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AN INVESTOR'S GUIDE TO DEBT SECURITIES

Investor Sales

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Foreword

HELPING INVESTORS IN UNCERTAIN TIMES

The Global Financial Crisis (“GFC”) changed financial markets in Australia and more broadly around the world.

It highlighted, in many ways, how quickly the investment landscape can change and how we, as investors, must manage our investments to benefit in the best of times but also position portfolios to weather prolonged periods of volatility. The GFC highlighted the need for investors to take a careful look at their investment portfolios and where capital is being allocated. The idea of “asset allocation” is front and centre in all investment discussions, more so than the years preceding 2008. Investors are increasingly looking outside of the property market, term

deposits and equities to deploy capital and are more frequently participating in other classes that sit between; like debt markets.

The generational shift of baby boomers into retirement coupled with the continued growth of self-managed super funds has delivered a new group of investors who demand innovative investment strategies and solutions, access to different markets and the knowledge to build well balanced portfolios.

Here at the National Australia Bank we are committed to developing a debt market that is accessible to all types of investors. Whether you are a fund manager at the big end of town or a retiree managing your own capital into retirement, the debt market is a key asset class to preserve capital and achieve a steady stream of income.

We are invested in the development of new and **innovative products and platforms** to increase transparency and improve investor **access**; committed to partnering with **independent research** providers to deliver unbiased assessments of debt security value; and we are driven to provide the **education** required for investors to make well informed investment decisions.

The guide to debt securities was produced to provide the first step towards investors gaining a better understanding of an asset class that hasn't carried the same familiarity as equities, property or cash. We hope that in reading through the booklet,

investors will be able to make more informed decisions and in turn build or adjust portfolios to achieve a better return outcome.

We hope you find the guide helpful as you begin or expand your journey into debt markets.

John Bennett



General Manager, Investor Sales

1

WHAT ARE DEBT SECURITIES?

'Debt securities' is a generic term that applies to a range of financial assets which have one thing in common – they represent the obligations of a borrower to a lender. They are, in other words, forms of debt. These investments are also sometimes referred to as 'fixed income', 'interest rate securities', 'bonds' and 'floating rate notes'.

In this section:

- Differences between debt securities and shares

Why invest in debt securities?

1 Return of your capital

Generally, debt securities are designed to repay capital at maturity or over the life of the security. The capital repayment depends on the ability of the issuer to meet its obligations.

2 Receive a regular and defined income stream

Debt securities can provide investors with regular income, in the form of interest (coupon) payments, once, twice or four times a year. These regular income streams can be tailored in a portfolio of debt securities to meet the investor's cash flow needs.

3 Enhance your returns

Investors can earn attractive returns with some debt securities providing higher returns than deposits offered by financial institutions.

4 Diversify your portfolio

Australian investors are heavily concentrated in growth assets – equities and property. Debt securities – often considered to be defensive assets – may be used to manage the risk of concentrating your portfolio in growth assets. The debt market tends to move in the opposite direction to broad movements in equity markets.

5 Stagger your portfolio maturities

In Australia, maturities on debt securities generally range from one to ten years, providing investors with the ability to tailor a portfolio with a variety of maturities to meet their future needs and liabilities. Most debt securities are tradable and may be sold prior to maturity – although this may impact the return on the investment.

6 Maintain liquidity

It is very important for investors to have sufficient liquidity in their portfolio. Cash is the most liquid asset class but some debt securities may also satisfy this requirement and provide a higher return than the cash rate to investors. Government and semi-government securities and some corporate bonds are highly liquid and in most cases, easily traded at short notice.

- **There is a diverse range of debt securities available, varying in form, structure, and features.**
- **As an introduction to this section, we will briefly discuss a few basic concepts and the key differences between debt securities and equities.**

A debt security is a commitment by a borrower to pay an agreed rate of interest on the amount borrowed (principal) over a set period of time and, when that period ends, to repay the money in full. The lender or investor knows at the outset how much interest or income he/she can expect to receive over the life of the agreement. The interest on the debt may be paid during or at the end of the agreed period.

Borrowers can be governments or companies. When they raise money this way, they are said to 'issue' securities or bonds, just as companies 'issue' shares when they raise money on the Australian Securities Exchange (ASX).

Debt securities have traditionally been issued, at first instance, to institutional investors, such as insurance companies and fund managers, who may hold the securities for a long time and even up to the repayment date, using the income stream to meet liabilities such as insurance payouts and other claims.

These and other institutions, such as superannuation and investment funds, may also buy and sell debt securities in the market. There is a similarity here to the ASX, where institutions and private investors routinely trade shares in the market. In contrast, trading debt securities in Australia is much more heavily weighted towards institutions, than towards private investors. That said, recent changes have increased the availability of debt securities for sale and purchase by private investors through the ASX and the availability of bonds on the unlisted market to private investors (see **Section 6 - Entering the market**).

We will look at the different types of debt securities in further detail, including fixed rate bonds, floating-rate notes, inflation-linked bonds, hybrids and asset-backed securities.

Differences between debt securities and shares

Investors should consider the key differences between debt securities and shares. These differences are summarised in **Figure 1.1**.

Figure 1.1. Debt securities and equities compared

	Debt securities	Equities
Term	Fixed term*	No fixed term
Income	Agreed schedule of interest payments for the term of the investment	No promise to pay dividends or schedule of dividend payments
Return	Specified rate of return: agreed schedule of interest payments for the term of the investment	No specified rate of return: no promise to pay dividends or schedule of dividend payments
Capital	Full capital repayment at the end of the investment term (subject to the borrower’s ability to meet its obligations). If debt securities are sold prior to maturity a capital gain or loss may be realised	Investors receive the market value of the shares when sold which may realise a gain or a loss on the initial investment
Ranking	In the event of insolvency, claims made by debt security holders rank ahead of shareholders	In the event of insolvency, shareholders usually rank behind all other claims

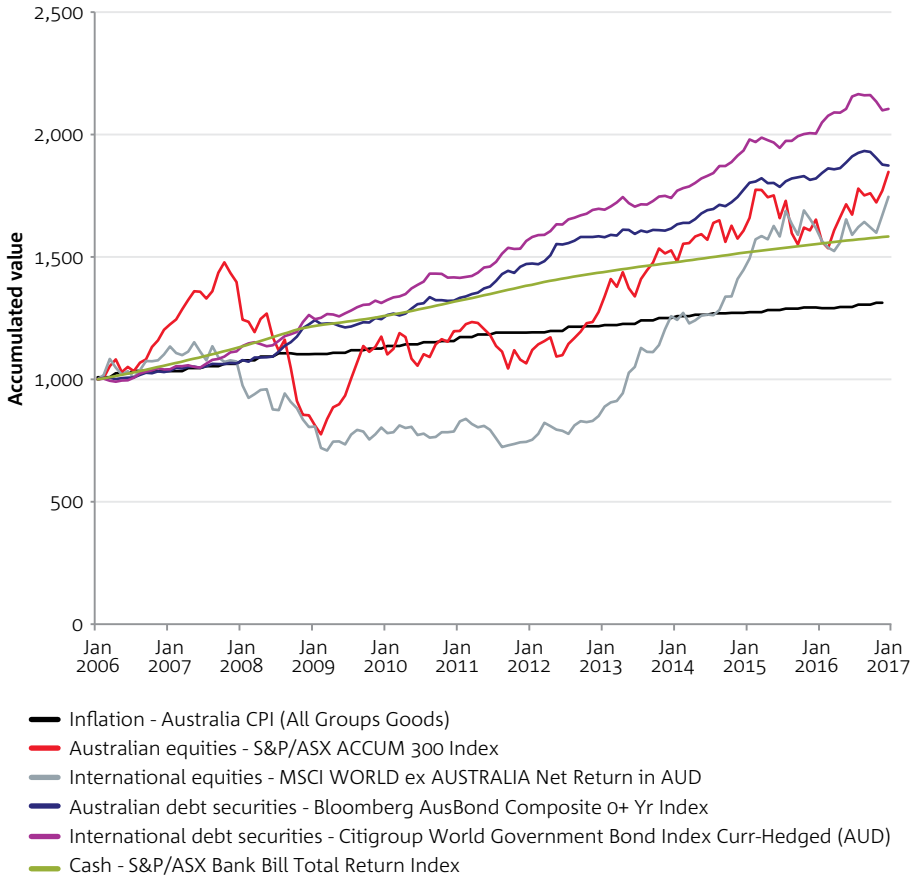
*With the exception of perpetuals, callable, convertible and extendable securities

It is generally accepted that debt securities represent less risk than equities.

As the words equities and shares imply, equity investors participate in the risks and rewards of the companies they invest in.

Dividends are paid at the discretion of a company’s management and vary according to how well, or badly, the underlying business performs.

Figure 1.2. Relative sector growth across various asset classes (January 2006 - January 2017)



Note: past performance is not indicative of future performance.
 Source: Bloomberg

Figure 1.2 illustrates the performance of asset classes over the past decade. In the benign market environment that preceded the Global Financial Crisis, Australian equities was the best performing asset class and international equities were tracking above cash until the early stages of the Global Financial Crisis.

During the GFC in 2008 and the ensuing Euro Zone fiscal crisis, Australian and International equities both suffered. Australian equities fell to below cash returns, and their recovery remained volatile. International equities weakened further than Australian equities and took longer to recover.

In contrast, the consistent performance by debt securities underlines the value of this asset class in smoothing out portfolio returns during periods of market volatility, and the importance of maintaining asset diversification within a portfolio.

