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The Valuation of Financial Companies

Tools and techniques to value banks, insurance companies, and other financial institutions

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Preface

If there is a lesson learnt from the on-going economic crisis, it is that financial companies play a key role in the economic life of nations. The understanding of how banks, insurance companies, and other financial institutions actually work is therefore of paramount importance, not just for scholars but also for managers, investors, regulators, and policy makers. A sound understanding of how financial companies work should be reflected in reliable methodologies in order to value them. However, how to value banks and other financial institutions is a topic that has not received due attention so far.

The most popular valuation manuals devote relatively little attention[1] (or no attention at all) to the valuation frameworks that should be applied to financial companies. Academia started to look in-depth into this issue only recently. In fact, for both practitioners and academics, the problem with the valuation of financial companies is that these are inherently complex organizations. The raw materials they process are often very complex risks embedded in highly sophisticated financial contracts. In some cases, to fully understand the structure of certain assets in the bank Balance Sheet – not to mention the estimation of the technical reserves of life insurance companies – a PhD in physics or mathematics is necessary. No wonder that, as vividly emerged from some official parliamentary hearings about the financial crisis and subsequent scandals, even top managers and board directors of global leading financial companies are often not aware about and proficient in what the organizations they lead are actually doing and about how much risk they carry.

If a proper comprehension of a financial company's actual situation is difficult for insiders in the top posts, the analysis and valuation from the outside is even more challenging. This is also because, unfortunately, the accounting standards leave the opacity and ambiguity that obfuscate the financial statements of banks and insurers mostly untouched – even the largest and "systemically important" ones.

[1] For example, Damodaran (2012) and Koller *et al.* (2010).

In this book we have not found the Holy Grail for the valuation of banks or of other financial institutions. But on the basis of our professional experience, academic research, and discussion with bankers and equity research analysts, we have encapsulated what appears to be the best practice for valuations in the financial sector. Our aim is to provide the reader, already familiar with the main corporate valuation models, with the coordinates to apply them specifically to financial companies. Therefore, the focus is eminently practical and we have tried to address the very problems that usually arise when dealing with the valuation of banks or insurance companies. Along the same lines, we have excluded the most complex econometric models, which are of intellectual fascination for academics but of little utility for real life application.

The book is structured as follows. Before presenting the bank valuation techniques (Chapter 5), we briefly introduce the various business models banks run (Chapter 1), the main accounting frameworks and issues that are relevant for banks (Chapter 2), and the regulations that define the capital to be held by banks (Chapter 3). Financial statements analysis and the comprehension of the regulatory frameworks are indeed the ingredients necessary to prepare and assess the business plan of a bank (Chapter 4).

We adopt a similar approach for the insurance companies. We first introduce insurers' business models and accounting practices (Chapter 6). A sketch of the main capital regulations follows (Chapter 7) along with the guidelines to assess and prepare the business plan (Chapter 8). The valuation issues that are peculiar to these companies are eventually presented (Chapter 9). We finally offer (Chapter 10) a few stylized elements about the valuation of other financial institutions such as funds and leasing, factoring, and asset management companies.

In terms of depth of discussion about business models, accounting features, and capital requirements, we have decided to present the bare minimum knowledge necessary to perform a proper valuation. This is because our objective is to offer the reader an agile reference book rather than a comprehensive encyclopedia on the topic. But the choice of being concise has also been made because the debate among policy makers – especially on accounting rules and capitalization requirements – is still (fiercely) going on and more details about current and proposed regulatory frameworks would become outdated quickly. The reader willing to know more about those aspects is strongly encouraged to refer to other sources and specialized handbooks (we shall provide some references in the footnotes where appropriate).

We have particularly focused our attention on the US and European financial industries because they are the ones we know best, but most of the considerations we make, especially in terms of valuation frameworks, apply to financial institutions located outside those geographies as well.

We expect financial companies' valuations to become a topic of growing interest in forthcoming years for both practitioners and scholars. We hope that this book will spark more curiosity and intriguing questions on the matter.

