transactions and developments in the financial markets. These cases are cross-referenced in the preceding chapters and are used to illustrate concepts that benefit from more rigorous analysis. In addition, there is an M&A case embedded within Chapter 4.

PART ONE: INVESTMENT BANKING

This part includes 10 chapters that provide an overview of the industry and the three principal divisions of most large investment banks, including descriptions of the M&A and financing activities of the banking division; the intermediation and market-making activities of the trading division; and the investment gathering and money management activities of the asset management division. In addition, the other businesses of large investment banks and the activities of boutique investment banks are reviewed. Other chapters focus in more detail on financings, including the activities of capital markets groups and the underwriting function, and discussion of IPOs, follow-on equity offerings, convertibles, and debt transactions. The role of credit rating agencies, prime brokerage groups, research, derivatives, and exchanges is also explored. Finally, regulations, leverage, risk management, clearing and settlement, international investment banking, career opportunities and the interrelationship between investment banks, hedge funds, and private equity are discussed. The capstone chapters in this part of the book drill deeply into M&A, convertible securities, and investment bank innovation.

Part One is designed to be used as the text for a full course on investment banking. It should be used in conjunction with cases in Part Three that are specifically referenced in Part One chapters. Part Two's hedge fund and private equity chapters may be used as supplemental material.

PART TWO: HEDGE FUNDS AND PRIVATE EQUITY

The **first section** of Part Two is comprised of five chapters that focus on hedge funds, including an overview of the industry; a focus on selected hedge fund investment strategies; shareholder activism and impact of hedge fund activists on corporations; risk, regulation, and organizational structure of hedge funds; and a review of performance, risks, threats, and opportunities, as well as the changing value proposition offered by hedge

funds to their limited investor partners. Finally, hedge fund competition with investment banks and private equity is reviewed, as well as the symbiotic relationship between all three parties.

The **second section** of Part Two is comprised of five chapters that examine private equity from the perspective of those firms that principally focus on leveraged buyouts (LBOs) and other equity investments in mature companies. These chapters provide an overview of private equity; an explanation of an LBO model and how it drives decision-making; private equity impact on corporations, including case histories of more than a dozen LBO transactions; a description of organizational structures, compensation, regulation, and limited partner relationships; and a discussion of private equity issues and opportunities, diversification efforts, IPOs, historical performance and relationships with hedge funds and investment banks.

Part Two is designed to be used as the text for a full course that focuses on hedge funds and private equity. It should be used in conjunction with cases in Part Three that are specifically referenced in Part Two chapters. Part One's investment banking chapters may also be used as supplemental material.

PART THREE: CASES

This part contains 12 cases that are referenced in different chapters in Parts One and Two. The cases enable students to drill deeper into the subject matter of the chapters and apply concepts in the framework of real transactions and market developments. Case questions (and teaching notes for instructors) are provided, as well as several spreadsheet models that enable students to manipulate data. The cases focus on the following: the dramatic change in the global investment banking landscape that occurred during the 2008 financial crisis; the use of equity derivatives by Porsche and CSX as these two corporations interacted with investment banks and hedge funds in effecting significant corporate change; Cerberus's investments in Chrysler and GMAC (GM's captive finance subsidiary); the divergent CDO investment strategies of two hedge funds, which, in the first case, resulted in excellent returns, and in the second case, caused bankruptcy; Freeport McMoRan's acquisition of Phelps Dodge, which focuses on M&A, risk taking and financing activities; the acquisition through a bankruptcy court process and management of Kmart and Sears by ESL, one of the world's largest hedge funds; Proctor & Gamble's acquisition of Gillette, including the advisory role of investment bankers and discussion of corporate governance and regulatory issues; the LBO of Toys R Us, focusing on the role of private equity funds and investment banks; activist hedge fund investor Pershing Square's impact on the capital and organizational structure of McDonald's Corporation; the acquisition of H.J. Heinz by Berkshire Hathaway and 3G; and the IPO of Quintiles, the world's largest contract clinical research company.

NEW CONTENT IN THE THIRD EDITION

The third edition reflects the most significant developments for investment banks, hedge funds, and private equity funds during 2012–17 in relation to regulatory and tax considerations as part of the ongoing global financial reform. In addition, developments in the global

competitive landscape are addressed, and significant new content that focuses on international markets is included in many chapters. All time-sensitive exhibits have been updated, reflecting current information and considerations. Basically, this edition brings the reader up to date through 2017 on all of the key issues and considerations that impact investment banks, hedge funds, and private equity funds as key participants in the global financial markets.

Additional content can be downloaded from the book's companion website https://www.elsevier.com/books-and-journals/book-companion/9780128143520

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I am very grateful to many who have contributed to this publication. My wife, Janet, and my children (Paul, Lauren, Audrey, Julia, and Peter) have been very patient and supportive during the process of researching and writing this book. When I decided to become an academic, they assumed that my investment banker work-week would drop from 70+ hours to less than half that amount. This has not been the case, as I learned that academics work long hours too, and the book added many hours to my schedule. I am also grateful to many finance department colleagues and administrators at Northwestern University's Kellogg School of Management for their support for this project and me over the past 12 years as I transitioned from practitioner to academic. They have been very patient and encouraging during this process.

I am indebted to many colleagues and friends from investment banks, hedge funds, and private equity funds, as well as professionals from law firms, accounting firms, data providers, rating agencies, exchanges, and regulators. Since I have credited them in previous editions, their names will not be repeated here. I am also grateful to students who have given me excellent feedback as I have taught hundreds of classes based on the content of this book, and to those students who helped me update exhibits and improve the organization of chapters. Finally, I appreciate the patience and guidance extended to me by my contacts at Elsevier for their encouragement and support over many years.

INVESTMENT BANKING

CHAPTER

1

Overview of Investment Banking

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The material in this chapter should be cross-referenced with the following cases: **Investment Banking in 2008 (A) Case** and **Investment Banking in 2008 (B) Case.**

Investment banking changed dramatically during the 20-year period preceding the global financial crisis that started during mid-2007, as market forces pushed banks from their traditional low-risk role of advising and intermediating to a position of taking considerable risk for their own account and on behalf of clients. This high level of risk-taking, combined with high leverage, transformed the industry during 2008, when several major firms failed, huge trading losses were recorded and all large firms were forced to reorganize their business.