UNDERSTANDING BLOOMBERG AUSBOND COMPOSITE 0+ YR INDEX

An index, or benchmark, helps investors measure the change in value of a market over a period of time. A well-known index in Australia is the All Ordinaries Index, which measures changes in share prices of companies listed on the ASX. In the debt market, the key index is the Bloomberg AusBond Composite 0+ Yr Index (formerly known as the UBS Composite Bond Index).

This index is comprised of approximately 585 bonds issued by the Commonwealth Government, state government authorities, supranational and sovereign agencies, as well as from investment grade corporate issuers and Kangaroo issuers (debt securities issued by foreign entities in Australia). Minimum size for inclusion in the benchmark is A\$100 million, and the minimum S&P rating is BBB- (refer to **Section 3 - Credit quality, credit risk and credit spreads** for further information on credit ratings). It does not include any inflation-linked bonds, floating rate notes, or short-term debt such as bank bills.

The index gives fund managers a benchmark for performance. If they select securities that do not rise in value at the same rate as the index, or fall in value at a greater rate than the index, they are 'underperforming the benchmark'.

2

AN INTRODUCTION TO DEBT SECURITIES

It is important for investors to understand their investment options. As such, it is important to consider the key features and concepts used in relation to debt securities, including coupon, the yield to maturity, term to maturity and creditworthiness of the borrower (the issuer).

In this section:

- Coupon
- Yield to maturity (yield)
- Maturity
- How are debt securities structured?
- Factors impacting movements in bond prices
- What drives bond prices?
- Forming a view on interest rate direction: the yield curve
- Strong economy vs. weak economy

Coupon

The interest rate paid on debt securities is referred to as the coupon rate or the nominal yield. This is expressed as an annualised percentage of the issue price or principal (also referred to as the 'face value' or 'par value') of the debt security:

$$\text{Coupon rate (\%)} = \left(\frac{\text{interest paid per annum}}{\text{face value of the security}} \right) \times 100$$

FOR EXAMPLE

A corporate bond issued with a face value of \$100 paying interest of \$6 annually has a coupon rate of 6%.

Generally, coupons are fixed or floating interest payments:

- Fixed rate securities pay investors a predetermined interest rate set at the time of issue that does not change.
- Floating rate securities pay a variable interest rate comprised of a changing benchmark reference rate (for instance, the Bank Bill Swap Rate – see insert) plus a fixed margin. The benchmark reference rates are periodically reset, and as such, the interest payment received by the investor may change.

The Bank Bill Swap Rate (BBSW) is the Australian benchmark reference rate, used to calculate interest rates for financial market transactions.

As of 1 January 2017, BBSW is published by the Australian Securities Exchange (ASX) each business day* and represents the average mid-rate at which major Australian financial institutions lend short-term cash to each other over specified periods (30, 60, 90, 120, 150 and 180 days). Prior to 1 January 2017, it was published by the Australian Financial Markets Association (AFMA).

For further details, please refer to the ASX website: www.asx.com.au/services/benchmark.htm

*on which banks are open in Sydney

Yield to maturity (yield)

The yield to maturity (YTM), often referred to simply as the yield, measures the annual return an investor is expected to earn if the bond is held to maturity, expressed as an annualised rate of return.

This measure takes into account all future coupon payments, the price at which the security was purchased, its face value and the remaining term of the investment. This is often used by investors to compare securities with similar maturities.

Maturity

The maturity date is the date on which the issuer (borrower) must repay the principal and any accrued interest to the investor.

Debt securities are often categorised according to their respective maturities (also referred to as term and tenor):

- Short term (< one year);
- Medium term (one to three years); and
- Long term (> three years).

The length of the investment term will impact the price and interest rate offered to the investor.

This is largely reflective of the fact that investors demand higher returns for long-dated investments.

How are debt securities structured?

A debt security represents a debt owed by the issuer to an investor. Here, the investor acts as a lender to the issuer which may be a government, organisation or company. However, unlike other types of debt such as bank loans, debt securities are generally tradable – that is, can be bought or sold between parties in the market prior to maturity.

The issuer borrows by way of issuing securities for a certain amount (face value/ principal) for a specified amount of time (term). The issuer pays interest (coupon) at regular intervals on the borrowed amount. At the end of the term (maturity), the issuer repays the total amount borrowed to the investor.

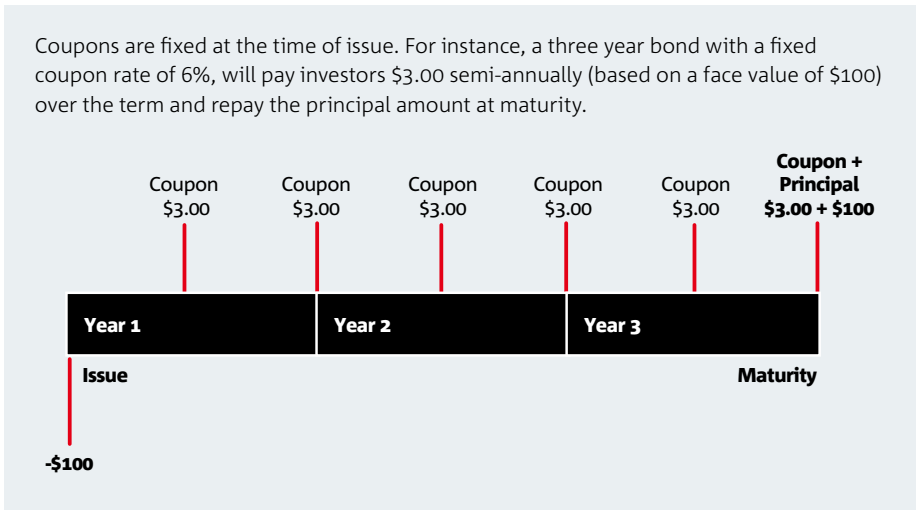
Debt securities are available in various forms, allowing investors to construct a portfolio of debt securities to suit their investment strategy and cash flow needs. Typical structures are listed on the following pages.

FIXED RATE BONDS

These securities, also referred to as bonds, are issued with a fixed maturity and fixed coupon.

This means the cash flow is known upfront and the principal is to be repaid on a predetermined date.

Figure 2.1. Example cashflow diagram of a fixed rate bond



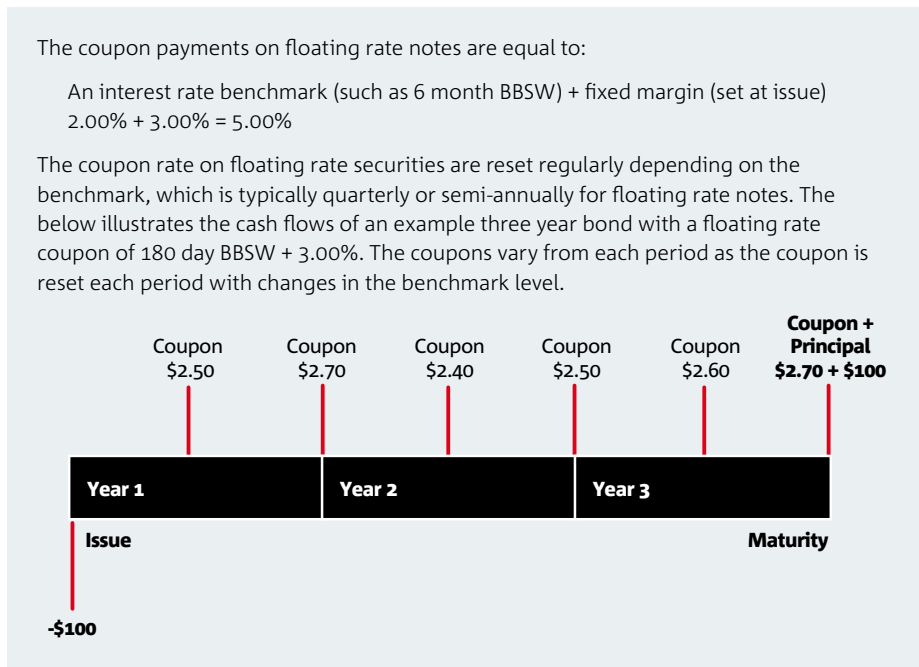
FLOATING RATE NOTES (FRNs)

FRNs differ from fixed rate bonds, in that interest payments are comprised of a variable interest rate benchmark (for example, the BBSW) and a margin.

The margin is usually fixed at the time of issue, and as such, maintains a constant relationship with the nominal benchmark rate as it moves up or down.

FRNs provide issuers and investors with a degree of interest rate risk management, according to how they see rates moving over their investment term. Investors may purchase FRNs when they view interest rates are likely to rise during the term of their intended investment.

Figure 2.2. Example cashflow diagram of a floating rate note



PERPETUALS

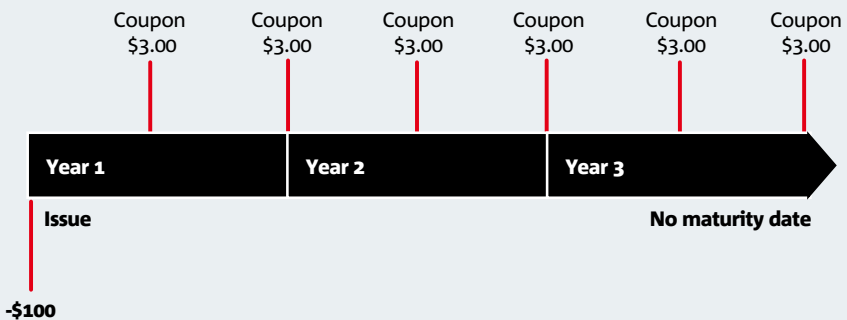
These securities have no specific maturity date. If investors want to redeem the bond, they will need to sell them in the market. The issuer has the right, but not the obligation, to redeem a perpetual at certain times during the life of the security; but there is no guarantee this will happen.