Acknowledgments

Of course, we owe a very great debt of thanks to friends, colleagues, and students who have contributed to this work. First, we thank greatly two extremely experienced professionals who read and commented on chapters: Paola Sabbione of Deutsche Bank and Giuseppe Sica of Morgan Stanley. A number of former students ran empirical analyses to test various propositions presented in the book: Isabella Baruzzi of Morgan Stanley, Paolo Bergamelli of UBS, Paolo De Bona of Citi, Davide Natale of Goldman Sachs, Kim Salvadori of Goldman Sachs, Matteo Santecchia of Credit Suisse, and Roberto Vincenzi of Bocconi University. We are grateful to the Wiley team who assisted us in the book preparation, and especially to: Werner Coetzee, Jennie Kitchin, Grace O'Byrne, and Vivienne Wickham. Finally, Lynette Woodward provided excellent professional support for the editing of the manuscript.

1

Bank Business Models

From an economic point of view, banks carry out the crucial role of intermediating between individuals and/or organizations (corporations, financial institutions, national and local governments, and non-profit entities) with financial surpluses and those suffering from (temporary) money deficits. Such a definition is quite general and falls short of fully representing the complexity and articulation of an industry that is essential for economic development and national growth. When the banking system does not work properly the costs for the economy may be severe as the last financial crisis has made painfully clear. To sketch the main features of the banking business, we will segment the industry into a few categories in order to identify the different business models' economics, profitability drivers, and, eventually, valuation metrics. Nevertheless, it's worth underlining that, as Paul Volcker,[1] former Federal Reserve Chairman used to say, fiduciary responsibility is at the very core of every banking organization, regardless of the specific activities carried out.

1.1 ECONOMICS OF BANKING

Bank valuation can build only on a sound understanding of what banking business involves, what the different business models are over time, and now coexist in most countries. For valuation purposes, we will identify the main revenue-generating activities that a bank may carry and outline the business models behind such activities. While some banks are "mono-business" in the sense that they offer solely one type of service, most actually are "multi-business" with a wide array of financial products and services. When the portfolio of financial products is wide and encompasses both commercial and investment banking services the bank is usually referred to as "universal". Table 1.1 introduces the relationship between business models and types of revenues that we will analyze in detail in the next paragraphs. The nature and mechanics of the insurance business will be presented in Chapter 6.

Historically the core source of revenues for commercial banks has been the issue of loans to customers (individuals and/or corporate) and the gathering of money in the form of deposits. Net interest income is typically the difference between the interest earned from loans and interest paid to depositors, in this sense commercial

[1] From the "Statement before US Senate, Committee on Banking, Housing, and Urban Affairs, January 21, 1987," *Federal Reserve Bulletin*.

Table 1.1 Types of banking revenues and business models

Types of revenues	Business model
Net interest income	Commercial banking
Fee and commission income	Commercial banking. Investment banking. Asset management
Trading income	Investment banking
Premium underwriting	Bank assurance

banking is a "spread business". Net interest income also includes earned and paid interest on other financial instruments. Collecting deposits and lending money are not value creating activities *per se*, but they are so if two more aspects are taken into account:

- Commercial banks usually perform a *maturity-transformation* activity: in fact, they receive short-term financing (deposits are usually regarded as short-term debt although money invested in most of them can be generally withdrawn upon request so they are "on demand debt") and issue long-term loans. Therefore, if the yield curve is upward sloping, part of the spread is due to the difference in the maturity of the instruments.
- There is a certain amount of risk embedded in the loans issued. Deposits, on the contrary, tend to have a very low risk (risk premium is generally assumed close to 0).

The second major source of revenue in the industry is fee and commission income. Services such as underwriting and placement of securities (mostly associated with investment banking), trust services and securities brokerage are commonly charged a fee or commission. The main difference between commercial and investment banks consists of the targeted segments of clients that commercial and investment banks strive to serve: while investment bank clients are usually large corporations to be served with tailored (costly) advisory services (especially related to extraordinary financial events such as IPO, seasoned equity offerings or M&A), commercial bank customers are individuals and small/medium enterprises for which less customized (expensive) services are provided. Typical fee-based services offered by banks are:

- *Asset Management.* Banks typically earn a management fee, as a fixed percentage of the Assets Under Management. Risk of financial investments carried out by the funds is held by clients.
- *Private Banking.* Banks provide advice to wealthy individual customers (including specialized advice on taxation) managing their financial assets.
- *Corporate Advisory.* Such services cover the entire spectrum of the events in the life of a company. So, they vary from risk management services (e.g.,

hedging foreign currency risk) and decisions on the optimal financial structure to the choice of issuing new securities, both debt and equity capital, and M&A transactions. In this sub-category, we consider the fees banks earn both for the piece of advice they provide to their clients and the fees earned to compensate for the risk involved in underwriting a security issue. Debt origination and specific advisory (e.g., project finance) is offered to sovereign, local governments and municipalities.

