Corporate and Investment Banking

Unit 1 The Role of Banks in Corporate Business

Contents

Unit Overview

Unit 1 identifies the differences between corporate and investment banking (CIB) and other areas of the banking business. It will consider a basic definition of banking, and then provide a clear outline of banking businesses, highlighting elements of CIB, and stressing the similarities and differences between various business models in banking.

In addition, the unit examines CIB from the point of view of commercial non-financial companies. By examining how non-financial firms operate we can identify their requirements concerning finance, advice and guidance, and therefore we can better understand the demand for the services provided by corporate and investment banks. The analysis stresses the differences between economic needs and financial needs, and introduces key concepts such as fixed capital and working capital. This framework will be helpful for your study of the other units in this module.

Learning outcomes

When you have completed your study of this unit and its readings, you will be able to:

- recognise and explain the differences between corporate and investment banking and other areas of banking
- examine the origin of the financial requirements of companies, and how this relates to the demand for corporate and investment banking services
- explain the role of banks in supporting non-financial firms.

Reading for Unit 1

Arnold G (2014) Chapter 1 'What is banking?' and Chapter 2 'An overview of different aspects of banking'. *The Financial Times Guide to Banking*. Harlow UK, Pearson Education Ltd. pp. 3–21 and 22–27.

McMillan R (2016) 'Apple pins hopes on iPhone 7 as profit, revenue decline'. *Wall Street Journal*, Updated October 25.

You will also access the websites of various corporate and investment banks, and analyse financial reports for a bank and a non-bank company. Details are provided in the unit.

1.1 Introduction

In this introduction we will briefly set out what we mean by the various business models appropriate to banking, including retail banking, commercial banking, investment banking, and universal banking, and we will define what is meant by corporate and investment banking. We will also consider the sources of demand for the services of corporate and investment banks, and place this module in context.

1.1.1 Corporate and investment banking

Corporate and investment banking (CIB) is one of the main areas of business in banking. What makes CIB different from other areas of banking are the clients and the size of the transactions. CIB offers financial solutions to large companies and to high net-worth individuals dealing with large transactions. In contrast, we can consider retail banking (RB), where the typical customers are families and small firms, and the size of transactions are much smaller than those undertaken in CIB. The distinction between CIB and RB becomes even more evident if we refer to the transaction size aspect of CIB as 'wholesale banking' (WB). Wholesale banking itself does not differ from CIB, because it involves the same set of financial services and the same target customers, but the word 'wholesale' stresses the contrast with 'retail' banking, referring to the different sizes of the transactions.

The distinction between wholesale and retail banking is not the only one in banking. If we separate investment banking from corporate banking (CB), and combine CB with retail banking, we call this particular aggregate 'Commercial banking'. If we make this separation, we can see that investment banking will focus on market activities (*eg* security trading, brokerage, *etc*) and providing financial advice (*eg* initial public offerings, risk management, *etc*); and then corporate banking refers to addressing the financial needs of large companies (*eg* foreign exchange risk management, overseas trades, *etc*).

The rationale behind the inclusion of corporate banking and retail banking in the one category of bank is to be able to offer (in both cases) financial services relating to the basics of the banking business: deposit-taking, lending, and money management facilities. Clients need the facility to save (*eg* make deposits), to borrow (*eg* take out loans) and to facilitate payments (*eg* cheques, bank transfer, *etc*), and this exists whether it is corporate banking or retail banking (which together represent commercial banking). The word 'commercial' reminds us that the essential aspect of this area of banking is related to the trade or the 'commerce' of money (*eg* to take in money in the form of deposits, to make money available in the form of lending, and to transfer money using the various payment mechanisms).

To recap and summarise, the banking industry involves:

- retail banks, which deal with families and small firms
- corporate banks, which work with large companies

- investment banks, which offer financial advice and financial services, and intermediate between companies and financial markets.

Please take a moment to consider this distinction between corporate banks and investment banks. In most cases the same financial institution will be active in both of these two areas of banking. In which case we can consider corporate and investment banking as a single and distinctive area of banking business.

Finally, we also need to consider what is termed 'universal banking'. Diversification of operations can bring benefits to a bank, and universal banks have developed to take advantage of this. Within this business model the same financial institution is active at the same time in all the areas of banking (retail, commercial and investment banking).

1.1.2 The demand for corporate and investment banking services

In this module you will build up an understanding of the financial products and services that corporate and investment banks develop and provide. To do this, we will start from an analysis of the financial needs of the companies that are the banks' clients. Corporate and investment banks are called upon to support companies in their operation and business, so a bank cannot ignore how a client's business functions. It is from this knowledge that a bank has the chance to develop financial products and services that fit well with the financial needs of each company. If you also keep in mind that the performance and success of a bank depends on the quality of its financial products and services, then you can see why we need to examine banking from the point of view of the companies who use those services.