The coupons paid on these securities may be fixed or floating.

Figure 2.3. Example cashflow diagram of a perpetual security

Coupons may be fixed or floating and are paid until the investor sells their holdings or the issuer elects to call or redeem the security.

For instance, a perpetual security, paying a fixed rate coupon of 6% paid semi-annually, will continue to pay the investor \$3.00 semi-annually (assuming a face value of \$100).



INFLATION LINKED BONDS (ILBs)

A type of bond created to provide protection from the risk of inflation – that is, a rise in the prices of consumer goods and services. Generally speaking, these bonds are issued by governments and semi-government agencies, with a limited number of corporate issuers in the Australian market.

These securities tend to be structured with principal indexed to the inflation rate – as the coupon is calculated off the inflation adjusted principal amount, the actual interest payments will move in line with the index – commonly referred to as Capital-Indexed bonds. These securities are seen as a way of preserving capital due to the impact inflation may have on nominal returns.

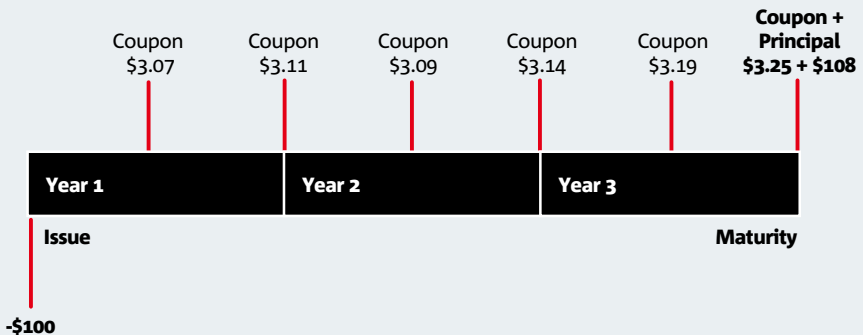
Figure 2.4. Example cashflow diagram of an inflation-linked bond

Capital-Indexed bonds, commonly issued by the Commonwealth and semi-government agencies, are bonds that pay a fixed coupon rate based on the principal that is indexed to inflation.

The principal is periodically adjusted for changes in the underlying inflation index (e.g. CPI) quarterly or semi-annually.

$$\begin{aligned}\text{Coupon} &= \text{coupon rate} \times (\text{Principal}^* \times (1 + \text{change in CPI})) \\ &= 6\% \times (\$100 \times (1 + 2.5\%)) \\ &= \$6.15 \text{ (or } \$3.07 \text{ semi-annually)}\end{aligned}$$

*The Principal figure is the inflation-adjusted principal amount calculated from the previous period mark.



ZERO COUPON BONDS

Zero Coupon Bonds pay no interest (coupon) during the life of the investment. Instead, investors buy them at a discount (i.e. at a lower price than the value of the face value or future value). The full face value of the bond is repaid at maturity. The investor receives a return from the difference between the issue and maturity prices.

These securities are rarely issued in Australia.

Figure 2.5. Example cashflow diagram of a zero coupon bond



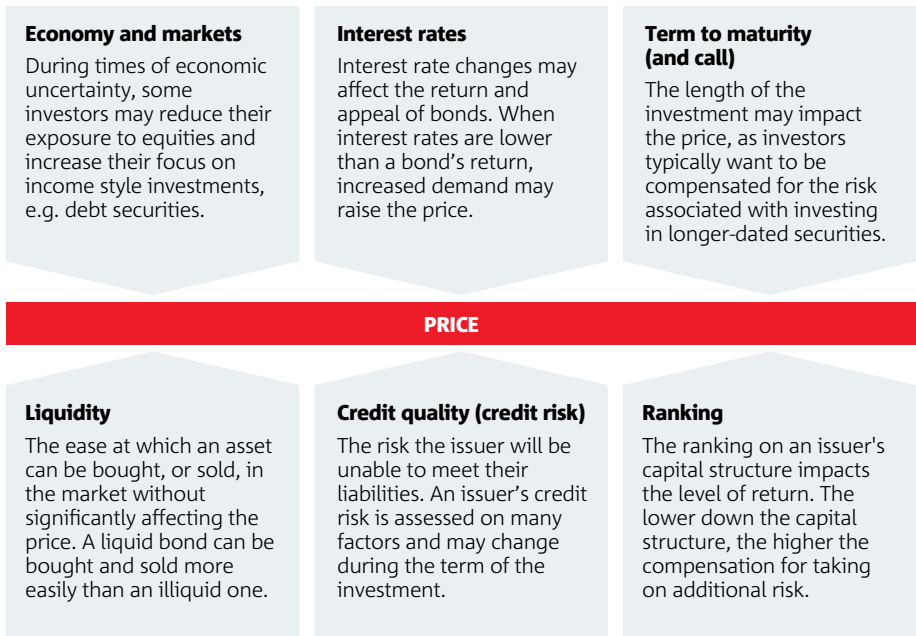
Factors impacting movements in bond prices

The price of a debt security is also impacted by various other factors – some that arise due to economic and market conditions, and some that are specific to the security and issuer.

The diagram below provides a brief summary of some of the key factors impacting these securities.

See **Section 3 - The credit hierarchy** for further information about ranking and credit quality.

Figure 2.6. Factors impacting bond prices



What drives bond prices?

To illustrate key factors affecting debt securities, the following section uses government bonds as an example to explain the various concepts and relationships impacting the price of debt securities.

Note that the following explanation assumes all other factors remain equal and is intended to provide a general overview only.

There are a range of factors that affect the price of government bonds. For instance, current and expected economic conditions can influence the demand and supply of government bonds and, as such, the price.

There are also specific factors, such as changes in the perceived creditworthiness of an issuer, which will be discussed in **Section 3 - Credit quality, credit risk and credit spreads**.

The Reserve Bank of Australia's (RBA) perception of the economy and the appropriate level of interest rates may impact the bond markets. The RBA has the authority and responsibility to develop and conduct monetary policy – that is, the size and rate of growth in the money supply.

From a bond investor's perspective, the most important aspects of the RBA's activity are the changes it makes to the target cash rate, to meet its medium-term inflation target.

THE RESERVE BANK OF AUSTRALIA (RBA)

The RBA is Australia's central bank and has a duty to 'contribute to the maintenance of price stability, full employment, and the economic prosperity and welfare of the Australian people'.

One of its influential measures is to set the cash rate – the interest rate on overnight loans in the money market – to meet a medium-term inflation target and maintain a strong financial system.

The cash rate influences other interest rates in the economy, affecting the behaviour of borrowers and lenders, economic activity and ultimately the rate of inflation.

Decisions regarding the cash rate target are made by the Reserve Bank Board and explained in a media release announcing the decision after each Board meeting.

The RBA also provides selected banking services to the Australian Government and its agencies, and to a number of overseas central banks and official institutions. Additionally, it manages Australia's gold and foreign exchange reserves, oversees the efficient payments system, and issues the nation's banknotes.

When economic growth is strong and creating upward pressure on prices, and hence inflation, the RBA will raise the target cash rate to make borrowing more expensive and dampen economic activity, easing inflationary pressure in the process. As interest rates rise, new bonds will be issued with higher coupons than existing bonds, causing the price of previously issued bonds in the market to fall. In addition to this, investors may feel sufficiently confident in the economy and increase their asset allocation towards growth assets, such as equities, causing the demand for bonds to fall further.

When economic conditions are weak, and the outlook for growth is uncertain, the investment rationale changes and investors put less money into shares and more money into defensive assets such as bonds, driving bond prices up.

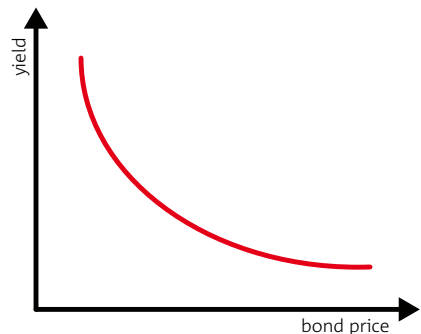
This was seen in government bond markets in such countries as Australia, the US and Germany, following the Global Financial Crisis and the debt crisis among smaller eurozone countries. Risk-averse investors switched from volatile share markets to the relative safety of debt securities. As a result of this switch, bond yields in these markets reached historic lows.

Government policy is relevant when the market takes a view on whether a particular policy is going to stimulate or dampen economic growth, or cause interest rates to rise or fall.

There is usually a positive relationship between movements in the cash rate and yields, most noticeably in relation to long-dated bonds. This is because the coupons paid on longer-dated bonds - which tend to be relatively higher in order to compensate investors for the higher risks associated with investing for a longer term - become even more attractive in a falling interest rate environment. Investors keen to buy longer-dated bonds push up the prices, causing yields to fall. When the cash rate rises, the process moves into reverse: longer-dated bonds become relatively less attractive in a rising interest rate environment, causing their prices to fall and yields to rise.

Figures 2.7 and **2.8** illustrate the impact of movements in interest rates, on bond prices and yields.