- *Brokerage and Dealership*. Commissions on trades are earned by banks in the secondary market. It's important to underline that the recent trend originated by an increasing competition and Internet-based trading has both augmented the volume of trades and reduced the per unit commission.

It's worth noting that banks' activities earning fees and commissions have different economics and value drivers from those that generate interest income, as the former are typically based on limited asset positions and minimal risk capital.

The third possible source of revenues is trading, which is mostly an investment banking activity even though commercial banks tend to have some exposure to that business. Proprietary trading involves trading of a wide variety of securities (in the name of the bank) on exchanges and OTC. For investment banks (an example is presented in Section 1.3) trading has always represented a large portion of total revenues, although trading results are quite volatile and predictable only under certain assumptions.

As a fourth source of income, we refer to non-banking activities, which range from real estate development to insurance activities and minority investment in non-banking companies. Universal banks, generally, cover most of this non-typical business.

1.2 COMMERCIAL BANKS

Commercial banks constitute the kind of banks people usually have in mind every time they speak of banks. They are basically engaged in the business of receiving money from their customers in the form of deposits and providing them with money in the form of loans. Even though these two activities are certainly the main part of the commercial banking business (in terms of the weight they have on the Balance Sheets of these organizations), both commercial banks' liabilities and assets are broader in range and don't fit such a narrow definition. Furthermore, commercial banks are also involved in providing their clients with trust services, namely managing their assets, and investment or financial advice.

1.2.1 Structure of the Industry in the US

In 2012, the number of institutions registered as commercial banks in the US was 6168, sub-divided by the value of their assets in commercial banks with assets

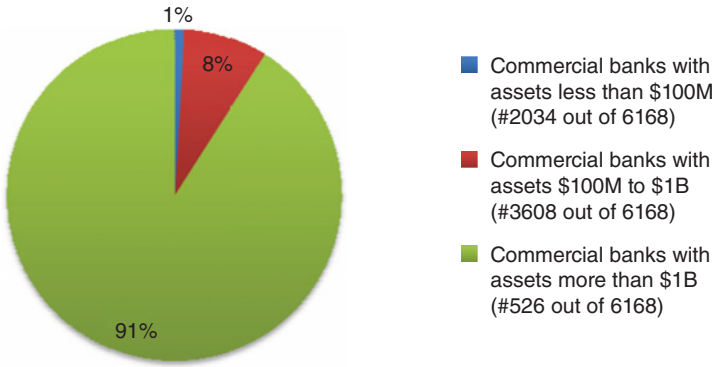

Figure 1.1 Structure of the US commercial banking business by assets
Source: Federal Deposit Insurance Corporation (2012), www.fdic.gov.

lower than $100M, commercial banks with assets ranging between $100M and $1B and those ones with assets more than $1B according to Figure 1.1. Even though in terms of their number, large banks (with assets over $1B) represent 8.53% of the total, they manage 91% of the total assets in the industry, as shown in Figure 1.1. Specifically, we have *community banks*, which are small banks (under $1B) specializing in retail and consumer banking. Therefore, what they do is simply receive money from their local customer base and lend this money out to consumers. *Savings banks*, although commonly regarded as different entities to commercial banks, can technically be considered as just banks offering a higher interest rate in order to attract money. However, they can choose not to lend any money as long as they invest the collected deposits and earn, with a certain degree of safety, a return high enough to repay their depositors. The bulk of assets are held by regional or superregional banks. Big banks carry out activities that are generally more complex and variegated than community banks and also have access to markets for purchased funds, for example, interbank or federal funds market.

