

Financial Institutions, Instruments and Markets

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Instructor's Resource Manual

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CHAPTER 1

A modern financial system: an overview

Chapter Snapshot

Financial institutions, instruments and markets cannot be separated from the ideas that have been developed in financial economics about risk, reward, Supply and demand, arbitrage and the time value of money. Ideas originating in university departments of finance and economics have shaped, and in some cases created, the institutions, instruments and markets that we observe in the world today. Our very observation of them occurs through the lens of modern finance theory.



Master before you move on

LEARNING OBJECTIVE 1.1

Understand the basic frameworks that underlie the facts that characterise financial institutions, financial instruments and financial markets.

- The interconnected global financial system traces its origins to the introduction of money and the development of local markets to trade goods.
- Money is a medium of exchange that facilitates transactions for goods and services.
- With wealth being accumulated in the form of money, specialised markets developed to enable the efficient transfer of funds from savers (surplus entities) to users of funds (deficit entities).
- Financial instruments incorporate attributes of risk, return (yield), liquidity and time-pattern of cash flows. Savers are able to satisfy their own personal preferences by choosing various combinations of these attributes.
- By encouraging savings, and allocating savings to the most efficient users, the financial system has an important role to play in the economic development and growth of a country. The real economy and the financial system are connected.

LEARNING OBJECTIVE 1.2

Explain the functions of a modern financial system and categorise the main types of financial institutions, including depository financial institutions, investment banks, contractual savings institutions, finance companies and unit trusts.

- A financial system encourages accumulated savings that are then available for investment within an economy.

- A modern financial system comprises financial institutions, instruments and markets that provide a wide range of financial products and services.
- A range of different financial institutions has evolved to meet the needs of financial market participants and to support economic growth.
- Depository institutions, such as commercial banks, building societies and credit unions, specialise in gathering savings in the form of deposits and using those funds to provide loans to customers.
- Investment banks tend to specialise in the provision of advisory services to clients (e.g. merger and acquisition advice).
- Contractual savings institutions, such as insurance offices and superannuation funds, enter into contracts in which they receive funds on the undertaking that they will pay a policyholder, or member of a fund, a specified sum when a nominated event occurs.
- Finance companies sell debt instruments directly to surplus entities and then use those funds to provide loans and lease financing to borrowers.
- Unit trusts sell units in a trust. The accumulated funds in the trust are pooled and invested in asset classes specified within the trust deed.
- Commercial banks dominate in terms of their share of the assets of financial institutions.

LEARNING OBJECTIVE 1.3

Define the main classes of financial instruments that are issued into the financial system, that is, equity, debt, hybrids and derivatives.

- Financial instruments are central to any financial relationship between two parties.
- Where the saver acquires an ownership claim on the deficit entity, the financial instrument is referred to as equity.
- Where the relationship is a loan, the financial instrument is referred to as a debt instrument.
- A financial instrument that incorporates the characteristics of both debt and equity is known as a hybrid.

- Another category of instruments is derivatives (futures, forwards, swaps and options). The main use of a derivative is in the management of commodity and financial risks.

LEARNING OBJECTIVE 1.4

Discuss the nature of the flow of funds between savers and borrowers, including primary markets, secondary markets, direct finance and intermediated finance.

- Financial markets and instruments allow borrowers to meet the requirements of the matching principle; that is, short-term assets should be funded by short-term liabilities, and longer-term assets should be funded by longer-term liabilities and equity.
- The markets in which new debt and equity securities are issued are known as primary markets.
- Markets that facilitate the sale of previously issued securities, such as a stock exchange, are called secondary markets.
- By providing a market for the trading of existing securities, secondary markets serve the most important function of adding liquidity to financial instruments.
- Where an active secondary market exists for a financial instrument, the instrument is usually referred to as a security.
- In the primary market, surplus entities may acquire assets directly from the issuer.
- Alternatively, the flow of funds may be through a financial intermediary, in which case the surplus entity establishes a financial relationship with the intermediary rather than with the ultimate borrower.
- Intermediated flows are attractive to many savers since the intermediary provides a range of financial attributes that may not otherwise be available.
- The advantages of financial intermediation include asset transformation, maturity transformation, credit risk diversification and transformation, liquidity transformation and economies of scale.