Risk-taking activities of investment banks were reduced following large losses that stemmed primarily from mortgage-related assets, bad loans, and an overall reduction in revenues due to the financial crisis. This led to an industry-wide effort to reduce leverage ratios and a string of new equity capital issuances. By the end of 2008, five US headquartered "pure-play" investment banks (which did not operate deposit-taking businesses, unlike large "universal" banks such as JP Morgan Chase, which operated a large investment bank, a deposit-taking business, and other businesses) had undergone significant transformations: Goldman Sachs and Morgan Stanley converted into bank-holding companies; the US Federal Reserve (Fed) pushed Bear Stearns into

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the arms of JP Morgan to avoid a bankruptcy; Lehman Brothers filed for bankruptcy protection after the Fed and Treasury Department ignored its pleas for government support; and Merrill Lynch, presumably to avoid a similar bankruptcy filing, agreed to sell their firm to Bank of America at a substantial discount to historical prices (see Exhibit 1.1).

EXHIBIT 1.1 TRANSFORMATION OF PURE-PLAY/NONDEPOSIT-TAKING INVESTMENT BANKS

- Bear Stearns: sold to JP Morgan on March 16, 2008[1]
- Lehman Brothers: filed for bankruptcy protection on September 14, 2008
  - Sold U.S. operations to Barclays on September 16, 2008
  - Sold part of European and Asian operations to Nomura on September 22, 2008
- Merrill Lynch: sold to Bank of America on September 14, 2008[2]
- Goldman Sachs: converted to bank holding company on September 21, 2008
- Morgan Stanley: converted to bank holding company on September 21, 2008

Note 1: Initial price of sale at $2 per share was increased to $10 under a revised agreement on March 24, 2008.
Note 2: Date of announcement; deal completed on January 1, 2009.

Historically, through 1999, US banks with deposit-taking businesses (commercial/retail banks) were barred from operating investment banking businesses. This rule was created by the Glass–Steagall Banking Act of 1933, which was enacted after the stock market crash of 1929 to protect depositors' assets. In 1999, the Gramm–Leach–Bliley Act overturned the requirement to keep investment banks and commercial banks separate, and led to the formation of US-headquartered universal investment banks, including JP Morgan, Citigroup, and Bank of America. Two of the main arguments for rejoining these two businesses were (1) to provide for a more stable and countercyclical business model for these banks and (2) to allow US banks to better compete with international counterparts (e.g., UBS, Credit Suisse, and Deutsche Bank) that were less encumbered by the Glass–Steagall Act. As a result, Citigroup, which was created through the 1998 merger of Citicorp and Travelers Group (which owned the investment bank Salomon Brothers), did not have to divest the Salomon Brothers business to comply with Federal regulations. JP Morgan and Bank of America followed the lead of Citigroup in combining businesses to create universal investment banks. These universal banks rapidly developed a broad-based investment banking business, hiring many professionals from pure-play investment banks and strategically using their significant lending capability as a platform from which they were able to capture investment banking market share.

POSTCRISIS GLOBAL INVESTMENT BANKING FIRMS

As of 2017, the surviving nine key global firms that encompass both investment banking and deposit-taking businesses and operate throughout the world included JP Morgan, Bank

of America, Citigroup, Credit Suisse, UBS, Deutsche Bank, Barclays, Goldman Sachs, and Morgan Stanley. See Exhibits 1.2–1.5 for a summary of financial results, financial measures, and market capitalization for these nine firms.

EXHIBIT 1.2 FINANCIAL RESULTS

Firm	2015 Net Revenue *$ in millions*	2015 Net Earnings *$ in millions*	2015 Return on Equity	2015 Price/Tangible Book Value
Bank of America	$ 79,346	$ 15,888	6.4%	1.10x
Barclays[1]	32,909	(73)	0.9%	0.76x
Citigroup	69,246	17,242	8.0%	0.86x
Credit Suisse[2]	23,757	(2,980)	-6.5%	0.98x
Deutsche Bank[3]	35,609	(7,428)	-9.5%	0.53x
Goldman Sachs	33,820	6,083	7.1%	1.11x
JP Morgan	89,716	24,442	10.2%	1.42x
Morgan Stanley	35,226	6,127	8.5%	1.06x
UBS[3]	30,973	6,278	11.4%	1.54x

Note 1: Calculated at September 30th, 2015 GBP/USD rate of 1.4819
Note 2: Calculated at December 31st, 2015 CHF/USD rate of 1.0121
Note 3: Calculated at December 31st, 2015 USD/EUR rate of 0.9146
Source: Capital IQ

EXHIBIT 1.3 CREDIT RATINGS, ASSETS, VaR, AND EMPLOYEES

Firm	Credit rating	2015 Total Assets ($ millions)	Average daily VaR ($ millions)	Number of employees
Bank of America	BBB+	2,144,316	61	210,516
Barclays	A-	1,120,012	17	129,400
Citigroup	A-	1,731,210	86	239,000
Credit Suisse	A	820,805	51	48,200
Deutsche Bank	BBB+	1,629,130	43	101,104
Goldman Sachs	BBB+	861,395	71	34,800
JP Morgan	A-	2,351,698	47	235,678
Morgan Stanley	BBB+	787,465	46	55,802
UBS	A-	942,819	15	60,099

Note 1: S&P rating for long-term debt as of June 2016 according to reports of financial institutions.
Note 2: Barclays, Goldman Sachs, JP Morgan Chase, Morgan Stanley, and UBS′ average daily value-at-risk are calculated using 95% confidence level. Morgan Stanley estimates its average daily VaR under a 99% confidence level. Credit Suisse employs a 98% confidence interval, while Bank of America, Citigroup, and Deutsche Bank estimate VaR using a 99% confidence level.
Note 3: The data on average daily VaR and total assets value are presented on the basis of 2015 annual reports.