Currently, five big players are also referred to as *money center banks*. In alphabetical order, they are: Bank of New York Mellon, Citigroup, Deutsche Bank, HSBC, and JPMorgan. It's worth noting that this title is not awarded because of the asset size of those banks (in fact, Bank of America or Wells Fargo are not included in the list and they are both larger in terms of assets than Bank of New York Mellon). Being considered a money center bank is the result of both reliance on non-deposit sources of funding and of geographic location (Chicago or New York).

Although the number of banks is currently shrinking and the assets are concentrated in the hands of the few largest players, it's unlikely that community banks will disappear. Even in a mature industry like US banking, there are several ways of competing successfully and niche business models (from a geographical and product offering point of view) may coexist.

1.2.2 Overview of the US Regulation

The current number of US banks is a direct reflection of intense merger and bankruptcy waves recorded in the industry in the past two decades. The US financial regulation, which, until some years ago, restricted the geographic expansion of players in the market, is commonly regarded as the main source for the consolidation trend. We will first analyze the rules about the gulf between commercial and investment banking, and then the regulations concerning the constraints on geographic extension.

In the early 1930s, after about 10 000 commercial banks went bankrupt in US, the Glass–Steagall Act was eventually promulgated (1933). Its goal was to rigidly separate commercial banks and investment banks. The distinction between investment and commercial banks is a peculiarity of the US banking history shared only with the Japanese one and some smaller contexts: in fact, in the rest of the world the universal banking model has been predominant for most of the twentieth century. The letter and spirit of Glass–Steagall Act were maintained intact for some decades. However, in the 1960s, after commercial banks somehow got involved in underwriting securities such as commercial papers and municipal bonds and in managing mutual funds, the rigid separation, hoped for by the original legislator, started losing *de facto* relevance. In 1987, commercial bank holdings were allowed by the Federal Reserve Board to establish investment bank affiliates (*Section 20 affiliates*) and all those "gray area" activities mentioned previously were transferred to these subsidiaries.

Finally, a revolutionary change occurred in 1997. In that year, first the Federal Reserve and then US Congress, through the Financial Service Modernization Act, eliminated the barrier between commercial and investment banks for good. As a consequence, looking from a commercial bank strategic standpoint, many commercial banking players (such as the Bank of America) entered the investment banking business in force. Nevertheless, investment banks, which were generally not subject to Federal Reserve rules and capital requirements, maintained their leading position in that business segment.

However, some new changes occurred after the recent crisis in 2008. Among the five big independent players (Merrill Lynch, Morgan Stanley, Goldman Sachs, Bear Sterns, and Lehman Brothers), just two companies survived and they all eventually applied to change their status into one of a Bank Holding Company (BHC).[2] Today, they all actually look very similar to commercial banks from a regulatory requirements point of view, as they have to comply with stricter rules and capital regulation, and higher levels of disclosure.

[2] A BHC, as provided by the Bank Holding Company Act of 1956 can be broadly defined as "any company that has control over a bank". The bank holding company status makes it easier for the firm to raise capital than as a traditional bank, allowing better and quicker access to liquidity and funding. The downside includes responding to additional regulatory authorities: e.g., all BHCs in the US are required to register with the Board of Governors of the Federal Reserve System.

As far as restrictions on interstate banking are concerned, the major piece of legislation shaping the industry until 1997 was the McFadden Act, which dated from the early 1930s. While state chartered banks were already generally constrained to state borders nationally chartered banks were also prohibited to expand. However, the potential loophole arising from this Act was that while a bank could not create a branch in a different state, subsidiaries could be established. The following period in fact, saw the growth of multi-bank holding companies (MBHCs) possessing subsidiaries in more than one state. Aware of that loophole, the Congress passed a law in 1956 constraining MBHCs from acquiring subsidiaries to only the extent allowed by the law of the *target* bank's state of. This is why we observe a huge growth in interstate banking pacts – namely agreements between states to outline the conditions for entrance for out-of-state banks – in that period. In 1997, the enactment of the Riegle–Neal Act, which allowed interstate banking in US, immediately triggered the consolidation wave that featured hundreds of mergers in the industry.

It's also worth underlining that the US banking system can be defined as dual. In fact, it is a system in which nationally chartered and state-chartered banks do coexist. Banks, instead of being nationally chartered by the *Office of the Comptroller of the Currency (OCC)*, a sub-agency of the US Treasury, can be chartered by one of the 50 state bank regulators. Finally, while all the nationally chartered banks are automatically members of the *Federal Reserve System*, just about 20% of all state chartered banks have decided to get membership.