Figure 2.7. An illustration of the relationship between bond prices and yields



Source: National Australia Bank

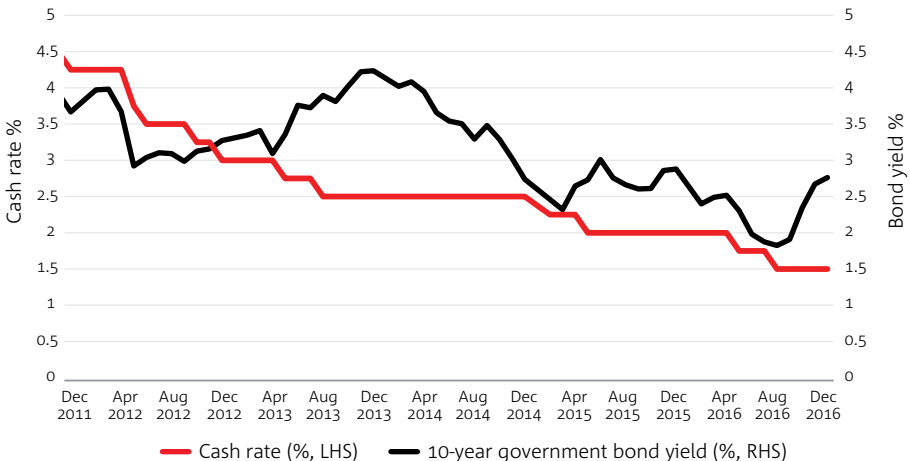
Figure 2.8. Relationship between interest rates, bond prices and yields

	Rising interest rates	Falling interest rates	Explanation
Bond Price	↓	↑	<ul style="list-style-type: none"> • There is a negative relationship between bond prices and interest rates. • As interest rates increase, the coupon rate paid on bonds become less attractive to investors. This causes the price of bonds to fall (and vice versa).
Yield	↑	↓	<ul style="list-style-type: none"> • There is a positive relationship between bond yields and interest rates. • When interest rates increase, investors will demand higher yields on their fixed income investments, so bond prices will fall and affect the higher yields.

Source: National Australia Bank

Figure 2.9 compares the movement in the cash rate and 10-year Australian government bond yields between 2011 and 2016.

Figure 2.9. Cash rate and Australian government bond yields, 2011–2016



Source: Bloomberg, Reserve Bank of Australia

PREMIUM BONDS

A bond that is trading at a 'premium' is trading above its face value (par value) - for instance, a bond with a face value of \$100 is trading at a price of \$102. This tends to occur when the coupon rate of the bond is higher than the current market interest rate for that particular security (i.e. the yield to maturity). Bonds are usually issued at or near face value so as demand for the bond increases, the price rises and the yield will then be lower than the coupon.

DISCOUNT BONDS

A bond that is trading at a 'discount' is one where the price is lower than the face value. If demand for a security decreases, the price of the bond will fall which will cause the yield to be higher than the coupon.

In the example below, the cause of the fall in the price of the bond from \$100 to \$98 and subsequent rise in yield to maturity to 6.76% could be explained by an increase in the market interest rate. The market interest rate would be higher than the coupon.

EXAMPLE

A company issues a fixed rate bond with a face value of \$100 paying a coupon rate of 6% (nominal yield = 6%) maturing in four years. The table below shows how changes in market interest rates may impact the trading price of this bond.

	Coupon rate	Interest rates	Yield to maturity (effective bond yield assuming three years to maturity)	Bond price
Premium	6%	↓	5.26%	\$102
Par	6%	—	6.00%	\$100
Discount	6%	↑	6.76%	\$98

Prices and yields on bonds may move in response to an array of market and credit factors. These are further explained later in this section and also in **Section 3 - Credit quality, credit risk and credit spreads.**

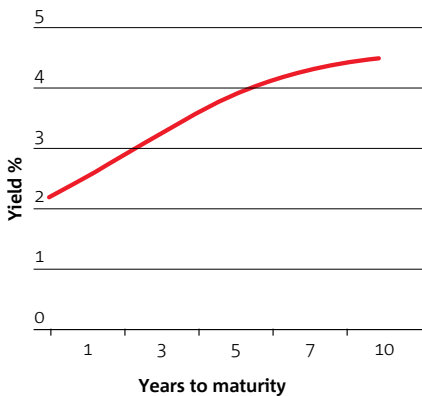
Forming a view on interest rate direction: the yield curve

- A yield curve graphs the relationship between yields and maturities.
- A normal yield curve illustrates a situation where higher coupons are paid to compensate investors for longer-dated investments.
- An inverted yield curve occurs when the interest rate paid on long-dated securities is lower than those with shorter maturities.
- A yield curve can be a useful indicator of the market's view on future interest rate movements and the condition of the economy.

Changes in interest rates can affect the prices and yields offered on debt securities. This creates an opportunity for active investors to position their portfolio of debt securities to take advantage of future interest rate movements. Active investors are typically professional investors who manage portfolios on behalf of clients with the aim of outperforming a market index or benchmark. For most active portfolio managers in Australia, the benchmark to beat is the Bloomberg AusBond Composite 0+ Yr Index.

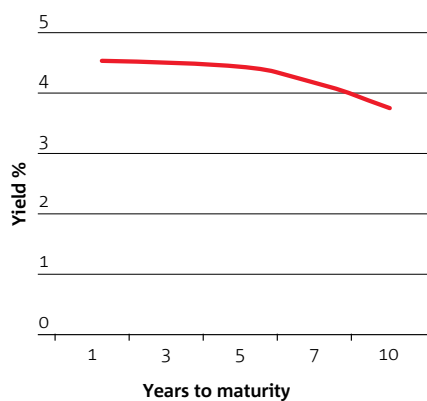
A large part of their success in such a strategy will depend on how accurately they forecast interest rate changes (a highly specialised skill which is normally the preserve of professional investors and market economists) and on which securities they buy.

Figure 2.10. Normal yield curve



Source: National Australia Bank

Figure 2.11. Inverted yield curve



Source: National Australia Bank

A useful aid in forming a view on future movements in interest rates is the yield curve – a line that maps the yields on similar securities (for example, bonds issued by the same issuer).

The yield curve is also known as the market ‘term structure of interest rates’. **Figure 2.10** shows the normal relationship we might expect between the various yields, given that longer-dated debt securities pay higher rates of interest than shorter-dated ones.

In this instance, the shape of the yield curve is said to be normal, because it is consistent with our expectation of where yields should be in relation to their respective maturities. Being a reflection of real-world interest rate conditions, it also mirrors a normal economic and market environment in which the economy is growing, with the expectation that interest rates will rise over time.

The shape of the yield curve can change, and this also provides information about the market’s interest rate expectations. In an uncertain economic environment – for example, when the economy is slowing and there is doubt as to whether it is heading for recovery or recession – the outlook for interest rates will also be uncertain. In this environment, the difference between short and long term yields will decrease. Consequently, the yield curve is likely to revert from a gently upward sloping shape to one that is flatter.

When the economic outlook is bleak and a slowdown is underway, with strong expectations of a recession, yields on longer-dated securities could slip below short-dated ones (as investors lock in the higher coupons on long bonds in anticipation of the RBA cutting the cash rate). In this case, the yield curve is said to be inverted, see **Figure 2.11**.

Strong economy vs. weak economy

- **Demand for debt securities may change depending on the outlook on economic conditions.**
- **Investors tend to increase the amount of funds allocated to growth assets, such as equity and property, during times of stronger economic conditions. Conversely, funds allocated to defensive assets, such as debt securities, tend to increase during volatile and adverse economic conditions.**

In a strong economy, where there is upward pressure on inflation, and the possibility of a rise in official interest rates, asset allocation within a portfolio of debt securities is likely to emphasise government bonds with shorter maturities, because their prices may be said to be less sensitive to interest rate changes than other longer dated securities. A portfolio is also likely to include investment in financial and corporate bonds, because conditions are favourable to business cash flow (at least until higher interest rates start to slow down economic activity). Inflation-linked bonds, which pay interest linked to the level of inflation, are also likely to be favoured, as are short dated assets such as term deposits.

In a weak economy, the focus may shift to government bonds with longer maturities in anticipation of lower interest rates, and increased market appetite for the higher coupons such bonds represent. Exposure to credit (financial and corporate bonds) is likely to be reduced in expectation of falling business cash flows, and companies facing increasing difficulty in meeting their financial obligations. Similarly, there is likely to be less emphasis on inflation-linked bonds as the slowing economy causes prices to fall, and short dated assets will generally play a less prominent role in the portfolio.

These changes within the debt component of a diversified portfolio will, to some extent, parallel the broader shifts between asset classes taking place in the portfolio as a whole. In all cases, these changes will reflect the risk and return relativities between the various asset classes.

3

CREDIT QUALITY, CREDIT RISK & CREDIT SPREADS

The market value of debt securities may be affected not only by movements in interest rates, but also the borrower's credit and liquidity profile.

A borrower's creditworthiness is a factor investors should consider when investing in debt securities.

In this section:

- The credit hierarchy
- Default
- Credit ratings and rating agencies
- The role of Commonwealth Government Securities
- Spreads and credit spreads
- Movements in yield and spreads

The concept of creditworthiness (or credit quality, as it is typically referred to in debt markets) is important because it ultimately determines whether or not a borrower can repay debt, and whether investors will receive a return on their capital or lose money.

Credit quality is specific to the issuer, as is the risk (the 'credit risk'), that the credit quality will change during the life of the investment. This is unlike the risk of interest rate changes, which impact the debt market generally, and not just individual borrowers (see **Section 2 – An introduction to debt securities**).

Different debt securities will be affected, to different degrees, by changes in interest rates. Duration is the 'the average life to maturity of a bond's cash flows and reflects the sensitivity of a bond's price to changes in its yield (AFMA, 2017 p. 6-20). Sometimes factors arise that cause changes in creditworthiness of whole industries, or economic sectors, as well as of individual borrowers.