EXHIBIT 1.4 LEVERAGE AND ROE

Firm	Leverage (Asset/Equity)				Avg. ROE % 2012-2015
	2012	2013	2014	2015	
Bank of America	9.33	9.03	8.64	8.37	3.4725
Barclays	25.21	21.01	20.59	17	-0.4175
Citigroup	9.76	9.12	8.69	7.75	5.635
Credit Suisse	26.04	20.7	20.96	18.23	1.8925
Deutsche Bank	37.44	29.45	24.99	24.09	-1.5875
Goldman Sachs	12.4	11.62	10.34	9.88	10.065
JP Morgan	12.99	11.44	11.1	9.5	9.8025
Morgan Stanley	11.94	12.06	11.12	10.34	4.44
UBS	25.66	20.29	19.54	16.45	5.0425

Note 1: ROE calculated based on the income from continuing operations available to common equity holders divided by average common shareholder's equity.
Note 2: Barclays, Deutche Bank, and UBS financials are presented under IFRS standards. All other banks are presented according to US GAAP. A major difference between IFRS and US GAAP is the accounting for derivatives, nonderivative trading assets, and reverse repos/borrowed securities. The former shows gross exposures while the latter shows values on a net basis.

EXHIBIT 1.5 SHARE PRICE AND MARKET CAPITALIZATION

Firm	End of 2014 Share Price in $	End of 2015 Share Price in $	% change	End of 2014 Mkt Cap $ in billions	End of 2015 Mkt Cap $ in billions
Bank of America	17.89	16.83	-5.93	175.24	173.47
Barclays	324.08	376.03	16.03	55.60	62.52
Citigroup	54.11	51.75	-4.36	154.16	158.03
Credit Suisse	25.08	21.69	-13.52	35.86	41.75
Deutsche Bank	30.02	24.15	-19.55	30.45	35.83
Goldman Sachs	193.83	180.23	-7.02	62.41	81.88
JP Morgan	62.58	66.03	5.51	205.57	225.90
Morgan Stanley	38.80	31.81	-18.02	46.48	71.63
UBS	17.05	19.37	13.61	71.89	63.51

Note 1: Calculated at December 30, 2014, GBP/USD rate of 1.5569, and December 30, 2015, GBP/USD rate of 1.4819.
Note 2: Calculated at December 31, 2014, CHF/USD rate of 1.0116, and December 31, 2015, CHF/USD rate of 1.0121.
Note 3: Calculated at December 31, 2014, USD/EUR rate of 0.8222, and December 30, 2015, USD/EUR rate of 0.9146.
Sources: Capital IQ

OTHER INVESTMENT BANKING FIRMS

In addition to these nine key global investment banks, other large banks compete effectively in regional markets worldwide and, in some countries, have a larger market share for investment banking business than the nine designated global banks. Examples of banks in the category of large regional investment banks include HSBC, Société Générale, BNP Paribas, CIBC, MUFJ, Sumitomo Mitsui, Mizuho, Nomura and Macquarie, etc. Smaller banks that engage in investment banking business are called boutique banks. Boutique banks principally focus on merger and acquisition (M&A)–related activity, although some may provide additional services such as fee-based financial restructuring advice and asset management. Firms that do not participate in M&A, but focus principally on retail client investments in stocks and bonds are called retail brokerage firms. See Exhibit 1.6 for a sampling of banks that compete in each of these areas.

INVESTMENT BANKING BUSINESSES

Although each investment bank takes a somewhat different approach, the basic businesses of most large investment banks consist of an (1) investment banking business managed by the investment banking division that principally focuses on capital raising and M&A transactions for corporate clients and capital raising for government clients; (2) sales and trading business managed by the trading division that provides investing, intermediating, and risk management services to institutional investor clients, research, and also participates in selected direct investing and lending activities; and (3) asset management business managed by the asset management division that is responsible for managing money for individual and institutional investing clients (see Exhibit 1.7).

EXHIBIT 1.6 INVESTMENT BANKING FIRMS

Global Investment Banks	Large Regional Investment Banks	Boutique Investment Banks	Retail Brokerage Firms[1]
• Bank of America	• BNP Paribas	• William Blair	• Charles Schwab
• Barclays	• CIBC	• Evercore Partners	• Commonwealth Financial Network
• Citigroup	• HSBC	• Greenhill & Co.	• E* Trade
• Credit Suisse	• Macquarie	• Houlihan Lokey	• Edward Jones
• Deutsche Bank	• Mizuho	• Jefferies & Co.	• LPL Financial
• Goldman Sachs	• MUFG	• Keefe, Bruyette & Woods	• Royal Alliance
• JP Morgan	• Nomura	• Lazard	• Scottrade
• Morgan Stanely	• Royal Bank of Canada	• Moelis & Co.	• TD Ameritrade
• UBS	• Royal Bank of Scotland	• Perella Weinberg Partners	
	• Société Générale	• Robert W. Baird & Co.	
	• Standard Chartered Bank	• Rothschild	
	• Sumitomo Mitsui		
	• Wells Fargo		

Note 1: Retail brokerage firms generally do not provide a full range of investment banking products and services.

EXHIBIT 1.7 PRINCIPAL BUSINESS OF INVESTMENT BANKS

Investment Banking Business

- Arranges financings for corporations and governments: debt; equity; convertibles.
- Advises on M&A transactions.

Trading Business

- Sells and trades securities and other financial assets as an intermediary on behalf of institutional investing clients.
- Operates in two business units: Equity and Fixed Income, Currency, and Commodities (FICC)[1].
- Provides research to investing clients.

Asset Management Business

- Offers equity, fixed income, alternative investments, and money market investment products and services principally to individual investing clients.
- For alternative investment products, the firm coinvests with clients in hedge funds, private equity, and real estate funds.