1.2.3 Commercial Banks' Balance Sheets

The Balance Sheets of a commercial bank, unlike that of other financial institutions (e.g., insurance companies), can be considered as both asset- and liability-driven. Commercial banks, in order to become a major player in the industry, have to compete and succeed in both attracting money (for instance, in the form of deposits) and lending money (generally, issuance of loans). As shown in Figure 1.2, the ability to attract deposits at a cost sustainably lower than the return from the assets is the core of bank profitability.

Table 1.2 shows the consolidated balance sheet items for all the US commercial banks as of December 2012. On the asset side, as expected, loans and leases net of loan loss provisions (a balance sheet item generally related to the estimates of loan losses) account for the majority of the assets (51.5%). The other two main asset categories, with weights of almost 21% and 10% respectively, are securities (which don't include securities held in trading accounts) and cash (including due from depository institution).

As to the liability side, deposits represent about 83% of the total liabilities, while federal funds purchased and securities sold under the agreement to repurchase are close to 4%. Equity capital is not higher than 11.5% of total

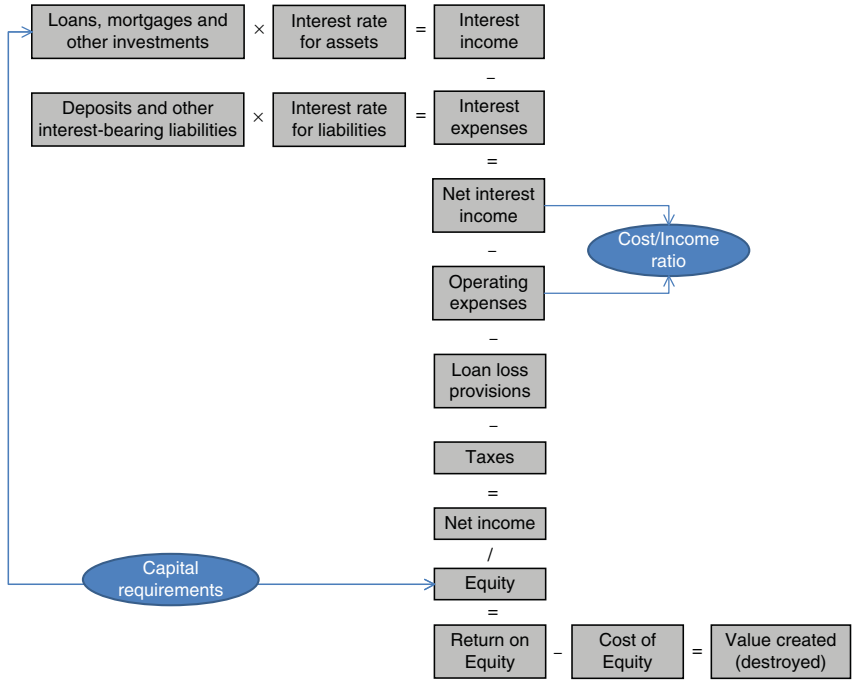

Figure 1.2 The determinants of retail banking profitability

funding. We will discuss the structure of bank financial statements in detail in the next chapter.

1.3 INVESTMENT BANKS

> We are investment bankers, not commercial bankers, which means that we underwrite to distribute, not to put a loan on our balance sheet.
>
> *Matt Harris, Managing Director, Chase Securities*

At the bare minimum, investment banking involves helping corporations and governments to raise debt and equity securities in the market. Despite recent criticism, from an historical perspective, the financial intermediation role of investment banks has been crucial to the development of most developed countries' financial systems and economies. All large corporations have always relied on those organizations in order to find investors and, therefore, continue their "expansion". Investment banking activities range from the origination to the underwriting and placement of the issued securities. With the term *underwriting*, we refer to the practice of *purchasing securities from the issuer and then selling them in the market* (underwrite to distribute). When issuing securities, investment banks usually

Table 1.2 Balance Sheet for all FDIC-Insured Commercial Banks (in $000s)