Later in this unit you will observe how the production cycle of a commercial company tends to generate financial needs (*eg* capital raising, payments, *etc*). You will also differentiate between the economic needs and financial needs of companies. To understand the differences between various financial products commonly used in CIB, you will learn about the importance of fixed capital and working capital. You will analyse these financial products in the following units of the module.

1.1.3 Corporate and investment banking and the economy

Of course, when we analyse CIB from the perspective of firms, we cannot ignore the banks' point of view, and that will be part of the explanation. In fact, analysing CIB from the firms' side gives us the chance to assess the role of banks in the financial system from a broader perspective than if we analysed that role from the banks' side only. In this way you will see how banks, as part of the financial system, support the economic development of a country, by providing financial solutions that satisfy the needs of economic agents such as companies and governments.

However, you should be aware it is possible to examine the role of banks from a variety of other perspectives. Banks also have a macroeconomic role. They match the supply and demand for loanable funds (saving and invest-

ments). Banks also enable the monetary policy transmission mechanism to operate, so that policy changes made by the central bank and monetary authorities can be transmitted through money markets, short- and long-term interest rates, and can ultimately influence the decisions made by companies and households. And banks have a microeconomic role, overcoming information asymmetries between those who want to borrow funds to invest and those lending the funds: without banks to act as intermediaries, the contractual environment in which borrowers and lenders operate may be less efficient due to agency problems, where the interests of the borrowers and lenders are not aligned. Other CeFiMS modules provide the opportunity to study the macroeconomic role and the microeconomic role of banks.

According to this setting, the rest of the unit is structured as follows. The next section asks the question, what is banking? You will then analyse the different areas of banking and the different banking models; and you will study the core elements of CIB that make it different from other areas of banking. You will analyse the demand for CIB services by studying the functioning of commercial business. This will require you to explore the parts of a business from which the demand originates for finance and financial services, and we will propose a classification of these requirements.

1.2 What is Banking?

In order to understand how banks can support companies in their businesses, it is essential to have a clear understanding of the banking business model and the differences between different kinds of banks. As you saw in the introduction of this unit, banks can be categorised in different ways. We can refer to a bank as a retail bank, a wholesale bank, a commercial bank, an investment bank, a universal bank, *etc*. Even if all of them are known as 'banks', what they do can be extremely different, so we have to start from a clear definition of banking. After we have stressed the core concepts of banking, we will be able to analyse the different kinds of banks and understand what role these banks can play in supporting a company, with particular reference to corporate and investment banks. We can refer to banking as *the business conducted or services offered by a bank* (Oxford Dictionary, 2016), or *the business of operating a bank* (Cambridge Dictionary, 2016).

These quite simple and short definitions highlight how the banking business is related to banks, but do not provide additional information about the specific operations of banking. The reason behind these general definitions is that a bank can be involved in a wide range of different activities that, even if they are all related to money, cannot be summarised in a single comprehensive definition.

What banks do nowadays is the result of an evolution of the banking business over centuries, where banks evolved following the changing economic needs of individuals, firms, governments and other economic agents. The following reading 'What is banking?' describes the role of banking in sup-

porting the functioning of the economic system. The chapter from Arnold (2014) stresses how banks are necessary in a modern society, and how the banking business evolved from a pure monetary business, where people deposit their money in order to keep it safe, to a business that includes lending and investing, where financial intermediaries increase the efficiency of the financial system.

You will already be familiar with one or more banks, as a user of retail banking services, or as part of your work, and you will already have an idea of the kind of services banks provide. However, to fully understand the role of banks, and in particular corporate and investment banks, it will be useful to begin by studying the core principles and development of banking, which are presented in this reading.

Reading 1.1

Please read Chapter 1, 'What is banking?' in Arnold (2014), *The Financial Times Guide to Banking*, pages 3–21.

Arnold (2014) Chapter 1 'What is banking?' in *The Financial Times Guide to Banking*. pp. 3–21.

As you have seen in the reading, banks became established to provide money storage services, so that people could deposit their coins in a bank to avoid the risk of theft. From this, banking developed with the issue of paper notes, which represented the value deposited in the bank. This evolution continued with lending services: banks expect only a small part of deposits will be required by clients at any point in time, so banks lend money from the deposits, using the stock of money to generate additional income. In their lending operations, banks have some objective advantages, compared to a situation where savers lend directly to people who would like to borrow money. If savers attempt to lend directly, and look for a direct counterparty who requires a loan, there are search costs, agreement costs, and monitoring costs. Savers avoid these costs if they deposit their money with a bank.

You have also read how banks and other financial intermediaries are able to match the preferences of primary investors (who require high liquidity, low risk, and transact in small amounts), with the preferences of borrowers (loans for business have low liquidity, high risk and usually involve large amounts). Banks are able to provide this transformation of maturity, risk, and volume.

Review Question 1.1

One of the additional arguments that supports the role of banking is the opportunity for banks to achieve economies of scale. Can you summarise in a brief statement what kind of economies of scale exist in banking?