Investment professionals, describe credit quality, or credit risk, as 'idiosyncratic' and interest rate risk as 'generic'.



The credit hierarchy

- **The credit hierarchy ranks creditors, according to the order of the claims, against the assets of an issuer.**
- **The lower the investor ranks on the credit hierarchy, the more likely the investor may suffer losses in the event of default.**

In debt markets, and financial markets generally, all risks are assigned a price. In the same way that the debt markets require long-dated securities to pay higher interest than short-dated securities, the market demands higher coupons from debt securities of low credit quality, and accepts lower coupons from securities of higher credit quality.

For an investor, the choice between debt securities of different credit quality is largely a matter of risk-reward preferences. The following table provides an example of a corporate capital structure to illustrate the credit hierarchy.

Figure 3.1. Sample credit hierarchy

Ranking	Class	Example	Risk/Returns
Higher	Secured Debt	Liabilities preferred by law including employee entitlements and secured creditors (loans and senior secured liabilities)	Lower
	Senior Unsecured Debt	Bonds and notes, trade and general creditors	
	Subordinated Unsecured Debt	Subordinated unsecured debt obligations	
	Hybrid Securities/ Preferred Equity	Preference shares and convertible preference shares	
	Equity	Ordinary shares	
Lower			Higher

Source: ThreeSixty Research, National Australia Bank

Figure 3.1 highlights the relationship between the capital structure and the expected returns for the increased associated risks for the investor.

The most creditworthy debt securities are usually sovereign, or government, bonds. However, sovereign debt does not imply the country has the ability to manage their finances prudently and can always repay their debts - this was evident during the recent fiscal crises in Greece and Cyprus. Nevertheless, the general premise is based on the notion that a government's power to tax makes it more likely, than any other borrower, to meet its financial obligations.

In Australia, the most creditworthy bonds are those issued by the Commonwealth and State governments. The next most creditworthy borrowers are deemed to be banks and other financial institutions, followed by large industrial companies with strong balance sheets, then medium-size companies and so on. These relativities may change under pressure of specific events, such as a crisis in the financial system that may cause some industrial companies with strong cash flows to be more creditworthy than certain relatively small banks.

SECURED DEBT

Secured debt is the first debt to be repaid in the event of a default and carries the highest ranking, above any other debt issued by a company. The debt is backed with, or secured by, collateral to reduce lending risk. If the borrower defaults, the holder of a secured bond can appropriate this collateral. Assets generally used as collateral include property, cash, receivables, or physical assets owned by the borrower.

SENIOR UNSECURED DEBT

Senior unsecured debt has no specific collateral backing from the borrower. In the event of a default, senior unsecured creditors are prioritised ahead of other unsecured creditors to the residual assets of the borrower that have not been used as collateral to satisfy any secured creditors.

SUBORDINATED DEBT

Subordinated debt ranks behind other debt of the borrower in the event of default. Subordinated debt holders stand behind the senior debt holders in the hierarchy of creditors.

Consequently, subordinated debt is inherently riskier and tends to carry a higher margin to compensate investors for the additional risk.

HYBRID SECURITIES

Hybrids are a class of securities that possess both debt and equity characteristics. These securities usually pay fixed or floating interest payments (or 'dividend payments') over an agreed period at which point they may be repaid or converted into equity. These securities often contain provisions that allow for the issuer the right to buy the security within a defined period, as well as other features impacting the payment of interest (or dividends).

Generally, these securities are ranked behind all other debt securities and only ahead of ordinary equity. As such, these securities tend to offer investors higher yields to compensate for the additional risks associated with the investment. This is explained in detail in **Section 4 - Basic types of debt securities**.

Default

- **A default event arises when an issuer is unable to meet a contracted payment of interest and/or principal on a debt.**
- **Default risk refers to the risk that an investor will not receive interest and/or principal on time and in accordance with the terms of the issue.**
- **A default can arise when borrowing terms (covenants) are breached. An issuer may have complied with all contracted payments but may still be in a default situation.**

Debt securities represent a contracted debt, owed by the issuer to investors. In the event the issuer is unable to meet their scheduled interest or principal repayments, a default event is said to have occurred.

Default does not necessarily lead to insolvency, or liquidation. However, if this occurs an investor will need to consider where they sit on the credit hierarchy in assessing any potential losses and avenues for recouping their investment.

In the event of a default, secured and preferred creditors and bondholders are prioritised, over investors in subordinated debt and shareholders. Most organisations have provisions that prohibit any dividend payments until all creditors, and bondholders, have been fully repaid.

Should the issuer be liquidated, the assets of the entity are sold, and the proceeds are used to satisfy the liabilities the issuer owes, in accordance with the credit hierarchy. Because equity ranks lowest on the credit hierarchy, shareholders are the most likely to suffer losses, as they can only be repaid after all the creditors have been paid.

Credit ratings and rating agencies

- **A credit rating is an evaluation of the credit worthiness of an issuer.**
- **Credit rating agencies such as Standard & Poor's (S&P), Moody's and Fitch are the main providers of credit ratings for debt securities.**

In Australia, there are credit rating agencies that provide guidance to investment professionals as to the creditworthiness of borrowers, although if 'issuers have the same rating it does not necessarily mean that they have matching credit quality.' (AFMA 2017, p.1-31).

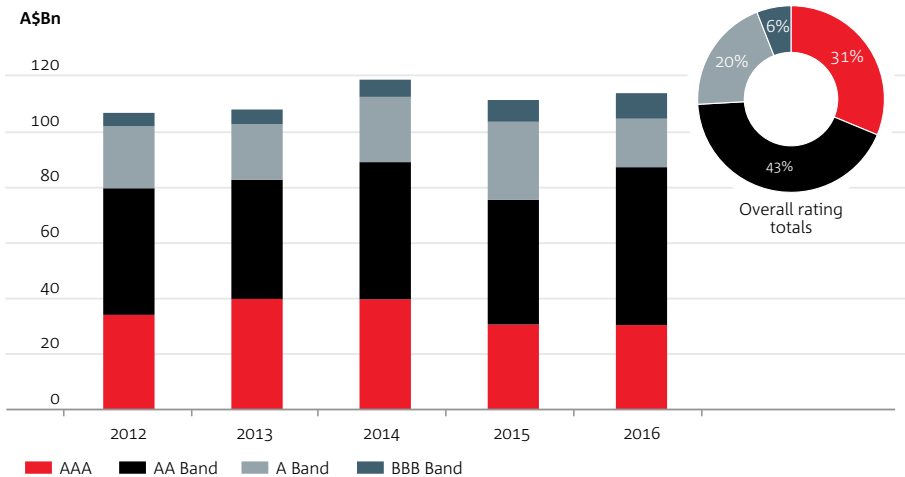
The three biggest and best known rating agencies are all US based and active in Australia - S&P, Moody's and Fitch. Generally, credit ratings are available only to participants in the wholesale market. Currently, ASX listed interest rate securities are unrated by S&P, Fitch or Moody's.

NOTE FOR INVESTORS

Currently, neither S&P, Moody's nor Fitch hold an Australian Financial Services Licence that authorises them to issue credit ratings to retail investors. As such, any investor classified as a 'retail' investor will not be able to access credit ratings issued by these agencies. For investors that qualify as 'wholesale' investors under the Corporations Act 2001 (Cth), credit ratings can be made readily available on debt securities that have been rated by one of the aforementioned agencies.

Figure 3.2 provides a breakdown of bond issuance in Australia by rating, demonstrating the high proportion of AAA and AA rated issuances.

Figure 3.2. Issuance of debt securities by rating, as at 30 December 2016



Source: Bloomberg, National Australia Bank

WHY ARE SOME SECURITIES UNRATED?

Generally, there are two main reasons why certain debt securities are not rated by any major rating agency in Australia:

1. Australian Securities and Investment Commission (ASIC) restricts the disclosure of credit ratings to retail investors.

Neither S&P, Moody's nor Fitch hold an Australian Financial Services Licence that authorises them to issue credit ratings to retail clients. As such, for debt securities that are open to retail investors, there will generally be no rating available that can be disclosed to retail clients.

2. The security is below investment grade.

Refer to **Figure 3.3** for investment grade ratings.

For further information, please refer to ASIC Information Sheet 99 (June 0215).

Acquiring a rating

The majority of issuances into the wholesale (unlisted) bond market acquire a rating from at least one, often two, of the ratings agencies (usually S&P, Fitch or Moody's). However, this is not a requirement for issuances. The agencies have their own complex and highly developed methodologies for assessing the credit quality of different types of borrowers. Their ratings reports (which borrowers pay for, and make available to prospective investors) can be long and detailed.

Conveniently, each agency summarises its rating opinion in a code, or symbol, consisting of just a few letters into a largely homogenous 'ratings schedule'. This makes it easy to check an individual borrower's implied creditworthiness and compare it with that of other borrowers.

Figure 3.3 shows each agency's ratings, down to the lowest investment grade, together with the credit quality signified.