Total assets	$13 390 970
Net loans and leases of which:	51.50%
Loans secured by real estate	*26.99%*
Commercial & industrial loans	*10.84%*
Loans to individuals	*9.22%*
Farm loans	*0.48%*
Other loans & leases	*5.11%*
Less: Unearned income	*0.01%*
Less: Reserve for losses	*1.14%*
Securities	20.54%
Other real estate owned	0.26%
Goodwill and other intangibles	2.62%
All other assets	25.08%

Total liabilities and capital	$13 390 970
Non-interest-bearing deposits	19.23%
Interest-bearing deposits	55.55%
Other borrowed funds	9.04%
Subordinated debt	0.88%
All other liabilities	4.08%
Equity capital	11.22%
Off-balance-sheet derivatives	*16.73x*

Source: Federal Deposit Insurance Corporation (www.fdic.gov), as of Dec. 2012.

distinguish between best effort practice and firm commitment. With firm commitment, investment banks underwrite the issuance, thus guaranteeing the full proceeds to the issuer regardless of the actual demand (the service so conceived tends to be very expensive for issuers). In case of best efforts, banks simply put these into selling the securities, not underwriting the issuance, so with no money commitment, which implies less risk for the bank and a lesser fee for issuing clients.

Investment banks are also involved in the stages following placement, which supports these securities in the secondary market through brokerage or dealing services and/or market making. Finally, the other two main activities of investment banks consist of advising their customers during M&A (mergers and acquisitions) transactions and corporate restructurings (not just liquidation) in exchange for a fee. Such services clearly do not involve any Balance Sheet commitment for the bank, unless some form of direct financing is attached to the transaction. Investment banks also usually engage in proprietary trading (also known as "prop trading"), which consists of systematic trading activities in stocks, bonds, currencies,

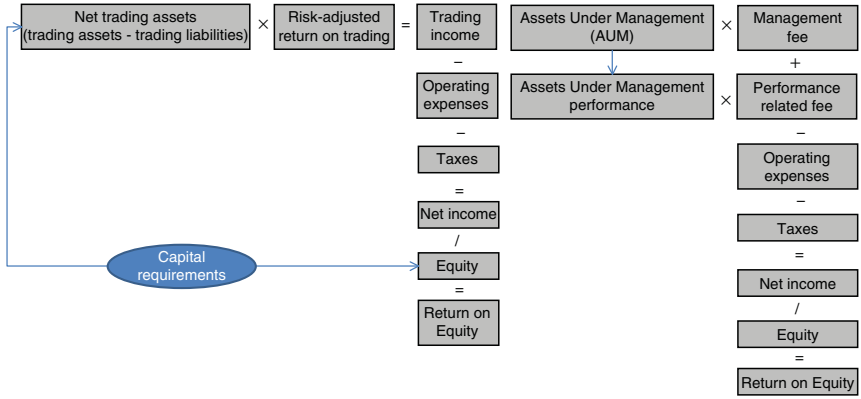

Figure 1.3 The determinants of profitability in asset management and trading

commodities, their derivatives, or other financial instruments. With proprietary trading, the firm's own money, as opposed to its customers' money, is invested and exposed to market related risks. The profitability of such activities depends therefore, not just on their return, but also on the level of risk associated with the trades (see Figure 1.3) as well as asset management of various securities (shares, bonds, and other financial instruments) and assets (e.g., real estate) in order to meet specified investment goals for the benefit of the investors. Usually the fees for asset management mandates are partly related to the volumes of managed assets and partly to the actual performance of the assets themselves (Figure 1.3).

1.3.1 Structure of the US Banking Industry

By segmenting the industry in few categories of investment banks, which differ from each other in size and shape, we can neatly distinguish between boutiques, regional, sub-majors, major, and bulge bracket firms. The distinguishing characteristic does not depend simply on the geographical scope or number of employees. Bulge bracket firms are the largest global and most profitable investment banks. They are referred to as the *bulge bracket* because of the tendency for these companies to be reported in large and bold characters in "tombstones" (written announcements placed during a security offering). Major and sub-major bracket banks are second and third tier banks, respectively, while regional banks are usually smaller institutions with operations limited to specific regions. Boutique firms, as opposed to one-stop shops (that offer the entire spectrum of investment banking services), are very specialized in terms of services provided (so, as they affirm, "avoiding the conflicts of interests naturally arising in larger firms") and/or geographic area.