In this section you have seen how banks represent an essential and useful part of the financial system: banks allow depositors to (indirectly) invest their savings, and banks facilitate those who want to borrow to find a

counterparty, either indirectly through the process of intermediation and transformation, or directly via brokerage. In the next section you will analyse the differences between the various bank business models, and categorise banks so that you can focus on corporate and investment banking.

1.3 Retail Banking, Corporate Banking and Investment Banking

This section will define the areas of activity associated with the three bank business models: retail banking, corporate banking, and investment banking. You will also examine a number of banks and assess which banking model most closely applies in each case.

1.3.1 Defining retail, corporate, and investment banking

The core of banking business is the holding of deposits and using these deposits for issuing loans. These two activities, together with the provision of payment facilities, represent the essence of any retail bank.

Definition 1.1

Retail banking is the complex of banking activities related to retail customers (*eg* individuals, families and small businesses). It is mainly concerned with matching between the fundraising of the bank, taking (small) deposits from the public, and the issue of (small) credit items to households and small businesses.

In fact, the basic financial requirements of individuals and households can be summarised as the need for payments, and the need for saving and borrowing products, which typically concern retail banking. Of course, these products and services are also of relevance for companies. However, we need to differentiate between how and why these services are provided to companies and how they are provided in the retail bank setting.

In corporate banking the financial issues that a bank is required to address include cash management, syndicate lending, and risk management.

Definition 1.2

Corporate banking is the part of banking that deals with corporate customers and includes activities such as money management, national and international trade finance, and risk management.

These services are related to the requirement of corporations to handle incoming and outgoing cash flows that are more complex than those experienced by individuals. In addition, companies that operate in different countries need to deal with the risk that comes from trading in different currencies, and companies need to take financial positions that expose them to interest rate risks.

You will examine these aspects in later units, and also syndicate lending, where groups of banks come together to finance large investment projects.

Definition 1.3

Investment banking is a type of banking in which the banks assist companies in raising capital (debt or equity), guiding them in the process of mergers and acquisitions, and providing risk management solutions.

Investment banking also involves market activities (*eg* trading in securities markets, initial public offerings (IPOs), *etc*), wealth management, and financial advice services.

In the case of investment banking, the financial needs that are being addressed are not related to the daily operations of a company; they are connected with strategic decisions such as the issuance of securities (*eg* stocks and bonds), mergers and acquisitions, and other financial advice services. In addition, investment banking can include market activities such as proprietary trading in stocks, bonds and derivatives; wealth management services; and private banking.

You may have noticed some overlap between these definitions in relation to risk management. Risk management within corporate banking concerns how companies manage the risks associated with their operations. Within investment banking, risk management would be more closely related to the strategic financial aspects of corporations. In practice, risk management in both of these contexts could require the same set of risk management tools.

A brief analysis of these three areas of banking business is provided in the following reading from Arnold (2014).

Reading 1.2

Please now read Chapter 2, 'An overview of different aspects of banking' in *The Financial Times Guide to Banking* by Glen Arnold, pages 22–27.

As you read this chapter, please pay attention to the differences between retail banking and corporate and investment banking, and the concept of 'universal banking'.

Arnold (2014) Chapter 2 'An overview of different aspects of banking' in *The Financial Times Guide to Banking*. pp. 22–27.

The evolution of financial systems tends to swing from one extreme to the other in relation to banking models. In some periods banks have tended to specialise their business in single areas. So, banks might adopt banking models and organisational structures where retail banking is completely separate from corporate and investment banking. In other periods, banks might be more likely to adopt a universal banking model, where large holding companies host different banks in order to be active in retail and wholesale banking. Preferences regarding banking models in a financial system can be driven by regulation. As you have seen in the reading, the so-called 'Volcker rule', 'ring-fence', and capital requirements, can have the effect of pushing the system to separate retail from wholesale banking, and, in effect, to ban universal banking. This followed a period when regulators

were more flexible and more likely to accept a banking model oriented towards universal banking.

Review Question 1.2

What is your opinion concerning the role of globalisation in shaping the evolution of corporate and investment banking? Do you think that globalisation will increase or decrease the decay of the universal banking model?

1.3.2 Bank business models

Given the broad definitions of the types of activity associated with the various bank business models, you can now examine a number of banks and decide which of the business models apply, retail, corporate, investment or universal?

Deutsche Bank

We will first consider Deutsche Bank.

Exercise 1.1

Please examine the Deutsche Bank website (https://www.db.com) and visit the section 'Company'. Read the presentation of the company and analyse their areas of business.

From the description of the areas of business in which Deutsche Bank operates, the picture that emerges is of a bank that is active in a wide range of areas: from corporate and investment banking (corporate finance, cash management, securities services) to asset management (from mutual funds to customised portfolios), including private banking and wealth management.

JP Morgan Chase & Co

The next example we will consider is JP Morgan Chase & Co.