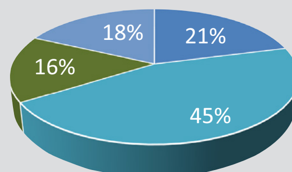
Note 1: Fixed income refers to an investment such as a bond that yields a regular (or fixed) periodic return; currency refers to foreign exchange (FX); commodities refer principally to energy- and metals-based commodities.

Within the nine large global investment banks, Goldman Sachs and Morgan Stanley are examples of more narrowly focused investment banks. They operate each of the businesses described above and also offer a limited deposit-taking and lending service. However, they do not participate in certain other noninvestment banking businesses that the other global firms conduct. JP Morgan Chase (whose investment banking business is separately branded as JP Morgan) and Citigroup are examples of more broadly focused financial organizations that operate a large investment banking business, but also conduct many other noninvestment banking businesses. See Exhibits 1.8 and 1.9 for an overview of the principal businesses of Goldman Sachs and JP Morgan Chase, respectively. Note that Goldman Sachs has divided their Sales and Trading business into two separate units—Institutional Client Services, which provides investing, intermediating, and risk management services to institutional investor clients; and Investing & Lending, which invests in equity and debt offerings of clients and provides loans to clients by using the firm's own capital and capital from clients of the Investment Management business. Goldman Sachs calls their Asset Management business "Investment Management". JP Morgan Chase competes directly with Goldman Sachs through their Investment Bank, in combination with their Asset Management business, but the bank also has other businesses that focus on retail and commercial banking, and card, treasury, and securities services.

EXHIBIT 1.8 GOLDMAN SACHS PRINCIPAL BUSINESSES

$ in millions	End of the year			% of 2015 Net Revenues
	2015	2014	2013	
Investment Banking				21%
Net revenues	$ 7,027.00	$ 6,464.00	$ 6,004.00	
Operating expenses	$ 3,713.00	$ 3,688.00	$ 3,479.00	
Pre-tax earnings	$ 3,314.00	$ 2,776.00	$ 2,525.00	
Institutional Client Services				45%
Net revenues	$ 15,151.00	$ 15,197.00	$ 15,721.00	
Operating expenses	$ 13,938.00	$ 10,880.00	$ 11,792.00	
Pre-tax earnings	$ 1,213.00	$ 4,317.00	$ 3,929.00	
Investing & Lending				16%
Net revenues	$ 5,436.00	$ 6,825.00	$ 7,018.00	
Operating expenses	$ 2,402.00	$ 2,819.00	$ 2,686.00	
Pre-tax earnings	$ 3,034.00	$ 4,006.00	$ 4,332.00	
Investment Management				18%
Net revenues	$ 6,206.00	$ 6,042.00	$ 5,463.00	
Operating expenses	$ 4,841.00	$ 4,647.00	$ 4,357.00	
Pre-tax earnings	$ 1,365.00	$ 1,395.00	$ 1,106.00	

Business Segments in Goldman Sachs
(the percentage of 2015 Net Revenues)



Investment Banking
Institutional Client Services
Investing & Lending
Investment Management

Investment Banking	Institutional Client Services
Investment Banking serves public and private sector clients around the world. We provide financial advisory services and help companies raise capital to strengthen and grow their businesses. We seek to develop and maintain longterm relationships with a diverse global group of institutional clients, including governments, states and municipalities. Our goal is to deliver to our institutional clients the entire resources of the firm in a seamless fashion, with investment banking serving as the main initial point of contact with Goldman Sachs.	Institutional Client Services serves our clients who come to the firm to buy and sell financial products, raise funding and manage risk. We do this by acting as a market maker and offering market expertise on a global basis. Institutional Client Services makes markets and facilitates client transactions in fixed income, equity, currency and commodity products. In addition, we make markets in and clear client transactions on major stock, options and futures exchanges worldwide. Market makers provide liquidity and play a critical role in price discovery, which contributes to the overall efficiency of the capital markets. Our willingness to make markets, commit capital and take risk in a broad range of products is crucial to our client relationships.

(Continued)

EXHIBIT 1.8 GOLDMAN SACHS PRINCIPAL BUSINESSES—cont'd

Investing & Lending	Investment Management
Our investing and lending activities, which are typically longer-term, include the firm's investing and relationship lending activities across various asset classes, primarily debt securities and loans, public and private equity securities, and real estate. These activities include investing directly in publicly and privately traded securities and in loans, and also through certain investment funds and separate accounts that we manage and through funds managed by external parties. We also provide financing to our clients.	Investment Management provides investment and wealth advisory services to help clients preserve and grow their financial assets. Our clients include institutions and high net-worth individuals, as well as retail investors who primarily access our products through a network of third party distributors around the world.

EXHIBIT 1.9 JP MORGAN CHASE PRINCIPAL BUSINESSES

JPMorgan Chase						
Consumer Businesses			Wholesale Businesses			
Consumer & Community Banking			Corporate & Investment Bank		Commercial Banking	Asset Management
Consumer & Business Banking	Mortgage Banking	Card, Commerce Solutions & Auto	Banking	Markets & Investor Services	• Middle Market Banking • Corporate Client Banking • Commercial Term Lending • Real Estate Banking	• Global Investment Management • Global Wealth Management
• Consumer Banking/ Chase Wealth Management • Business Banking	• Mortgage Production • Mortgage Servicing • Real Estate Portfolios	• Card Services – Credit Card – Commerce Solutions • Auto & Student	• Investment Banking • Treasury Services • Lending	• Fixed Income Markets • Equity Markets • Securities Services • Credit Adjustments & Other		

Source: JPMorgan Chase 2015 Annual Report

INVESTMENT BANKING DIVISION

The Investment Banking Division of an investment bank is responsible for working with corporations that seek to raise capital through public or private capital markets, risk-manage their existing capital, or complete an M&A-related transaction. In addition, at some firms, this division provides financing through direct investments in corporate equity and debt securities and loans to corporate clients. Finally, this division helps government-related entities raise funds and manage risk. Individuals who work in the Investment Banking Division are called "bankers" and are assigned to work in either a product group or a client coverage group (see Exhibit 1.10). The two key product groups

are M&A and Capital Markets. Within the M&A product group, bankers typically specialize by industry (and at some investment banks, they work within the client coverage group). In the Capital Markets Group, bankers specialize by working in either debt capital markets (DCM) or equity capital markets (ECM). Client coverage bankers are usually organized into industry groups, which typically focus on the following industries: healthcare, consumer, industrials, retail, energy, chemicals, financial institutions, real estate, financial sponsors, media and telecom, technology and public finance, among others (see Exhibit 1.11). Exhibit 1.12 provides a summary of the product groups in Morgan Stanley's Investment Banking Division.