LEARNING OBJECTIVE 1.5

Distinguish between various financial market structures, including wholesale markets and retail markets, and money markets and capital markets.

- The financial markets are categorised as money markets (short-term securities) and capital markets (longer-term securities).
- Submarkets in the money markets include central bank transactions, the interbank market, the bills market, the commercial paper market, the government securities market and the CD market.
- The capital markets include the equity market, the corporate debt market, the government debt market, the foreign exchange market and the derivatives market.
- Within the money and capital markets there are also the wholesale markets (institutional investors) and the retail markets.

LEARNING OBJECTIVE 1.6

Analyse the flow of funds through the financial system and the economy, and briefly discuss the importance of ‘stability’ in relation to the flow of funds.

- Sectorial flow of funds may be observed within an economy.
- Sectors include the business corporations sector, the financial corporations sector, the government sector, the household sector and the rest-of-the-world sector.
- These sectors may be net surplus sectors (providers of funds) or net deficit sectors (users of funds).
- Factors that affect these sectors are government policy initiatives and economic performance.
- A stable financial system is characterised by the smooth flow of funds between surplus and deficit units.



Questions

Essay questions

Write short essay-type responses to the following questions. Make sure that you are able to explain in your own words the points you raise in relation to each question.

ANSWER

The following suggested answers incorporate the main points that should be recognised by a student. An instructor should advise students of the depth of analysis and discussion that is required for a particular question. For example, an undergraduate student may only be required to briefly introduce points, explain in their own words and provide an example. On the other hand, a post-graduate student may be required to provide much greater depth of analysis and discussion.

I The concepts of risk, reward, supply and demand underlie the complexity of financial instruments. How could we use these concepts, for example, to explain the rate of return expected by a shareholder in Telstra and the price at which Telstra shares change hands on the stock market? (**LO 1.1**)

ANSWER

- The rate of the return that the shareholder expects is a function of risk. Giving due regard to the perceived risk of investing in Telstra, the haggling of the market arrives at a price that reflects a rate of return commensurate with the risk involved.
- If the perceived risk of investing in Telstra was to increase, the rate of return would increase and the share price would fall. The opposite could be expected if perceived risk declined.
- Assessment of risk and the myriad other factors that shape investors' buy and sell decisions are reflected in the supply and demand that is observed on the market. If

demand outweighs supply, the price will increase and vice versa. At the close of business each day, with all trades completed, the market price reflects the balance of supply and demand for Telstra shares.

Section 1.1

2 Describe the flow of funds that characterises any financial system. **(LO 1.1)**

ANSWER

- People, companies, governments or institutions with savings to invest are called surplus units while those entities that seek to borrow funds are called deficit units.
- Savers can invest their surpluses on the financial markets where they are given a range of choices of instruments located up and down the risk-reward trade-off.
- These instruments are essentially legal contracts issued by deficit units that entitle the purchaser to some claim or other. For example, a bond entitles the bondholder to a stream of interest payments + repayment of principal.
- The exchange of savings for financial instruments is a process that is facilitated by the financial markets. The whole activity can be thought of as funds flowing from savers to borrowers. It is summed up by Figure 1.1.

Section 1.1

3 Explain why an investor should consider the time-pattern of cash flows and the variability of the cash flows associated with a multi-period investment rather than simply assessing the investment on the basis of the total cash flows received. **(LO 1.1)**

ANSWER

- The value of an investment today is not assessed simply on the basis of the total cash flows to be received in the future.
- The time pattern of cash flows is important because cash flows that are received sooner are worth more than cash flows that are received later.
- The variability of the cash flows is important because the greater the variability of the cash flows the greater the chance that the actual cash flows will be different

from that which was expected. Variability is a reflection of the risks involved in the investment.