Exercise 1.2

Please now examine the website of JP Morgan Chase & Co. at https://jpmorganchase.com/

You can find information about the bank's activities in the section 'About us', and you can also follow the links to https://www.jpmorgan.com/ and https://www.chase.com/

Visiting the jpmorganchase.com website you will find reference to their diversified business, which includes consumers, small businesses, big corporations, institutional investors and governments around the world. However, you may also have noticed the differentiation between the retail business (families and small businesses) and the wholesale business (large companies, and governments). This is the distinction we made earlier in this unit. This is more evident if you examine the separate websites for jpmorgan.com (the wholesale business) and for chase.com (widely present in retail banking in the US). JP Morgan Chase & Co. was formed in 2000, when Chase Manhattan

Corporation merged with JP Morgan & Co. The merger created a single holding company, in which the retail and wholesale business remain separate. We could consider JP Morgan & Chase Co as an example of a universal bank.

Goldman Sachs

The third financial institution we will examine is Goldman Sachs.

Exercise 1.3

Please now examine the website of Goldman Sachs, https://www.goldmansachs.com/.

You will find an introduction to the activities of the bank in the section 'What we do'.

Did you find any content concerning retail banking on the Goldman Sachs website? Goldman Sachs is purely oriented towards investment banking. You can confirm this by examining the statement of earnings for the bank, and assessing what proportion of the bank's revenues are labelled 'Investment banking' or derive from activities that we have included in our definition of investment banking.

Exercise 1.4

Please obtain the latest Quarterly Report (Form 10-Q) for Goldman Sachs, and examine the Condensed Consolidated Statements of Earnings, which is the first statement in the section 'Item 1 Financial Statements (Unaudited)'. The report can be obtained from https://www.goldmansachs.com/investor-relations/financials/

Investment banking worldwide

Finally, in this section it will be useful to obtain a picture of the extent and range of investment banking activities around the world. The *Wall Street Journal* 'Investment Banking Scorecard' offers an outstanding and clear view of investment banking around the world, by comparing the performances of the top investment banks in different areas of business. The Scorecard also includes a timetable of the biggest deals on a global scale (*eg* the top ten acquisitions in the year, or the top ten IPOs).

Exercise 1.5

Please visit the WSJ Investment Banking Scorecard website: http://graphics.wsj.com/investment-banking-scorecard/

You can use the Investment Banking Scorecard to identify the significance of the different areas of business for the various investment banks. The global figures are presented, and for some of the indicators you can also get a regional ranking of investment banks.

For example, you probably noted how the top brands such as JP Morgan, Goldman Sachs and Morgan Stanley are present in most of the areas of investment banking, while other banks are more active in some parts of the investment banking business than others (*eg* Lazard in M&A, Nomura in IPOs, BNP-Paribas in Debt Capital Markets, *etc*). This is evidence of how the

investment banks follow different business strategies in the way they approach financial markets.

1.4 The Demand for Corporate and Investment Banking

So far in this unit you have studied the distinction between retail banking and wholesale banking, and you have examined the difference between corporate banking and investment banking. You are now in a position to consider the other side of the market, and to analyse the financial requirements of companies, and how these needs represent the demand for the services provided by corporate and investment banks. If you have knowledge of the functioning of non-financial firms, and know how the financial requirements of corporations originate, then you will be able to better understand how corporate and investment banks function. You can also assess the quality of a bank's strategy in relation to this business.

Let us now examine the role of money and finance in a non-financial company, and how money and finance relate to the core business of a non-financial company.

The ultimate objective of a firm is to make profit, and to create value. Investors who buy company stocks, shares and bonds invest their money with the aim of making a profit. From a cash perspective the investors look at a company as a financial investment: they invest an amount of money, and they have an expectation that the money will be paid back at a future date, with a positive return (*eg* capital gains, dividends, interest, *etc*). From a company point of view, money represents a tool to do business, because money is essential to start or renew the production process. If we look at the business of a commercial or industrial firm, the evidence that money is instrumental for the core business is even more evident. Money and finance are not part of the core business, but they are pivotal for the successful operation of a company.

Review Question 1.3

Please take a moment to reflect on this, and to make sure you understand how finance, although essential to the setting-up and successful operation of company, is, nevertheless, not the core business of a non-financial company.

To demonstrate this point, we can look at the functioning of a large non-financial company. For this unit we have chosen Apple Inc.

Study Note 1.1

In this section you will examine the financial statements of Apple, comprising the income statement, statement of cash flow, and balance sheet. The point of considering these statements is for you to develop an understanding of the types of decisions made by companies, both economic and financial, and the related demand for the services of

corporate and investment banks that these decisions imply. You are not expected to undertake a detailed financial assessment of the company.

Apple Inc.

Apple Inc. (or simply 'Apple') is a world-leading company in the consumer technology business. Its business includes cell phones, laptop and desktop computers, digital audio devices, digital contents distribution, *etc*.