EXHIBIT 1.10 INVESTMENT BANKING DIVISION

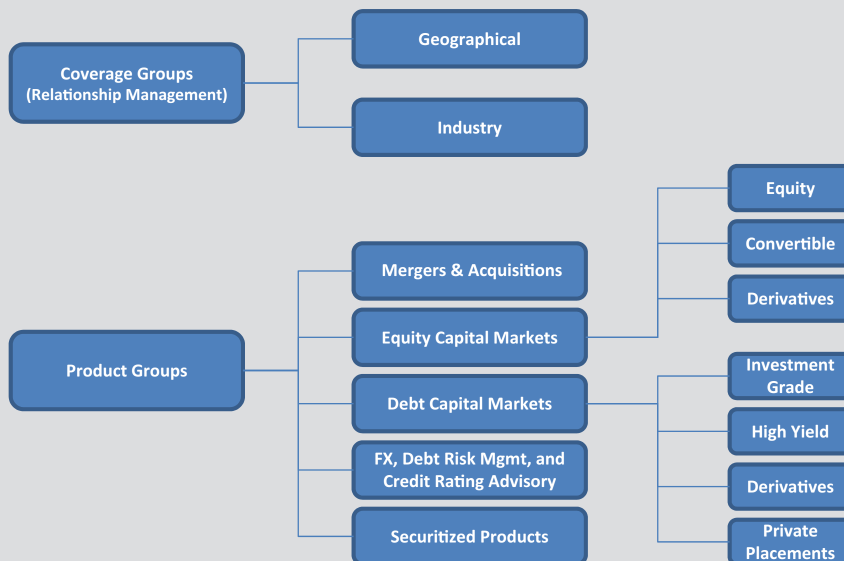


EXHIBIT 1.11 MORGAN STANLEY INDUSTRY COVERAGE

Basic Materials	Industrials
Communications	Power & Utilities
Consumer Products & Retail	Real Estate
Energy	Services
Financial Institutions	Technology
Financial Sponsors	Transportation
Healthcare	

Source: ***Investment Banking and Capital Markets.*** **Morgan Stanley. Web. 17 Jul. 2015**

EXHIBIT 1.12 MORGAN STANLEY SERVICES

Merger & Acquisitions

Morgan Stanley's Mergers and Acquisitions (M&A) department devises and executes innovative, customized solutions to our clients' most challenging issues. The M&A team excels in domestic and international transactions including acquisitions, divestitures, mergers, joint ventures, corporate restructurings, recapitalizations, spin-offs, exchange offers, leveraged buyouts and takeover defenses as well as shareholder relations. Morgan Stanley applies its extensive experience with global industries, regions and banking products to meet our clients' short- and long-term strategic objectives.

Global Capital Markets

Morgan Stanley's Global Capital Markets (GCM) division responds with market judgments and ingenuity to clients' needs for capital. Whether executing an IPO, a debt offering or a leveraged buyout, GCM integrates our expertise in Sales and Trading and in Investment Banking to offer clients seamless advice and sophisticated solutions. We originate, structure and execute public and private placement of a variety of securities: equities, investment-grade and non-investment-grade debt and related products.

Source: ***Our Services.*** **Morgan Stanley. Web. 17 Jul. 2015.**

Client Coverage Bankers

Bankers assigned to industry teams are required to become global experts in the industry and understand the strategic and financing objectives of their assigned companies. They help CEOs and CFOs focus on corporate strategic issues such as how to enhance shareholder value and reduce corporate risk. This sometimes leads to an M&A transaction in which clients sell the company or buy another company. Bankers also assist companies to achieve an optimal capital structure, with the appropriate amount of cash and debt on their balance sheet. This often leads to a capital markets transaction in which the company issues equity or debt, or repurchases outstanding securities. In short, client coverage bankers develop an in-depth understanding of a company's problems and objectives (within the context of their industry) and deliver the full resources of the investment bank in an effort to assist their clients. They are the key relationship managers and provide a centralized point of contact for corporate clients of the investment bank.