Section 1.1

4 Risk preferences shape the decisions that people and businesses make when under conditions characterised by risk and uncertainty. Outline the three ways in which economists categorise decision makers and explain how each type of decision maker will choose differently when confronted with a risky choice. **(LO 1.2)**

ANSWER

- Economists put decision makers into three categories: risk averse, risk neutral and risk seeking.
- A risk averse individual will not accept a fair gamble and would prefer a certain payoff. In order to entice such a person to invest in more risky assets, those assets must provide a higher expected return.
- A risk neutral individual will be indifferent to a fair gamble. This individual will accept a constant expected return regardless of risk. It is not necessary to offer higher expected returns at higher levels of risk.
- A risk seeking individual desires risk for its own sake. This individual will prefer riskier investments even if they offer a lower expected return. This individual will invest in the most risky investment, which, if the trade-off between risk and reward is positive, will be the asset with the highest expected return.
- More details about how people choose under conditions of risk and uncertainty can be found in Chapter 7 where behavioural finance is discussed.

Section 1.2

5 Identify and discuss three changes in the distribution of assets among the financial institutions that have occurred during the period of the global financial crisis and Australia's recovery from it (2008 to 2018). The information required is presented in

Table 1.1. (LO 1.2)

ANSWER

- The GFC had a significant impact but it did not significantly curtail the growth of assets held by Australia's financial institutions. Indeed, total assets almost doubled during the period (from \$4305 billion to \$7752 billion).
- Not surprisingly, given the nature of the GFC, securitisation vehicles suffered a considerable decline. Such vehicles represented just 1.6% of total assets by 2018, down from about 6% in 2008.
- The recovery of the financial markets following the GFC, along with Australia's high savings rate and compulsory superannuation, saw a significant increase in superannuation fund assets between 2008 and 2018. In fact, they almost tripled in dollar terms
- Although the assets of building societies increased slightly, taken together with credit unions, these two types of institutions continued a long-run trend of accounting for a falling percentage of the total assets held by all financial institutions.

Section 1.2

6 Financial instruments may be categorised as equity, debt or derivatives. Discuss each category. In your answer, make sure you explain the differences between debt, equity and derivatives. **(LO 1.3)**

ANSWER

- A deficit entity is a borrower or user of funds.
- Debt is a loan that must be repaid under the terms and conditions of the loan contract—interest payments, principal repaid.
- The loan contract will specify the timing and amount of cash flows—type and rate of interest, frequency of payments, maturity of loan.
- Equity represents an ownership position—example, a shareholder is a part-owner of the corporation in which shares are held.
- The equity holder is entitled to share in any profits (losses) that are realised.
- Equity has no maturity date—need to sell asset to realise value.
- Derivatives—futures, forwards, options and swaps.

- Derivatives are not used to raise funds, but typically to manage a particular risk exposure—for example, the risk that interest rates might rise on a loan.

Section 1.3

7 During the GFC, the funding of longer-term assets with short-term borrowing was identified as a point of weakness in the operations of financial institutions. Discuss this statement with reference to the matching principle. **(LO 1.4)**

ANSWER

- The matching principle refers to the idea that short term assets should be funded with short term liabilities and longer term assets should be funded with longer term liabilities and equity.
- Many of the notable collapses of financial institutions were characterised, in part, by a failure to adhere to this principle. In a number of cases, notably Bear Sterns, a substantial proportion of longer term assets were funded on very short term liabilities.
- This behaviour ensured that these financial institutions were very vulnerable to a ‘run’ on their short term funding. When counter-parties refused to ‘roll-over’ short term debt facilities, there was not enough equity capital to sustain the operations of the firm and the longer term assets that had been accumulated.

Section 1.4

8 a. What are the differences between primary market and secondary market financial transactions? **(LO 1.4)**

ANSWER

- Primary market transactions relate to the creation of a new financial asset—for example, a company issues new shares or the government issues Treasury bonds; new funds being raised

- Secondary market transactions relate to the sale and transfer of existing financial assets; for example, a shareholder sells their shares to another investor and receives value—transfer of ownership; no new funds raised.