The decisions about what kind of products to develop, what features the products should have (*eg* fashion design, usability, *etc*), and the pricing of the products, represent 'economic' decisions. Decisions about how to find the money needed to do business, or what to do with the money generated by the business, are 'financial' decisions. Generally speaking, financial decisions concern every decision that concerns 'cash flows', defined as the amounts of cash moving into and out of a business. To understand the extent to which economic and financial decisions represent different issues, we will take a look at the Apple accounting reports.

Exercise 1.6

Please access the latest income statement and statement of cash flow for Apple. You can obtain the income statement at nasdaq.com/symbol/aapl/financials?query=income-statement and you can access the statement of cash flows at nasdaq.com/symbol/aapl/financials?query=cash-flow. Alternatively, you can access Apple's Form 10-K at investor.apple.com/investor-relations/financial-information/.

Please examine the figures for annual gross profit, net income and final cash flow of the company. Is there a direct and close relation between the figures for gross profit and net income on the income statement, and final cash flow?

To take one year as an example, for the 2015–16 reporting period, the company had outstanding business results, with business gross profit equal to $84,263m, and net-income equal to $45,687m, as shown in Table 1.1. At the same time the final cash flow of the company was negative, equal to −$636m, as shown in Table 1.2. Obviously, these figures will change from year to year, but the point to take from this exercise is that there is not necessarily a direct correlation between business profit and final cash flow.

Table 1.1 Apple Income Statement, 2016 ($million)

Total Revenue	215,639
Cost of Revenue	131,376
Gross Profit	84,263
Operating Expenses	
Research and Development	10,045
Sales, General and Administration	14,194
Operating Income	60,024
Additional income/expense items	1,348

Earnings Before Interest and Tax	61,372
Earnings Before Tax	61,372
Income Tax	15,685
Net Income	**45,687**

Table 1.2 Apple Statement of Cash Flow, 2016 ($million)

Net Income	45,687
Cash Flows-Operating Activities	
Depreciation	10,505
Net Income Adjustments	9,148
Changes in Operating Activities	
Accounts Receivable	1,044
Changes in Inventories	217
Other Operating Activities	1,090
Liabilities	–1,867
Net Cash Flow-Operating	65,824
Cash Flows-Investing Activities	
Capital Expenditures	–12,734
Investments	–32,022
Other Investing Activities	–1,221
Net Cash Flows-Investing	–45,977
Cash Flows-Financing Activities	
Sale and Purchase of Stock	–29,227
Net Borrowings	22,057
Other Financing Activities	–1,570
Net Cash Flows-Financing	–20,483
Effect of Exchange Rate	0
Net Cash Flow	–636

You may notice in Table 1.2 that the net cash flow from financing does not sum correctly. The detail of cash flows related to Apple's 2016 financing activities are shown in Table 1.3 (from Apple's Form 10-K).

Table 1.3 Apple, Cash flow statement – financing activities, 2016 ($million)

Proceeds from issuance of common stock	495
Excess tax benefits from equity awards	407
Payments for taxes related to net share settlement of equity awards	–1,570
Payments for dividends and dividend equivalents	–12,150
Repurchases of common stock	–29,722
Proceeds from issuance of term debt, net	24,954
Repayments of term debt	–2,500
Change in commercial paper, net	–397
Cash used in financing activities	–20,483

The apparent contradiction between a positive business result (profit) and what seems to be a negative financial result (negative net cash flow) is a good example of how economic and financial issues in a non-financial company represent different aspects of the business.

Definition 1.4

Economic decisions of a commercial company concern how to use the available resources and how to find the new resources necessary for the functioning of the core business.

In the case of Apple, an economic decision could be one concerning how many people should work in the research-and-development department in order to create new products, and how many should work on sales-and-marketing. Another example of an economic decision could be whether to invest resources and energy in opening new Apples stores, or in a more powerful online-platform and more efficient logistic services that would allow customers to buy online and receive their products at home, making everything easier and faster. The 'make or buy' choice is also an economic decision *ie* whether to outsource the assembly and the manufacture of hardware components.

In the following reading from the *Wall Street Journal* the author analyses several economic decisions concerning Apple and the functioning of the company business.

Reading 1.3

Please now read the article 'Apple pins hopes on iPhone 7 as profit, revenue decline' by Robert McMillan in the *Wall Street Journal* (updated 25 October 2016).

Please identify which economic decisions are reported.

MacMillan (2016) 'Apple pins hopes on iPhone 7 as profit, revenue decline'. *Wall Street Journal*, Updated 25 October 2016.

As you have seen, there was concern about the high dependence of total revenues on the sale of smart-phones (the iPhone 7). This was addressed by the Apple CEO (Tim Cook) with a diversification strategy based on the sale of online content (*eg* music, movies, *etc*) by Apple Music, iTunes and the App Store. Another 'economic decision' cited in the article is the automotive business, in which Apple seems to have already invested a considerable amount.