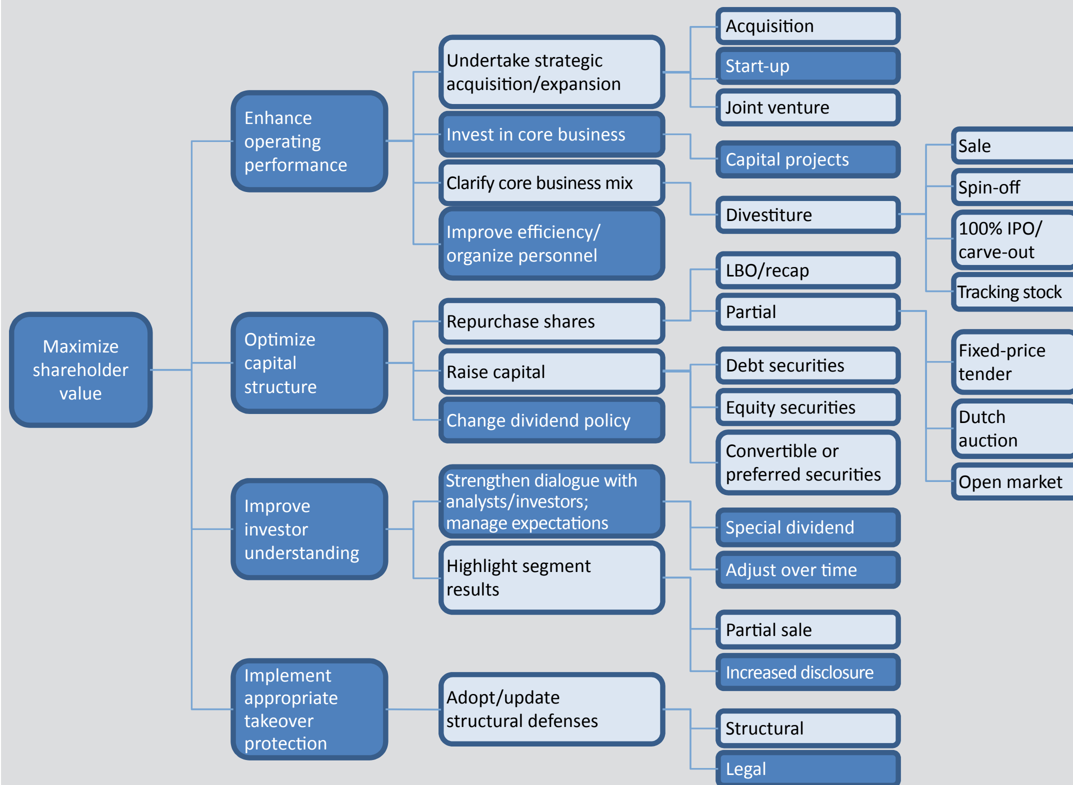
A financing or M&A assignment usually results in a partnership between client coverage bankers and product bankers to execute the transaction for a corporate client. Other investment banking services include risk management and hedging advice in relation to interest rate, energy, or FX risks; credit rating advice; and corporate-restructuring advice. There are product bankers who are responsible for each of these product areas (which are a much smaller source of revenue compared to the capital markets and M&A product areas). Sometimes, the role of the client coverage banker is to encourage a corporate client *not* to complete a transaction if it goes against the best interests of that client. The banker's mission is to become a trusted advisor to clients as they complete appropriate transactions that maximize shareholder value and minimize corporate risk.

For client coverage bankers to be helpful to their corporate clients, bankers must develop strong relationships with CEOs and CFOs, and also with corporate development and treasury groups. The corporate development group usually reports to the CFO, but sometimes directly to the CEO. Their role is to identify, analyze, and execute strategic transactions such as mergers, acquisitions, or divestitures. The treasury group reports to the CFO and focuses

on acquiring and maintaining appropriate cash balances, achieving an optimal capital structure for the company and risk managing the company's balance sheet. This group also manages the company's relationship with credit-rating agencies. Exhibit 1.13 summarizes a client coverage banker's template for providing investment banking products and services to corporate clients.

Sometimes clients of the Investment Banking Division prefer being covered by bankers who work in geographical proximity to the client. As a result, some client coverage bankers may be assigned to cover clients based on a geographic coverage model rather than through an industry coverage model. Each investment bank attempts to coordinate the activities of industry coverage and geographic coverage bankers in an effort to meet client preferences and achieve operating efficiency for the bank.

EXHIBIT 1.13 INVESTMENT BANKER'S TEMPLATE[1]



Designates activities in which an investment bank plays a role and may receive fees for its involvement

Note 1: Some firms co-invest with corporate clients to facilitate M&A transactions

Capital Markets Group

The Capital Markets Group is comprised of bankers who focus on either ECM or DCM.[1] At some investment banks, these two groups coordinate their activities and report to the same person, who oversees all capital markets transactions. At other banks, the two groups report to different individuals and remain fairly autonomous. The Capital Markets Group operates either as a joint venture between the Investment Banking Division and the Trading Division or is included solely within the Investment Banking Division. When issuers need to raise capital, they work with a team that comprises a client coverage banker and a capital markets banker. The capital markets banker "executes" the capital raising by determining pricing, timing, size, and other aspects of the transaction in conjunction with sales professionals and traders in the Trading Division who are responsible for creating investment products that meet the needs of their investing clients (see Exhibit 1.14).

EXHIBIT 1.14 CAPITAL MARKETS GROUP

Equity Capital Markets

ECM comprises bankers who specialize in common stock issuance, convertible security issuance, and equity derivatives. Common stock issuance includes initial public offerings (IPOs), follow-on offerings for companies that return to the capital markets for common stock offerings subsequent to issuing an IPO, secondary offerings for major shareholders of a company who wish to sell large "blocks" of common shares for which the proceeds are received by the selling shareholders and not by the company and private placements (which do not require registration with a regulator). Convertible security issuance (see Chapters 3 and 9) usually takes the form of a bond or preferred share offering, which can be converted (either mandatorily or at the investor's option) into a predetermined number of the issuer's common shares. Equity derivatives enable companies to raise or retire equity capital, or hedge equity risks, through the use of options and forward contracts.

[1] Banks may subdivide the capital markets group even further, for instance, by having a leveraged finance group that is separate from debt capital markets.

Bankers in ECM work closely with client coverage bankers to determine suitable corporate targets for equity-related products. After helping companies decide to complete an equity financing, ECM assumes primary responsibility for executing the transaction. This involves close coordination with sales and trading professionals in the Trading Division to determine the investment appetite of their client base, which includes institutional and individual investors. In essence, ECM intermediates between the Investment Banking Division's issuing clients who want to sell securities at the highest possible price and the Trading Division's investing clients who want to buy securities at the lowest possible price. This poses a challenge that requires considerable dexterity to balance competing interests and structure an optimal equity-related security.

ECM and client coverage bankers must consider many issues with their corporate clients before initiating a transaction, including credit rating impact and whether the offering will be "bought" by the investment bank (with the resale price risk born by the bank), or sold on an agency basis (with the price risk born by the issuer). In addition, they focus on capital structure impact (including cost of capital considerations), earnings per share dilution, likely share price impact, shareholder perceptions, use of proceeds and, if it is a "public offering", filing requirements with securities regulators, among other things. This process can take several weeks to several months to complete, depending on the vagaries of the market and potential issues raised by regulators.