Section 1.4

b. Why is the existence of well-developed secondary markets important to the functioning of the primary markets within the financial system? **(LO 1.4)**

ANSWER

- Primary market transactions provides funds for business development and thus economic growth.
- Investors will purchase primary market securities if they know that there is a deep and liquid secondary market in which they are able to sell the securities at a later date, if necessary.
- Secondary market transactions provide price discovery in that the securities will be sold at the current market value.

Section 1.4

9 Explain the meaning of the terms ‘financial assets’, ‘financial instruments’ and ‘securities’. What is the difference between these terms? Give examples of financial instruments and securities. **(LO1.4)**

ANSWER

- A financial asset represents an entitlement to future cash flows.
- A financial instrument is a financial asset whose value is represented in paper or electronic form; for example, Treasury bond, term deposit.
- A financial security is a financial asset where there is a formal secondary market where the asset may be bought or sold; for example, shares, money market securities such as bills of exchange and commercial paper.

Section 1.4

10 Banks are the major providers of intermediated finance to the household and business sectors of an economy. In carrying out the intermediation process, banks perform a range of important functions. List these functions and discuss their importance for the financial system. **(LO 1.4)**

ANSWER

- Asset transformation—wide range of deposit and lending products
- Maturity transformation—satisfies different time preferences of savers and borrowers
- Credit risk diversification and transformation—credit risk is with the financial intermediary, intermediary diversifies across thousands of borrowers
- Liquidity transformation—satisfies short-term preferences of depositors for access to funds, and longer-term preferences of borrowers for commitment of funds
- Economies of scale—cost efficiencies, standard documentation, technology information and product delivery systems.

Section 1.4

11 ‘The development of domestic capital markets is extremely important for economic growth as they provide the long-term funds necessary for productive investment.’ Discuss this statement using the equity market and the corporate debt market as examples. **(LO 1.5)**

ANSWER

- When companies or entrepreneurs develop new innovations or inventions, capital investment is required in order to bring the new products or services to the marketplace.
- Developed capital markets, efficiently facilitating the flow of funds, ensure that the savings of surplus units accumulate into pools that are sufficiently large to fund this investment.

- Expectations about the return, risk, liquidity and time—pattern of the cash flows associated with new investments can be formed by comparing the investment's potential with alternative investments already available in the marketplace.
- The equity and debt securities of new or existing firms can be sold on the financial markets at a price that reflects the characteristics of the cash flows relative to alternative investments. The sale of these securities allows firms to invest the funds in new projects.

Section 1.4

12 Corporations often issue long-term debt instruments into the international capital markets to raise funds. Explain the relationship between the issue of paper into the international capital markets and the foreign exchange market and the derivatives market. **(LO 1.5)**

ANSWER

- Capital markets such as the corporate bond market and the stock market provide access to longer-term funds—both debt and equity.
- If a borrower raises funds in the international capital markets then these funds may be denominated in a foreign currency. The borrower will typically need to exchange the foreign currency into its local currency using the foreign exchange market.
- An investor that wishes to purchase overseas investments will need to obtain the relevant foreign currency in order to carry out the transaction—this is also done in the f/x market.
- A borrower in the capital markets may be concerned that interest rates will rise and may use a futures contract, a forward rate agreement, an option or a swap transaction to manage that risk exposure—that is, a derivatives market transaction.

Section 1.4

13 Discuss the sectorial flow of funds. In your answer, identify five sectors that are representative of the sectorial flow of funds. Why is an understanding of the sectorial flow of funds important for economic policy determination? (**LO 1.6**)

ANSWER

- The net flow of funds between surplus units and deficit units within economic sectors.
- Domestic economy is typically divided into four sectors:
 - business corporations
 - financial corporations
 - household sector, and
 - government.
- The fifth sector is the rest-of-the-world.
- Sectors may be deficit sectors or surplus sectors.
- Typically, the business sector will be a deficit sector (a net user of funds) while the household sector will be a surplus sector (a net provider of funds). Sectors will vary between countries and over time due to changing economic, social and political conditions.
- Understanding the net flow of funds is important if governments and businesses are to make policy investment decisions—for example, should a hospital be built, or should a manufacturing plant be established. What is the effect of current and proposed legislation on the flow of funds?