We can now consider financial decisions.

Definition 1.5

Financial decisions of a commercial company concern any decision that involves the use of money.

This might seem like a very obvious thing to say, but, as we have noted above, it is necessary to make this clear distinction between economic decisions and financial decisions. Let us examine this in more detail.

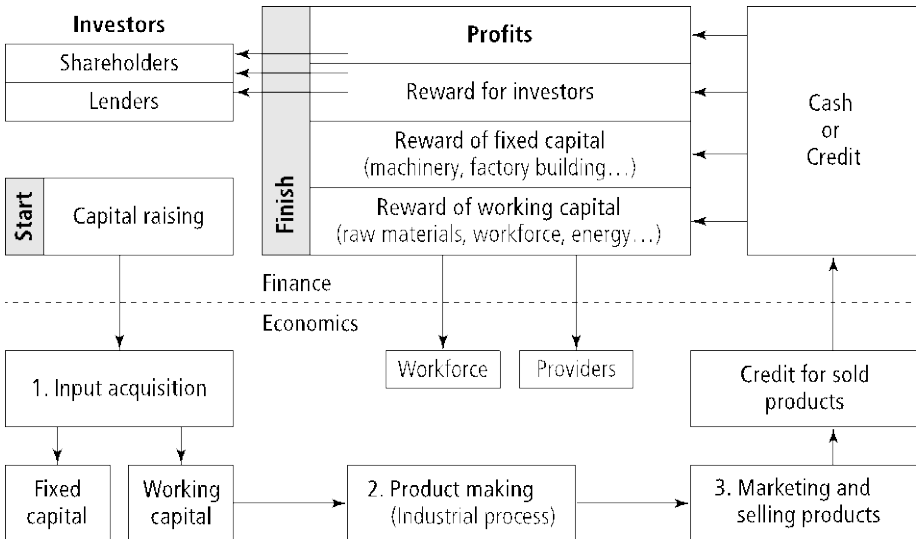
Generally, every economic decision involves one or more financial decisions. Think about the decision to increase the number of Apple stores in a country, or to open stores in a new country. The need to buy (or rent) a physical location, to set up the store with the appropriate furniture, and to prepare a marketing campaign to support the new opening, all represent an investment of capital that needs to be funded. How should the company finance the new stores? Should Apple:

1. self-finance the new stores by investing money that comes from within the company,
2. finance the new store projects by a bank loan, or
3. finance the project by issuing securities (*eg* bonds)?

As you can see, these options represent a financial decision.

The relationship between Economics and Finance in a non-financial company such as Apple can be summarised in the scheme presented in Figure 1.1. Please take a moment to trace the flow of resources and decision making through the company. You will examine these aspects in more detail below.

Figure 1.1 Economics and finance in doing business



So far in this section we have introduced the distinction between economic decisions and financial decisions, we have analysed the relationship between these two areas of the business, and we have seen how an economic decision is usually related with a financial consequence. If we understand the economic need behind any financial need, then we can develop a good understanding of the origins of the demand by companies for corporate and investment banking.

You will now consider in detail the elements represented in Figure 1.1. You may be familiar with some of these terms already, but it is important that you understand what each of these concepts means, and the significance for a company, its operation, and its financial requirements.

1.4.1 Capital raising

The starting point in the right-hand side of the scheme (Start: Capital raising) stresses how any business requires capital to start. In fact, capital raising represents a first essential financial requirement of a company. A new business, or a business that is growing, requires capital to finance the structure of the company (called 'fixed capital') and to make the company work (working capital).

Definition 1.6

Fixed capital is the capital invested in long-term assets that contribute to the company business for more than a single production process.

Examples of fixed capital are the factory (factory buildings, machinery, *etc*), vehicles (*eg* trucks to deliver the final products, executive and fleet cars, *etc*), and licences (*eg* software patents, and other intangible assets, *etc*). Returning to our example, before a single new product is launched in the market, Apple needs to invest in research and development (R&D) to realise a prototype, test it, fix any bugs, and send the final release of the product to production. The capital invested in R&D becomes part of fixed capital, because the knowledge created by this investment can be used for the production of multiple units of the product.

Review Question 1.4

Look back at the Apple income statement you obtained and identify how much the company invests in R&D.

For example, in 2016 expenditure on R&D was $10,045m. Note that it is a feature of financial reporting that R&D expenditures are expensed when they are incurred, but they ultimately contribute to a fixed asset for the company.

Exercise 1.7

Please access the balance sheet for Apple, at https://www.nasdaq.com/symbol/aapl/financials?query=balance-sheet

How much is reported for fixed assets and intangible assets?

In the 2016 balance sheet, shown in Table 1.4, within Assets, other forms of fixed investment are reported including fixed assets ($27,010m) and intangible assets ($3,206m). Research laboratories, the headquarters building, and production sites directly owned by Apple are other examples of fixed capital, because these are assets that represent the fixed structure of the company, and that can be used in more than a single production process.