Figure 3.3. Investment grade credit ratings compared

Standard & Poor's	Moody's Investors Service	Fitch	Credit quality
AAA	Aaa	AAA	Prime
AA+	Aa1	AA+	High
AA	Aa2	AA	
AA-	Aa3	AA-	
A+	A1	A+	Upper medium
A	A2	A	
A-	A3	A-	
BBB+	Baa1	BBB+	Lower medium
BBB	Baa2	BBB	
BBB-	Baa3	BBB-	

Source: S&P, Moody's, Fitch

The role of Commonwealth Government Securities

- **Commonwealth Government Securities are a highly liquid form of a debt security.**
- **Commonwealth Government bonds have a broad range of maturities and are often used as a benchmark interest rate for pricing other securities with the same maturity.**

Governments with the highest credit ratings tend to issue bonds that pay the lowest coupons (relative to maturity). In most cases, government bonds tend to exhibit low volatility – that is, their prices tend to move less sharply than non-government bonds when markets are turbulent. This is due to the low risk characteristics that make them increasingly attractive to investors during periods of market uncertainty. For well rated countries such as Australia, government bonds are often referred to (loosely) as ‘risk free’ and the yields they pay as the ‘risk free rate’ for a particular maturity. Note that these terms are not strictly correct as even government bonds involve some degree of risk.

Government bonds are often used as convenient reference points, or benchmarks, for the pricing of other bonds, both at issue and in trading in the secondary market. In the Australian bond market, the ‘risk free benchmark’ is the Commonwealth Government Bond.

Figure 3.4. Schedule of Government ratings as at 11 January 2017

Issuer	Rating
Commonwealth Government	AAA
Australian Capital Territory	AAA
New South Wales	AAA
Northern Territory	AA
Queensland	AA+
South Australia	AA
Tasmania	AA+
Victoria	AAA
Western Australia	AA+

Source: Bloomberg

WHAT IS LIQUIDITY?

Liquidity is a critical concept for all investors. It refers to the ability of a security, such as a bond, to be bought or sold readily in the market, without affecting the asset's price. Liquidity is usually reflected in robust trading activity of the asset. Assets that can be bought or sold easily are referred to as liquid assets.

Liquidity risk refers to the risk that the investor may experience difficulty in selling the securities prior to maturity.

Cash is the most liquid asset as it can be used immediately to buy, sell or pay debt.

With respect to debt securities, the securities with the highest rating tend to be the most liquid. Consequently, government bonds from a highly rated sovereign, like Australia, tend to be extremely liquid, while securities issued by corporations tend to be less liquid.

Commonwealth Government Securities are considered one of the most liquid investments in the Australian debt market.

As **Figure 3.4** shows, the Commonwealth of Australia is rated triple-A by the major ratings agencies – the highest possible rating. However, despite New South Wales, Victoria and Australian Capital Territory also being rated triple-A, the interest paid on Commonwealth bonds is lower than triple-A state government bonds of the same maturity.

This is because a state's creditworthiness is seen to be subordinate to that of the Commonwealth, which largely controls funding to the states and has a greater ability to raise revenue through income tax. Further, the price difference between Commonwealth and state bonds may be explained, in part, due to the liquidity of the Commonwealth bond market, which is normally more liquid than the market for state government bonds.

State government bonds (also known as semi-government bonds) are therefore usually priced against Commonwealth bonds.

Spreads and credit spreads

- **The credit spread generally reflects the credit, liquidity and market risks associated with a security.**
- **The credit spread (risk premium) represents the difference between returns on bonds with the same maturity or swap rate. For instance, the coupon paid on Commonwealth 10 year bonds against 10 year Company X bonds.**
- **Corporate bond yields are often quoted as a spread in reference to the applicable swap curve.**

The difference in pricing between bonds is called a 'spread', and the difference in pricing between bonds of the same maturity, where the difference is attributable to credit quality, is known as the 'credit spread'.

Calculating the spread is simply a matter of subtracting the yield of the benchmark bond from the yield of the bond priced against it (spread to government) or the Australian interest rate swap curve (spread to swap – see insert for further details).

FOR EXAMPLE

If the yield on a five-year interest rate swap is 4.21% and the yield on a five-year corporate bond is 5.95%, then the spread between them is 1.74%.

AN INTEREST RATE SWAP CURVE

An interest rate swap curve graphs the interest rate swaps across a range of maturities.

It is considered in debt markets as an important benchmark for interest rates.

An interest rate swap is an agreement where one party exchanges a floating interest rate for a fixed one (and vice versa).

Australian Financial Markets Association (AFMA) definition: 'An interest rate swap is an agreement between two counterparties under which each party agrees to make periodic payments to the other for an agreed period of time, based on a notional amount of principal, with interest paid in arrears and settled on a net cash basis' (AFMA 2017, p.4-16).

The swap rate is equal to the agreed fixed interest rate between the two parties who execute the exchange.

By market convention, spreads are expressed in basis points, or one hundredth of one percent (ie 0.01% - two places after the decimal point), so that the spread in this instance would be described as 1.74% (174 basis points). This might sound complicated,

but is in fact convenient for market professionals who frequently have to assess the value of bonds.

Figure 3.5 and **Figure 3.6** plot the relationship of generic yields and spreads between swap rates and corporate bonds at the end of each financial year from 2012 to 2016. **Figure 3.5** shows the yields of the corporate bonds grouped according to credit rating and maturity. As illustrated below, the yields rise as they move down the credit spectrum from A to BBB and with longer tenors, so that the lowest-rated bonds with the longest maturities offer the highest yields.

Figure 3.6 shows the spread to swap rates for the corresponding yield in **Figure 3.5**. The levels shown in this table provide a like-for-like comparison with outstanding floating rate note credit spreads.

Price and yield movements are indicative of where an investor could add (buy) or reduce (sell) their holdings of the securities in the secondary market. Note that the interest coupons paid are not directly affected as a result of these movements, subject to the credit worthiness of the issuer. Generally, the interest or coupon on the security will continue to be paid at the issued rate unless the security contains step-up or conversion clauses for instance, or the borrower goes into default.

Figure 3.5. Non-government bond yields

Non-financial corporate bond yields

	3 year tenor		5 year tenor		7 year tenor	
	A-rated	BBB-rated	A-rated	BBB-rated	A-rated	BBB-rated
2012	3.88%	5.03%	4.34%	5.54%	4.87%	5.94%
2013	3.95%	4.94%	4.72%	5.72%	5.37%	6.47%
2014	3.20%	3.98%	3.56%	4.32%	3.90%	4.78%
2015	3.74%	4.66%	4.17%	5.06%	4.53%	5.37%
2016	3.14%	3.90%	3.57%	4.35%	3.94%	4.65%

Source: Bloomberg, RBA, UBS AG Australia Branch

Figure 3.6. Non-government bond spread to swap rates**Non-financial corporate bond spread to swap**

		3 year tenor		5 year tenor		7 year tenor	
		A-rated	BBB-rated	A-rated	BBB-rated	A-rated	BBB-rated
Spread to Swap (bps) as at 31 December	2012	92	207	105	225	133	239
	2013	78	177	95	195	118	228
	2014	75	154	84	160	97	185
	2015	151	243	159	249	174	258
	2016	96	172	95	173	114	185

Source: Bloomberg, RBA, UBS AG Australia Branch

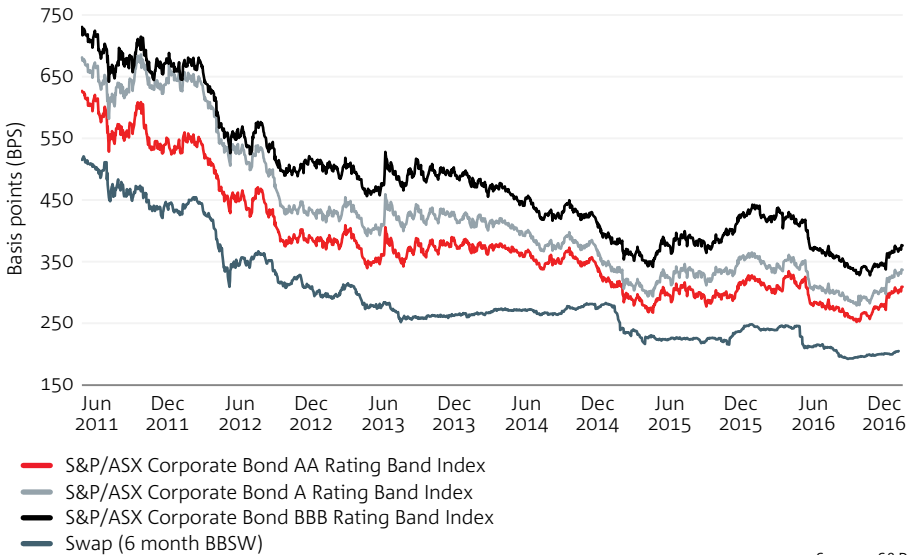
Movements in yield and spreads

- **Yields are impacted by changes in interest rates.**
- **The credit spreads fluctuate in response to changes in market conditions.**

It is important to note that yields and spreads move over time. This is because swap rates and the price of debt securities (and therefore the yields) are constantly changing in response to market conditions, as well as the state of the economy.

Figure 3.7 below illustrates this relationship in the last five years, from 2011 - 2016. The chart plots how these spreads relate to a swap rate.

Figure 3.7. Australian bond spreads to swap rates



Source: S&P

From 2011 to 2016 there has been a broad tightening in credit spread across the corporate bond market. This tightening (credit spread contraction) follows a continued global economy recovery and reflects the improved sentiment from investors who lend to corporates. Corporates today are generally paying investors a lower price to raise funding than they were in the preceding years. Since 2011 we have also seen the RBA domestically and other central banks globally, lowering official cash rates to stimulate their respective economies. In Australia we have moved to an interest rate policy stance at our lowest historic levels. The swap curve in **Figure 3.7** (6 month BBSW) indicates the change in interest rate policy since 2011.