Section 1.5

Extended learning questions

14 The GFC has had a significant impact on the stability of international financial markets. Discuss the implications of the crisis for the ‘real economy’ and evaluate the

regulatory responses that have been implemented in an attempt to stabilise the financial system. **(LO 1.7)**

ANSWER

- The GFC was the beginning of an unprecedented period of volatility.
- The volatility continued throughout 2010–2011 as the GFC evolved from a ‘financial crisis’ to a ‘sovereign debt’ crisis when doubts began to emerge over the solvency of several countries and the viability of the common European currency under such stressful conditions.
- The financial volatility quickly spread to the real economy as early as 2009. Unemployment increased and industrial production fell.
- The regulatory response to the GFC has centred on improving the capital requirements of financial institutions. Although there have been a number of different regulatory changes, the more substantial is the Basel III capital accords. The final version of Basel III was released at the end of 2017.
- For the most part, however, governments and central banks have been preoccupied in attempting to use fiscal and monetary policy to stabilise the economic situation and encourage recovery. The limits of the effectiveness of these policies have been tested, as economic conditions remained stubbornly weak despite massive government spending programs and near-zero interest rates.

Extended learning A

15 The GFC is now thought of as having had two parts or phases. Describe each part (or phase) and outline some of the measures that have been taken by governments and central banks in Australia, Europe and the USA in order to stem the effects of both phases of the crisis on their respective real economies. **(LO 1.7)**

ANSWER

- The first phase of the crisis occurred during 2007 and 2008. During this time, financial markets suffered substantial declines as trouble in the mortgage derivatives markets engulfed some of the world’s biggest financial institutions.

- The second phase of the crisis began when the true financial or economic position of several European countries—especially Greece, Spain, Portugal and Ireland—became apparent. Doubts surfaced regarding the ability of these countries to meet their obligations to bond holders. Since these bonds were held by banks in many European countries, fears of a collapse of the financial system were sparked.
- Governments around the world took some extreme steps to mitigate the effects of the crisis. In Australia, a large government stimulus package was initiated soon after the first phase of the GFC. This included the ‘roof batts’ and ‘school halls’ programs that attracted so much commentary.
- In the USA, the government initiated bailouts and buy-outs of financial institutions and absorbed billions of dollars of ‘toxic’ assets. The Fed cut interest rates to near zero and engaged in a multi-year program of quantitative easing.
- In Europe, the bailouts included not only financial institutions but also some governments, with interest rate cuts, bailout programs and economic stimulus being managed through the European Central Bank (ECB).

Extended learning A

16 The Asian financial crisis provided some valuable lessons about the global financial system. What are some of those lessons and why are they relevant for today’s emerging markets? (**LO 1.3**)

ANSWER

- The lessons of the Asian financial crisis have prompted the Reserve Bank to identify a list of questions that point to the likelihood of a potential currency crisis or a wider economic crisis:
 - Does the country have a fixed exchange rate and free movement of international capital?
 - Is the exchange rate overvalued?

- Has a country with similar economic characteristics recently experienced a currency crisis?
 - Is there a large budget deficit and a lot of government debt outstanding?
 - Is there loose monetary policy and high inflation?
 - Is the domestic economy in, or at risk of, a recession?
 - Is there a large current account deficit?
 - Is there a large amount of foreign debt?
 - Is there an asset price boom (especially credit-driven) occurring?
 - Are there a lot of bad debts in the banking system, or is there a poor system of bank supervision?
 - Has there been a lot of unhedged foreign currency borrowing?
 - Are there poor accounting standards, few disclosure requirements, or ambiguous bankruptcy procedures?
- The above points form a strong starting point for financial crisis analysis. However, not all factors will necessarily always be evident. The existence of some factors does not in itself imply an imminent crisis situation. Also, as with past financial crises, each future crisis will have its own particular set of defining characteristics.
 - In 2014, a director of the IMF, Jose Viñals, outlined the ways in which the Asian crisis remains relevant for emerging markets, including Asia. His speech entitled 'Back to the Future: Lessons from Financial Crises' can be found on the IMF website (www.imf.org).
 - Viñals stressed the growing interconnectedness of the Asian financial system. Viñals likened the future of the Asian financial system to the European financial system, where cross-country exposures must be monitored carefully. As we have seen, this interconnectedness and failures to ensure that particular countries did not live beyond their means were fundamental to the Eurozone crisis.