Table 1.4 Apple, Balance sheet, 2016 ($millions)

Current Assets	
Cash and Cash Equivalents	20,484
Short-Term Investments	46,671
Net Receivables	29,299
Inventory	2,132
Other Current Assets	8,283
Total Current Assets	**106,869**
Long-Term Assets	
Long-Term Investments	170,430
Fixed Assets	27,010
Goodwill	5,414
Intangible Assets	3,206
Other Assets	8,757
Total Assets	**321,686**
Current Liabilities	
Accounts Payable	59,321
Short-Term Debt / Current Portion of Long-Term Debt	11,605
Other Current Liabilities	8,080
Total Current Liabilities	**79,006**
Long-Term Debt	75,427
Other Liabilities	36,074
Deferred Liability Charges	2,930
Total Liabilities	**193,437**
Stockholder's Equity	
Common Stocks	31,251
Retained Earnings	96,364
Other Equity	634
Total Equity	**128,249**
Total Liabilities and Equity	**321,686**

As you have seen, R&D investments are required to develop new products. Continuing with the Apple example, production of a new cell phone requires the manufacture or purchase of the hardware components (*eg* phone screen, memory, case, *etc*), and the components will be assembled by workers. The money that is invested to make products is called 'working capital'.

Definition 1.7

Working capital is the capital needed by the company to run the production process to manufacture its goods or to provide its services.

Examples of operating costs are the raw materials needed to make the products (hardware and electronic components of a cell phone), labour costs, packaging, and all the other variable inputs required to realise each unit of a product or service.

On the Apple income statement that you have obtained, you can relate the item 'Cost of revenue' to the concept of working capital. For 2016 the cost of revenue was equal to $131,376m. These are the reported costs associated with producing the reported revenues. We can think of the cost of revenues as a flow measure of working capital used over a period of time (one year). We can also think of a stock or level of working capital, observed at one point of time. This would be reported on the balance sheet as current assets less current liabilities.

Review Question 1.5

Please look back to the balance sheet of Apple in Table 1.4.

On the asset side of the balance sheet, what are the values for Net receivables and Inventory?

For 2016 reported Net receivables for Apple were $29,299m, and Inventory was ($2,132m). Both these items can be included in working capital, as we have defined it above.

Working capital also generates a financial need for funding that has to be covered, just like fixed capital. And in the same way, the financial decision about the required funding requires the company to choose between internal funding (self-financing options) or external funding, using debt (*eg* bank loans, commercial credit, bonds, *etc*) or equity.

Looking back at Figure 1.1 and our analysis, we can conclude that a company needs to fund working capital and fixed capital to support the operation of the company, and the company can do this by raising capital:

- Capital raising is one of the areas of business in corporate and investment banking.

A corporate and investment bank can support a company as a financial advisor, analysing the available options (self-financing, debt, equity, *etc*); and by providing specific products and solutions *eg* issue of bank loans).

1.4.2 Money and financial management

If we look back at Figure 1.1, we can see that capital raising is not the only financial need of a company. When the production process is started, it will go forward with the manufacture and assembly of products; delivery to retail shops (or storage in a storage facility); sale to the customers; and (finally) payment. Payments represent the end of the cycle, when profit (hopefully) is cashed and initial investment is returned. Thinking about Apple, when cell phones, computers and other devices are sold, the cash

flows generated by the business need to be managed. Apple require financial services related to payments, the transfer of money, and other money management services.

- Money management (*eg* payments facilities, money transfers, *etc*) is an area of business in corporate and investment banking.

Money and financial management solutions offered by commercial banks include the management of cross-country payments and multi-currency settlement services. If we analyse again the cash flow statement we can appreciate the role of money and financial management in a company like Apple.

Review Question 1.6

Please look again at the cash flow statement that you obtained for Apple:
https://www.nasdaq.com/symbol/aapl/financials?query=cash-flow

On the cash flow statement, trace the line items below net income, which together determine Apple's available cash flow generated from operations, cash flow used for investment activities, and cash flow from financing activities.

For example, in 2016 Apple generated net income $45,687m, representing potential incoming cash flow from its operations.

Various adjustments are required to compute cash flow available. For example, to calculate net income, depreciation is deducted from revenues. Depreciation is an expense of production, but it does not involve a cash flow. To determine available or gross cash flow, you can see that depreciation expense is added back to Net income. The other adjustments, shown as Changes in Operating Activities, are required to compute a figure for 'available' or free cash flow. For example, investments in invested capital constitute a cash outflow. So, a reduction in inventory levels compared to the previous reporting period represents a positive cash flow. After these adjustments we obtain a figure for net cash flow from operations. For 2016 this figure, $65,824m was higher than net income.

Investments in fixed capital and other non-operating investments involve a cash outflow. For example, for Apple in 2016 the net cash flow from investing was −$45,977m. In addition, the net cash flow from financing was −$20,483. Taken together these items exceed cash flow available from operations, resulting in an overall net cash flow of −$636m.