Sometimes the yield of a debt security, such as a corporate bond, will rise, relative to that of the corresponding swap rate, because for example, the company has reported disappointing results. Such events can raise doubts about the company's creditworthiness, causing the bond price to go down, the yield to go up, and the spread is said to have 'widened'.

4

BASIC TYPES OF DEBT SECURITIES

There are various types of debt securities available in the market. The returns, maturities, and associated risks, vary depending on the security.

In this section:

- **Bonds**

 - Government bonds

 - Commonwealth Government bonds
 - Semi-government bonds

 - Non-government bonds

 - Corporate bonds
 - Kangaroo bonds
 - Eurobonds
 - Covered bonds

- **Hybrid securities**

- **ASX interest rate securities**

- **Asset backed securities**

Bonds

A bond represents a contractual obligation of a borrower to pay an agreed rate of interest on the principal over a period of time, and to repay that principal at maturity.

Bonds are issued by government and non-government entities across the investment grade and sub-investment grade credit spectrum, offering investors a range of choices in terms of risk, and prospective reward, based on credit quality, as well as the type of coupon payment and term to maturity.

Bonds in the Australian market generally have terms ranging from less than one year to 15 years. In the US Treasuries market, bonds with 30 year maturities are quite common.

Bonds with maturities of one year or less are referred to in the Australian market as short-dated, while those with maturities of more than one year are medium to long-dated.

The further out along the maturity spectrum these investments are, generally, the higher the rate of interest they pay. This is to compensate investors because the risk of lending money over long periods of time is greater than the risk of lending over short periods.

In addition to categorising bonds as short-dated and medium to long-dated, bonds are further differentiated by the type of entity that issues them - government or non-government.

WHY DO COMPANIES AND INSTITUTIONS ISSUE DEBT SECURITIES?

Businesses aim for cost efficiency and flexibility in all aspects of their operations. This also applies to the way they finance their activities. Depending on conditions in the debt markets, it can be cheaper to borrow than to issue equity, and to borrow in the bond markets, than borrow from banks.

While equity is the most flexible form of finance, some forms of debt can be more flexible than others. For example, a five year revolving credit facility from a bank (under which the borrower can draw down and repay as needed), can be more flexible than a five year bond (under which the borrower has to meet regular coupon payments and repay principal on a predetermined date).

One of the advantages of issuing debt securities, such as a bond, is that the borrower can lock in funds at a known cost for a long period of time. This can be useful in financing a long term investment. Alternatively, a company seeking short term working capital may borrow more cheaply and flexibly by issuing commercial paper (a type of short term unsecured debt security).

GLOBAL BOND MARKETS

Many investors also access other markets, with the aim of broadening opportunities for risk diversification and competitive returns.

The global bond market – that is, the world’s bond market in total – was estimated in 2017 to be worth over US\$103 trillion* – this is 45% more than the market capitalisation of equity markets, which stood at US\$71 trillion (World Federation of Exchanges, 2016).

These markets offer diversification in terms of geography (the US has the world’s biggest bond market, comprising 33% of the total, followed by the Eurozone markets, which comprise 20%*) and sector (government bonds, corporate bonds, inflation-linked securities, mortgage-backed securities etc.). Global bonds can be effective in exploiting cyclical and structural differences between markets at any given time.

*Source: Bloomberg

Figure 4.1 Summary of the primary and secondary market for bonds

	Primary market	Secondary market
Definition	The primary market refers to the initial issuance of a security for the first time	This market is comprised of all outstanding debt securities that are currently trading
Access	Investors may buy new debt securities such as bonds through: <ul style="list-style-type: none"> • A public offer (open to most investors) • Private placement (only available to select investor groups) 	Investors may buy and sell (trade) debt securities until maturity via: <ul style="list-style-type: none"> • A securities exchange such as the ASX for listed debt securities and hybrids • The wholesale (also known as the Over-the-Counter (OTC)) market for unlisted debt securities and hybrids

Source: National Australia Bank

See **Section 6 - Entering the market** for further details.

Government Bonds

COMMONWEALTH GOVERNMENT BONDS

- Commonwealth government bonds are medium to long-term debt, issued by the Treasury.
- These bonds generally pay a fixed coupon over the life of the investment.
- Commonwealth government bonds are one of the most traded and liquid securities in the Australian bond market.

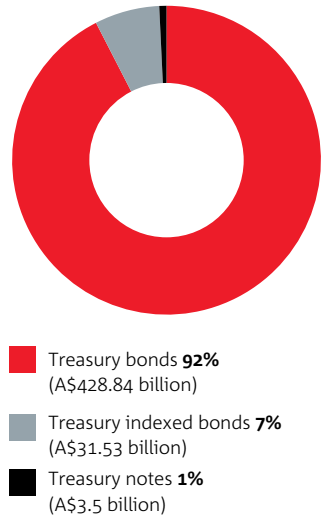
Bonds issued by the Commonwealth Government can fairly be described as the backbone of the Australian debt market. The government issues a variety of Commonwealth Government Securities (CGS) through the Australian Office of Financial Management (AOFM) including:

- Fixed Treasury bonds;
- Inflation linked Treasury indexed bonds; and
- Short term Treasury notes.

Key features of CGS include:

- **Safety:** AAA rated.
- **Liquidity:** One of the most liquid single debt markets in Australia.
- **Yield:** One of the highest yielding sovereign securities markets in the Organisation for Economic Co-operation and Development (OECD).
- **Access:** Easy access to quoted yields for nominal bonds via the RBA or ASX.

Figure 4.2. Commonwealth Government Securities outstanding as at 10 January 2017



Source: Australian Office of Financial Management

The volume of ‘govvies’ on issue shrank during the 1980s and 1990s when Australia – like many other advanced economies at the time – sought to contain inflation, by lowering public sector spending and borrowing.

However, the government bond sector historically comprises the largest and most liquid (most easily traded) segment of the market. The volume on issue has grown again, relative to the market in recent years, as the government funded spending programs to cushion the economy from the effects of the Global Financial Crisis.

Commonwealth bonds also perform an important function, helping to set the prices at which all long-term debt securities are issued and traded in the Australian market.

In May 2013 Commonwealth Government Securities, including Exchange-traded Treasury Bonds and Treasury Indexed Bonds, became available on the ASX. This move was announced by the Government as part of a broader initiative to develop the Australian bond market and to support retail investors to diversify their investments (Australian Government Bonds, 2013).

For further information please refer to:
www.australiangovernmentbonds.gov.au

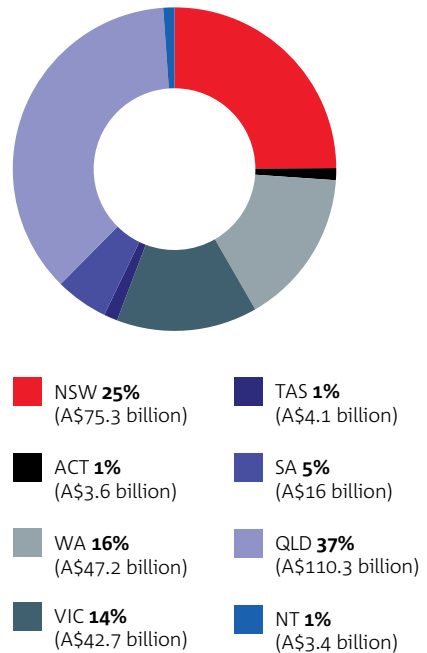
SEMI-GOVERNMENT BONDS

- **Semi-government bonds are those issued by the treasuries of the states and territories.**
- **The coupons paid on these bonds tend to be higher than Commonwealth Government Bonds due to the increased associated risks.**

Securities issued by the borrowing authorities of the Australian state and territory governments are known as semi-government securities. These bonds play an important role in the Australian financial system, enabling state and territory governments to fund their budgets and support infrastructure investment.

Like the Commonwealth bond sector, the semi-government sector is highly liquid and actively traded, primarily because the issuers are highly rated.

Figure 4.3. Outstanding domestic semi-government securities as at 10 January 2017



Sources: NSW Treasury Corporation, ACTT, Northern Territory Treasury Corporation, Queensland Treasury Corporation, South Australian Government Financing Authority, Tasmania Public Finance Corporation, Treasury Corporation of Victoria, Western Australia Treasury Corporation