Extended learning B

CHAPTER 1 CASE STUDY



THE NEXT GLOBAL FINANCIAL CRISIS?

The sub-prime lending crisis which originated from the US housing market and spread to insurance and other sectors of the US economy became a world economic crisis (Dewatripont, 2010) in 2008, resulting in massive unemployment after the loss of 8.7 million jobs worldwide (including 250 000 in Australia) and a significant decline in world economic output (Claessens, 2014). Nations have adopted various strategies and lending policies to ensure that the crisis is not repeated. Despite this, more than 10 years after the GFC, concerns have been raised about the seeds of a new crisis being sown in different corners of the world.

Bill Gates, when asked on the possibility for the outbreak of another financial crisis, has stated that there exists a high possibility. This opinion is also held by Gates' friend, Berkshire Hathaway founder and well-known investor Warren Buffett (Frank, 2018). A growing number of experts, including Steve Eisman, have also raised some alarms about a future crisis. Eisman predicted the GFC and influenced the character played by Steve Carell in the Oscar-winning movie *The Big Short*.

Eisman has predicted a crisis to start in Italy, where banks have a high number of non-performing loans (NPLs). These loans are to companies and households who have fallen behind in making repayments. The books of Italian banks hold about €360 billion in NPLs, which have been written down to about 50.00 per cent of their original value. The real problem is that they are not worth even that amount. When financiers buy NPLs from Italian banks, they value them at only 20.00 per cent of the book value. That is, only 10.00 per cent of the original value of the loans.

Compared to Italy, Eisman sees the US economy as being in a safer position because the issue of sub-prime mortgages has been reduced following strong regulatory actions after 2008. He feels that the European regulators are more lenient than US regulators and that this represents a risk to the European economy (Collinson, 2018).

Another potential area for concern is the Chinese banking sector, where banks have enjoyed lending growth over the past few decades that resulted in the creation of largely unregulated shadow banks or credit unions who lend to property developers. These loans are funded in various ways, including by 'asset management products', all of which have certain question marks regarding their levels of risk. A collapse of one of these funding streams could lead to a financial crisis in China (David, 2018; John, 2017).

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Discussion points

1. In the words of Steve Eisman, the 'US economic system is in a safer seat when compared with Europe'. Why?

ANSWER

Primarily, the changes in the financial markets since the GFC have seen a reduction in sub-prime loans in the US. In addition, Eisman sees regulators in the US as being much tougher than European regulators, especially in Italy where he sees some signs of future trouble.

Section 1.1

LO 1.1

AACSB: Application

Bloom's: Comprehension

2. According to Steve Eisman, what are the concerns with the Italian banking sector that could trigger a crisis?

ANSWER

In Italy, there are a substantial number of non-performing loans. While the value of these loans on bank balance sheets has been reduced already, they are still potentially

overvalued. A markdown to real, market value would see a significant decline in bank asset values in Italy.

Section 1.1

LO 1.1

AACSB: Application

Bloom's: Knowledge

3. Describe how the Australian economy is set to deal with crisis situations, especially in light of a financial threat from China.

ANSWER

The potential for an economic slowdown in China to cause significant economic harm to Australia has long been recognised. The stable banking system and regulatory mechanisms in Australia, characterised by ongoing reforms (Basel III and responses to the Royal Commission), provides some insulation against a crisis. It is clear, though, that economic growth in Australia would be impaired if China experienced a sudden fall in economic activity or, worse, a financial crisis.

Section 1.1

LO 1.1

AACSB: Application

Bloom's: Application