Debt Capital Markets

Bankers in DCM focus principally on debt financings for corporate and government clients. Their clients can be grouped into two major categories: investment grade and noninvestment grade issuers. Investment grade issuers have a high credit rating from at least one of the major credit-rating agencies (Baa or stronger from Moody's; BBB- or stronger from Standard & Poor's). Noninvestment grade issuers have lower ratings and their debt offerings are sometimes called "junk bonds" or "high yield bonds".

DCM bankers stand between corporate or government issuers (with whom relationships are maintained by bankers in the Investment Banking Division) and investors (covered by sales professionals in the Trading Division). Their role is to find a balance between the competing price objectives of issuers and investors, while facilitating communication and providing execution of transactions.

Bankers in DCM work closely with client coverage bankers to determine suitable corporate and government issuer objectives and help clients decide timing, maturity, size, covenants, call features, and other aspects of a debt financing. Of critical importance is determination of the likely impact that a new debt offering will have on the issuer's credit ratings and investor reaction to a potential offering.

In the United States, DCM helps clients raise debt in the public capital markets through SEC-registered bond offerings or through privately placed 144A transactions (investors limited to qualified institutional investors). They also serve as the conduit through which a bank loan can be secured and provide debt risk management services (using derivatives) and advice regarding the potential credit rating impact of a debt issuance.

Merger and Acquisition Product Group

At some investment banks, the M&A Group is an independent group from the client coverage group while, at other banks, the two are blended. Regardless, most bankers specialize

in one or more industries. Unlike the Capital Markets Group, which, at some firms, is a joint venture between the Investment Banking Division and the Trading Division, the M&A Group always falls under the sole responsibility of the Investment Banking Division.

The principal products of the M&A Group include (1) "Sell Side" transactions that involve the sale or merger of an entire company or disposition of a division (or assets) of a company; (2) "Buy Side" transactions that involve the purchase of an entire company or a division (or assets) of a company; (3) restructurings or reorganizations that focus on either carving out businesses from a company to enhance shareholder value or dramatically changing a company's capital structure to either avoid bankruptcy or facilitate a sell side transaction; and (4) hostile acquisition defense advisory services (see Exhibit 1.15).

EXHIBIT 1.15 MERGER & ACQUISITION PRODUCTS

Sell Side assignment	• Involves the sale, merger, or disposition of a company • Highest priority since higher probability of completion
Buy Side assignment	• Involves the purchase of a company • Lower priority since lower probability of completion
Merger of Equals (MOE)	• The merger of two companies of equal assets that have comparable market value
Joint Venture	• Two companies contribute assets and form a new entity to undertake economic activity together
Public Market Separation	• Includes carve-out, spin-off, and tracking stock • Completed in coordination with equity capital markets group
Hostile Defense	• Raid defense: defense against a specific take-over proposal • Anti-raid preparation: work to deter future unsolicited take-over activity • Advice to hostile bidders: strategic and tactical advice on initiating an unsolicited take-over

See Chapter 4 for a detailed description of these products

M&A bankers develop strong valuation analysis and negotiation skills, and they usually work directly with a company's CEO, CFO, and corporate development team. Fees are typically paid to M&A bankers only upon successful completion of a transaction (although in the case of buy side, restructuring, and defense advisory services, a nominal retainer fee may be charged during the period of the engagement).

TRADING DIVISION

The Trading Division is responsible for (1) all investment-related transactions with institutional investors, including financial institutions, investment funds, and the cash management arms of governments and corporations; (b) market-making and clearing activities on exchanges; and (3) subject to regulatory limitations, principal investments in debt, real

estate and equity, and loans to clients made both directly and through managed funds. This division typically operates in three different business areas: Fixed Income, Currencies and Commodities; Equities; and Principal Investments and Loans. At some investment banks, Principal Investments and Loan activity is conducted from a different division. Research on economics, fixed income securities, commodities, and equities is also provided by the Trading Division to investing clients (see Chapter 6 for more information on the research function and its regulatory history).

Fixed Income, Currencies, and Commodities

FICC makes markets in and trades government bonds, corporate bonds, mortgage-related securities, asset-backed securities, currencies, and commodities (as well as derivatives on all of these products). At some firms, FICC is also involved in the provision of loans to certain corporate- and government-borrowing clients (in coordination with the Investment Banking Division). Subject to regulatory limitations, the business also engages in selected proprietary (nonclient-related) transactions in the same product areas. Individuals who work in the client-related area of FICC are either traders, who price these products and hold them in inventory as a risk position, or sales professionals, who market trade ideas and bring prices from the traders to investors to facilitate purchases and sales of the products.

Equities

The equities desk makes markets in and trades equities, equity-related products, and derivatives in relation to the bank's client-related activities. The business generates commissions from executing and clearing client transactions on global stock, option, and futures exchanges. Subject to regulatory limitations, equities also engages in selected proprietary (nonclient-related) transactions in the same product areas. As is the case in FICC, individuals who work in the client-related area of Equities are either traders or sales professionals.

Large investment banks typically have a Prime Brokerage business that provides bundled services such as securities borrowing and lending, financing (to facilitate leverage), asset custody, and clearing and settlement of trades to hedge fund clients and other money managers. Although initially an equity-centric business, Prime Brokerage has expanded its capabilities to other asset classes (in step with the diversification of strategies employed by hedge funds). Part of Prime Brokerage–related revenue comes from commissions from executing and clearing client trades by the sales and trading professionals in Equities. Other revenue sources include earning spreads and fees from financing and securities-lending activities. Refer to Chapter 5 for a more detailed discussion of Prime Brokerage and its services.

Investing Directly and With Clients in Private Equity and Hedge Funds

Large investment banks have historically invested in private equity and hedge fund assets either directly or by coinvesting in a fund offered to clients. For example, the Principal Investments and Asset Management businesses within Goldman Sachs historically invested in public and private companies through sponsorship of private equity funds in the same

way as KKR, a large private equity firm, and in hedge fund assets in the same way as Och-Ziff, one of the largest hedge funds (see Exhibit 1.16). However, regulators in many countries now limit the amount of private equity and hedge fund investments by investment banks. For example, in the United States, the Dodd-Frank Act, which was passed in 2010, limits investment banks from holding more than 3% of any private equity fund or hedge fund and also requires that a bank's total private equity and hedge fund investments not exceed 3% of Tier 1 Capital.