1.3.2 Typical Balance Sheet for an Investment Bank

As an example of the main structure of an investment bank's economics, Table 1.3 shows the balance sheet of Morgan Stanley (as of December 2011). Unlike commercial banks – for which there is a significant investment in assets, typically loans, funded through deposits – investment banks do not require any significant investment in assets to run most operations. Even for securities trading, an activity usually run by investment banks and for corporate finance services, a huge medium-/long-term investment in assets is not necessary. As a consequence, the asset volume is often not an indication of the value of the bank.

Deposits represent a very low portion of total funding (8.76%) compared to standard commercial banks. The bank applied for the BHC status with the FED in the aftermath of Lehman's collapse (2008), but along with Goldman Sachs who made the same move, it essentially remains an investment bank.

For Morgan Stanley, the major categories of funding are represented by long-term borrowings, financial instruments sold and not yet purchased, securities sold under agreements to repurchase, and payables representing respectively 24.5, 15.5, 14 and 16.5% of the total funding. Financial instruments sold and not yet purchased are, generally speaking, securities involved in transactions where the bank borrowed those securities in order to sell them and the position has not been covered yet: they represent obligations for the seller. This category, together with the "securities sold under repurchase agreement", has always connoted the privileged source of funding in the investment banking business model. With the term payables (receivables), we are generally referring to payables to (receivables from) brokers, dealers, and clearing organizations. They include amounts payable (receivable) for securities not received (delivered) by Morgan Stanley by the settlement date ("fails to deliver"), payables to clearing organizations (margin deposits), commissions, and net receivables/payables arising from unsettled trades.

On the asset side, securities purchased under agreement to resell represent a relevant asset for Morgan Stanley and is a feature shared with other investment banking players. The last point we would like to stress, as far as an investment bank Balance Sheet is concerned, is that securities borrowed or loaned require the two parties (lender and borrower) to exchange securities with an amount of cash collateral. The amount of cash advanced or received is recorded as securities borrowed and securities loaned, respectively. Finally, "other assets" for an investment bank generally means a portion of prepaid expense.

Interest Income and *Interest Expense* in the Income Statement (Table 1.4) are constituted by interest earnings and expenses deriving from financial instruments owned and financial instruments sold, not yet purchased, securities available for sale, securities borrowed or purchased under agreements to resell, securities loaned or sold under agreements to repurchase, loans, deposits, commercial paper, and other short-term and long-term borrowings. The major expenses in an investment

Table 1.3 Morgan Stanley's 2011 Balance Sheet (in $ M)

Assets		Liabilities and Equity	
Cash and due from banks (including interest bearing deposits and cash deposited with clearing organization)	76 766	Deposits	65 662
		Commercial paper and other short-term borrowings	2843
Financial instruments owned, at fair value:			
US Government and agency securities	63 449	Total Financial instruments sold, not yet purchased, at fair value	116 147
Other sovereign government obligations	29 059		
Corporate and other debt	68 923	Obligation to return securities received as collateral, at fair value	15 394
Corporate equities	47 966		
Derivative and other contracts	48 064	Securities sold under agreements to repurchase	104 800
Investments	8195		
Physical commodities	9697	Securities loaned	30 462
Total Financial instruments owned, at fair value	275 353		
		Other secured financings	20 719
Securities available for sale, at fair value	30 495		
Securities received as collateral, at fair value	11 651	Payables (to customers, brokers, interest and dividends)	123 615
Federal funds sold and securities purchased under agreements to resell	130 155		
Securities borrowed	127 074	Other liabilities and accrued expenses	15 944
Receivables (from customers, brokers, fees, others)	48 669		
Loans	15 369	Long-term borrowings	184 234
Other investments	4832		
Premises, equipment and software costs	6457	Total liabilities	679 820
Goodwill	6686		
Intangible assets	4285	Total equity	70 078
Other assets	12 106		
TOTAL	749 898	TOTAL LIABILITIES AND EQUITY	749 898

Source: Morgan Stanley, December 2011.