You should note that Apple is not a typical company in this respect. Significant revenues and net income are earned outside of the US. Like some other US multinationals, these earnings are not always repatriated to the home country, and are invested in short- and medium-term money market instruments outside of the home country.

The 2016 statement of cash flow for Apple reveals a cash outflow related to the sale and purchase of Apple stock. A net $29,277m was, in effect, returned

to Apple shareholders. Against this we can see cash was raised from borrowing equal to $22,057m.

Obviously, these figures for Apple will change from year to year. The point to take from this exercise is that a company's activities generate the demand for corporate and investment banking services, including capital raising and money management. Also, a company may require the services of investment banks to manage some financial transactions that are not directly related to the company's operations, but are used to manage the financial structure of the company, including investments, borrowing, and share repurchases.

Apple is an example of a company that needs to invest money in order to realise products that will be sold on the market. When these products are bought by customers, revenues will be generated, along with the associated payments from customers. Apple will be able to cover its costs, make a profit, and generate a return on the initial investments.

In contrast, there are business sectors where the cash flows related to investments and to customer payment for goods and services occur the other way around. This is the case, for instance, for insurance companies. A company that works in health insurance receives money from its clients (the premiums of the insurance policies) in advance. The company will pay for the medical treatment a client may receive at a future point in time. This business model similarly creates financial requirements. The incoming cash flows from the insurance premiums generate the need for cash management services; the company will need to invest these funds in a variety of assets of suitable liquidity and maturity to match its future obligations; and the company might need to use appropriate risk management instruments to cover its exposures. We will examine risk management more generally in the next section.

1.4.3 Risk management

Please look back at Figure 1.1, the production process scheme, and consider the last part of the cycle. The figure implicitly assumes that the payments from customers are sufficient to cover the costs of production, to make a profit and a return on the initial investment, to repay creditors, and to make dividend payments to shareholders. However, this outcome is not guaranteed. There is uncertainty involved in all stages of the business process.

Review Question 1.7

In relation to Figure 1.1, please make a short list of the types of event that could occur that might reduce the firm's ability to make a profit and repay investors.

You have probably identified many sources of risk in relation to a business, and reasons why the money invested in the business (either for fixed or working capital) will not be recovered. The sources of risk included the following:

- credit risk – a customer does not pay for the product or service received
- price risk – the company is not able to sell the product at a price high enough to make a profit)
- currency risk – exchange rate movements mean revenues denominated in a foreign currency lose value when they are converted to the company's local currency
- interest rate risk – if the company obtained funds by issuing bonds with a variable interest rate, the cost of serving the debt could increase.

You might also have identified these additional sources of risk. The company might not be able to find the financial resources to enable to business to grow. The company might mismanage the available resources, and cannot guarantee the regular functioning of the business. Or the company might be using inappropriate production techniques that are not the most efficient.

- Risk management is an area of business in corporate and investment banking.

Corporate and investment banks can reduce the exposure to these risks, or limit the consequences of these risks, with financial solutions and/or advice.

1.5 Conclusion

In this unit we have set the scene for the rest of the module. You have considered the differences between different kinds of banks, and defined the core areas of business in corporate and investment banking. In later units you will analyse specific areas of corporate and investment banking, exploring the contribution banks make in each role, and assessing how each function affects the performance of a bank.

In addition, you have built on your understanding of the functioning of non-financial firms, and examined how the financial requirements of firms originate. This will increase your understanding of the expectations of companies concerning the supporting role of banks, and how banks help a company to achieve its aims. By analysing the firm point of view, as well as the bank point of view, you have the opportunity to develop a more complete understanding of corporate and investment banking, by referring to the supply side and the demand side of the market.

References

Apple Inc. (2016) *Form 10-K*. United States Securities and Exchange Commission Washington DC, October. Available from: https://investor.apple.com/investor-relations/financial-information/

Arnold G (2014) *The Financial Times Guide to Banking*. Harlow UK: Pearson Education Ltd.

Deutsche Bank (nd) Available from: http://www.db.com

Goldman Sachs (nd) Available from: http://www.goldmansachs.com

Goldman Sachs Group Inc. (2016) *Form 10-Q*. United States Securities and Exchange Commission Washington DC, October. Available from: http://www.goldmansachs.com/investor-relations/financials/

JP Morgan Chase & Co. (nd) Available from: https://www.jpmorganchase.com/, https://www.jpmorgan.com and https://www.chase.com/

McMillan R (2016) 'Apple pins hopes on iPhone 7 as profit, revenue decline'. *Wall Street Journal,* Updated 25 October.

Nasdaq (nd) Available from: http://www.nasdaq.com/

Wall Street Journal (2017) 'Investment banking scorecard'. [Graphic]. Available from: http://graphics.wsj.com/investment-banking-scorecard/