EXHIBIT 1.16 GOLDMAN SACHS PRINCIPAL INVESTMENTS

Goldman Sachs Principal Investments as of Dec. 2015
$ in millions

Investments	Fair Value of Investments	Unfunded Commitments
Private Equity Funds	$ 5,414	$ 2,057
Credit Funds	611	344
Hedge Funds	560	-
Real Estate Funds	1,172	296
Total	**$ 7,757**	**$ 2,697**

Goldman Sachs Principal Investments as of Dec. 2014
$ in millions

Investments	Fair Value of Investments	Unfunded Commitments
Private Equity Funds	$ 6,307	$ 2,175
Credit Funds	1,008	383
Hedge Funds	863	-
Real Estate Funds	1,432	310
Total	**$ 9,610**	**$ 2,868**

Goldman Sachs Principal Investments as of Dec. 2013
$ in millions

Investments	Fair Value of Investments	Unfunded Commitments
Private Equity Funds	$ 7,446	$ 2,575
Credit Funds	3,624	2,515
Hedge Funds	1,394	-
Real Estate Funds	1,908	471
Total	**$ 14,372**	**$ 5,561**

Source: Goldman Sachs 2015 and 2014 Annual Report

Proprietary Trading

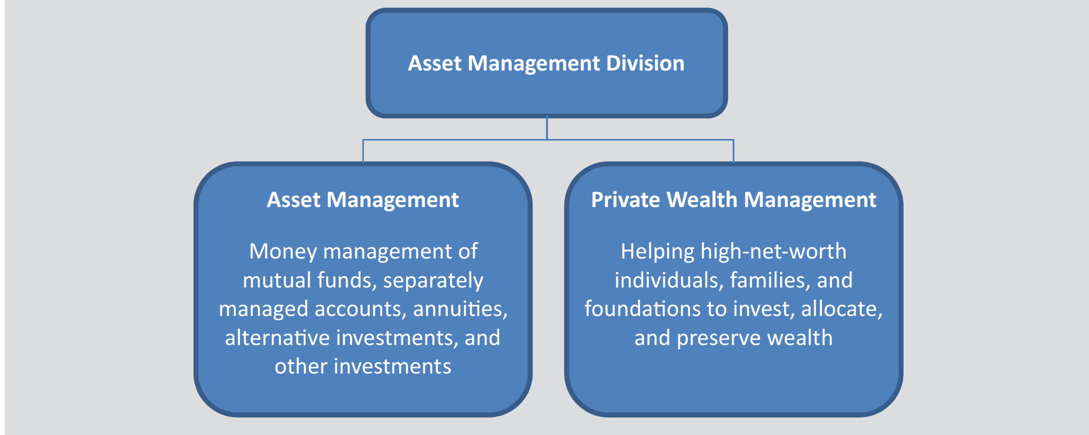
In addition to investing directly and with clients as described above, most major investment banks have historically made short-term, nonclient-related investments in securities, commodities, and derivatives for their own account. This "proprietary" investment activity is similar to the investment activities of hedge funds. Indeed, investment banks' proprietary investing activities used to compete directly with hedge funds for investing and hedging opportunities worldwide.

During 2005 and 2006, investment banks' proprietary investing contributed in a significant way to robust Trading Division earnings. During 2007 and 2008, however, this trading activity caused very large losses at many banks. During the four quarter period ending in April 2008, investment banks suffered over $230 billion in proprietary trading losses. As these losses continued to grow during the rest of 2008, investment banks significantly curtailed their proprietary investment activity. Investment banks have experienced a number of scandals involving rogue traders who lost very large amounts of money while engaging in proprietary trading. For example, Jérôme Kerviel, a trader who had been working for Société Générale, lost approximately $7 billion in January 2008. A proprietary trading mishap also occurred at UBS in September 2011, when a trader lost approximately $2.3 billion from trading in futures contracts. The risk had been concealed by the trader's creation of fictitious hedging positions. In the United States, the Dodd-Frank Act of 2010 significantly curtailed the proprietary trading activities of investment banks, and many other countries have similarly imposed restrictions on this activity.

ASSET MANAGEMENT DIVISION

The Asset Management business offers investment products in the following areas: equity, fixed income, currency and commodity, alternative assets (private equity, hedge funds, and real estate), and money markets investment products to individuals and institutions. Investments are offered in the form of mutual funds, private investment funds, or separately managed accounts and are sometimes commingled with the bank's own investments. Revenues are created principally based on fees that are paid by investors as a percentage of assets under management (AUM), which varies depending on the asset class. At times, investors pay an incentive fee to the investment bank when returns exceed a predetermined benchmark. Most firms have a private wealth management business organized alongside the asset management business that reports to the same division head (see Exhibit 1.17). The professionals in the private wealth management business act as advisors to investors, helping them decide how to invest their cash resources. In most cases (but not all), investors will be encouraged to invest in funds managed by the firm's asset management teams. However, advisors have a fiduciary obligation to direct investments into the funds (internal or external) that best meet the risk and return objectives of investors. Chapter 6 provides a more detailed discussion of the asset management business.

EXHIBIT 1.17 ASSET MANAGEMENT



Coinvestments in Asset Management Division Funds

Investment banks make direct investments in certain funds that are managed by their Asset Management Division. Most of these investments are made in the "Alternative Assets" area: (1) private equity (LBOs and other equity control investments), (2) hedge fund-type investments, and (3) real estate. Investment banks typically invest their own capital alongside the capital of their high net worth individual and institutional clients in these funds (and they charge investing clients both management fees and performance fees based on the clients' AUM). This coinvesting activity, however, is limited to 3% of any fund and is subject to total investments in these areas not exceeding 3% of Tier 1 Capital, as described above.