Table 1.4 Morgan Stanley's Consolidated Statement of Income (in $ M)

Consolidated Statements of Income	
Investment banking	4991
Trading	12 392
Investments	573
Commissions and fees	5379
Asset management, distribution and administration fees	8502
Other	209
Total non-interest revenues	32 046
Interest income	7264
Interest expense	6907
Net interest	357
Non-interest expenses:	
Compensation and benefits	16 403
Occupancy and equipment	1564
Brokerage, clearing and exchange fees	1652
Information processing and communications	1815
Marketing and business development	602
Professional services	1803
Other	2450
Total non-interest expenses	26 289
Income from continuing operations before income taxes	6614

Source: Morgan Stanley, December 2011

bank are due to compensation and benefits to employees: human capital, in fact, is assumed to be the key success factor in the industry.

1.3.3 The Banking Industry outside the US

The strong development of the US economy and financial system has, over time, conferred global primacy to the US banking industry, and especially the US investment banking sector. To date, Europe is second to the US in terms of banking industry development. Similar to the US, most of the financial assets in Europe are concentrated in the hands of the few largest players. The segmentation provided by the European Central Bank (ECB) is similar from the point of view of the items recorded but differs regarding size ranges for categorizing banks (Figure 1.4).

Banks with more than 0.5% of the total European consolidated banking assets are considered large, those ones with assets ranging between 0.5 and 0.005% are defined medium, and those with assets lower than 0.005% of total consolidated assets are considered small. In terms of concentration, 14.33% of the banks hold 97.1% of total assets held by European domestic banks, and just the top 1% of banks control 74.28% of total assets.

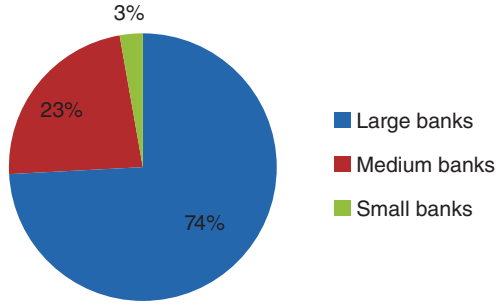

Figure 1.4 Structure of European banking business by assets
Source: European Central Bank, June 2012, www.ecb.int/stats

Consolidated Balance Sheet data for European commercial banks is not available, because six countries (including Germany and the UK), still apply local Generally Accepted Accounting Principles (GAAP) instead of International Financial Reporting Standards (IFRS). Since IFRS and local GAAP differ substantially, the aggregation of IFRS and non-IFRS data would prove meaningless in some cases. This element already signals some difficulties faced by analysts who have to deal with relative valuation of banks that use different accounting principles.

Just as a rough indication of the values at play in the European financial system, loans represent about 56% of the total assets, debt instruments (which for the most part are governmental debt securities) about 15%, while equity is circa 5% of total assets (Table 1.5). In Chapter 4 we will further elaborate on the regulatory capital requirements in the US and Europe, and on why European banks apparently look relatively undercapitalized.

As it happens, in other industries globalization is opening up the financial services markets and new players are emerging challenging the secular leadership

Table 1.5 The European Banking assets

Assets IFRS and Non-IFRS reporting banks	In € B	Liabilities IFRS and Non-IFRS reporting banks	In € B
Total loans and advances	20 053	Total deposits from credit institutions	3 348
Total debt instruments	522	Total deposits (other than from credit institutions)	14 154
Total equity instruments	558	Total debt certificates (including bonds)	6050
		Total liabilities	34 107
Total assets	35 901	Total equity	1793

Table 1.6 The largest Chinese and Japanese banks

Institution name	Total assets ($ M)
Industrial & Commercial Bank of China (ICBC)	2 822 334
Mitsubishi UFJ Financial Group	2 382 911
China Construction Bank Corporation	2 248 062
Agricultural Bank of China	2 130 857
Japan Post Bank	2 104 219
Bank of China	2 040 160
Mizuho Financial Group	1 820 416
Sumitomo Mitsui Financial Group	1 518 478

Source: data from original financial statements. Exchange rates as of March 29, 2013.

of US and European banks. In Asia, for example, along with the leading Japanese financial institutions, four Chinese banks have assets worth more than $2 trillion (Table 1.6). However, the new emerging banking groups have so far adopted the same business models as Western banks. Therefore, the valuation frameworks presented in the next chapters easily apply to banks outside the US and Europe.