Non-government bonds

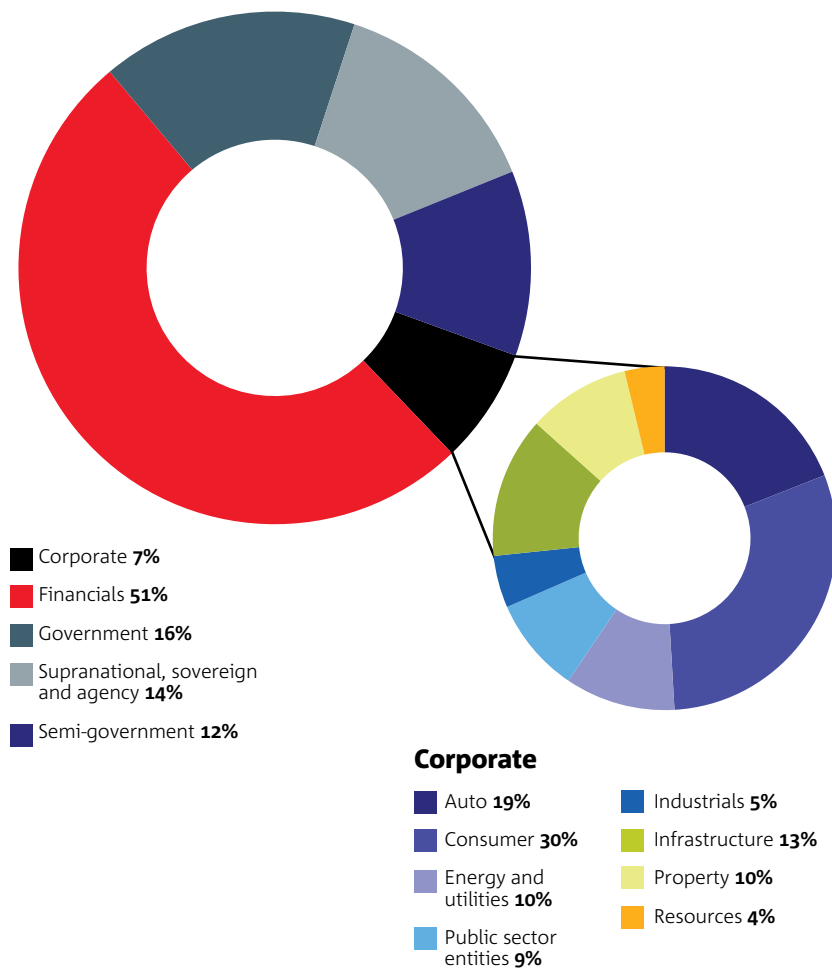
CORPORATE BONDS

- **Corporate bonds are a common type of debt security issued by companies.**
- **Examples of corporate bonds include fixed rate bonds, floating rate notes and inflation-linked bonds.**
- **Investors may elect to purchase bonds issued by a company, instead of shares as a means to gain exposure to the company, while receiving regular income from their investment.**

The corporate bond market in Australia consists of non-government borrowers such as banks, financial institutions and non-financial companies. A comprehensive list of issuers can be found in **Appendix C - Issuers of debt securities**.

Figure 4.4 illustrates the breakdown of corporate issuance by sector. The market tends to be dominated by banks and financial institutions, which are of relatively high credit quality. Because they issue large quantities of bonds, their lines of debt are liquid and easily tradeable. Among non-financial borrowers, the market tends to favour only the most creditworthy. Recently, many Australian companies have found better borrowing terms and conditions in the US and Europe - which may offer larger and more diverse corporate bond markets.

Figure 4.4. Corporate issuance by sector as at 13 January 2017



Source: Bloomberg, National Australia Bank

KANGAROO BONDS

- **Kangaroo bonds are debt securities issued by foreign entities in the Australian bond market.**

Kangaroo bonds are Australian dollar-denominated bonds issued into the Australian market by foreign entities. Borrowers are typically of very high credit quality and range from government agencies, supranational organisations such as the World Bank to large, investment grade multinational companies.

A comprehensive list of foreign borrowers can be found in **Appendix C – Issuers of debt securities**. This specialised part of the bond market offers investors diversification, in terms of the range and quality of issuers available to them.

Figure 4.5. Volume of issued domestic and Kangaroo Bonds



Source: Bloomberg, National Australia Bank

EUROBONDS

- **Eurobonds are bonds issued in a currency other than the currency of the country or market in which it is issued.**
- **Borrowers tend to access foreign markets due to attractive pricing on borrowings and/or to diversify and access different investor pools.**

Eurobonds are not defined by their inherent characteristics, so much as by the way in which they are distributed. Eurobonds are issued in the Eurobond market - an international bond market open to suitably creditworthy issuers, regardless of their domicile, or the currency in which they wish to issue.

A Eurobond is a bond issued in a currency other than the currency of the country or market in which it is issued. A Eurobond is typically categorised according to the currency in which it is denominated.

COVERED BONDS

- **A covered bond is a type of bond that is secured over a pool of high quality assets.**
- **These investors have priority ranking over the specified pool of assets.**

Covered bonds are securities issued by financial institutions that have a preferential claim over a specified pool of assets (also referred to as the 'cover pool'), such as prime mortgages. Under Australian legislation, banks issuing covered bonds must ensure the asset pool is comprised only of high quality assets.

These securities tend to carry higher credit ratings because investors are ranked above unsecured creditors, with the assets in the cover pool ring-fenced through a separate insolvency remote entity.

In the event of default, the investor has recourse over the cover pool. If at such time, the value of the assets is insufficient to meet the investor's claim, the investor may pursue an unsecured claim from the issuer for the residual amount.

Hybrid securities

- **Hybrid securities are securities that possess both debt and equity-like characteristics.**
- **These securities tend to have features specific to each issuance.**
- **They often pay a coupon until a call date, at which point it may be called (repaid) or converted into equity.**
- **Hybrid securities are usually ranked behind, that is they are subordinated, to other debt securities in the event of default.**
- **Some hybrid securities offer franking credits. The availability and level of franking credits may vary depending on the security.**

Hybrid securities (hybrids) possess both debt and equity-like characteristics; paying a predetermined fixed or floating rate of return. Unlike other debt securities, hybrids may be callable, redeemable or convertible - or a mix of provisions affecting the term and the principal invested.

Typical equity characteristics of hybrids include perpetual term, discretionary distributions, and subordination (behind debt holders but generally above ordinary shareholders).

In addition to this, for certain types of hybrids, coupons may be discretionary, non-cumulative (that is the investor may

not be entitled to recover previously missed interest payments) and/or carry franking credits. These securities may also include 'distribution stoppers' that prevent the payment of distributions to ordinary shareholders in the event distributions to hybrid security holders are deferred. These features are outlined in the accompanying prospectus along with the key risks of the security.

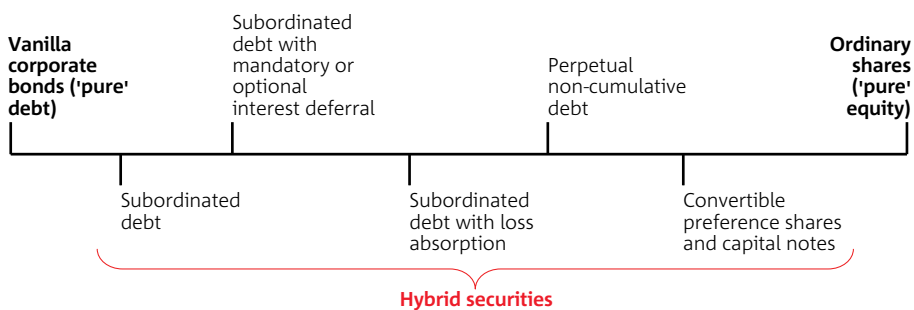
In August 2013, ASIC released a report stating that hybrids were not 'traditional fixed income' investments and should not be treated as such. ASIC also raised concerns in relation to investor expectations and the suitability of these securities for investors seeking regular, steady returns and capital security (ASIC, 2013).

Investors may consider seeking advice from an investment professional on the risks of using these securities within a portfolio - as the returns offered on these securities are largely impacted by the term of the security, the creditworthiness of the issuer as well as the complexity of the security.

In recent years, hybrids have experienced significant investor demand due to the relative high yields offered on these securities and the relative ease at which retail investors can trade these securities on the ASX. Although these securities can offer attractive returns, investors should also take the time to familiarise themselves with the risks and range of provisions affecting their returns.

The figure below outlines the spectrum of hybrids contained in ASIC's 'Report 365: Hybrid Securities'.

Figure 4.6. ASIC's hybrid securities on a spectrum between 'pure' debt and 'pure' equity



Source: ASIC

COMMON TYPES OF HYBRIDS

Subordinated debt: Certain types of subordinated debt may, at times, be classified as a hybrid – these securities tend to contain more equity-like characteristics than other common types of subordinated debt securities.

This type of hybrid is sometimes referred to as Tier 2 capital and generally ranks behind the senior debt, loans and other credit liabilities of the issuer. Listed subordinated notes offer investors the ability to purchase higher ranking securities that are available via an exchange such as the ASX.

Convertible bonds/notes: Although not having been included in Figure 4.6, convertible bonds and notes, are generally, structured as a bond with an option for the investor to convert their investment into shares of the issuer on a future date or event. As such, one of the factors impacting convertible bond prices is the underlying share price of the issuer.

These securities offer investors the benefit of debt-like returns, as well as potential returns from increases in the value of the issuer's shares.

Perpetual securities: Perpetual securities do not have a maturity date. These securities generally rank below

subordinated debt and pay coupons that can be deferred by the issuer.

Convertible preference shares and capital notes: Convertible Preference Shares (CPS) and capital notes are often issued by Australian banks. These securities contain provisions that allow the issuer the option to repay the face value of the security at a point in time, or convert the issue to its ordinary shares.

An example of a Capital Note is the National Australia Bank ("NAB") Capital Notes which issued in March 2015. The Capital Notes offered investors the ability to receive a defined income stream in the form of floating rate coupon payments as well as a potential conversion of the security into NAB ordinary shares at an optional call date. The security was structured with mandatory conversion in seven years and an optional conversion date at year five. This means the securities will mandatorily convert into ordinary equity at year seven, with the issuer, NAB, retaining the option for an early conversion, resale or redemption at year five.

Step-up preference shares: These securities pay a set coupon rate, usually floating, until a call date at which the coupon is increased if the issuer does not call the security.

The recent increased issuance of hybrids may be partly attributed to regulatory changes faced by financial institutions. There are two general categories of securities issued for regulatory capital purposes which may vary in form and structure:

- **Tier 2 securities:** Upper Tier 2 securities are subordinated to the other debts owed by the issuer with the exception of Tier 1 securities. These securities tend to have provisions that enable issuers to defer coupon payments but tend to contain more subordinated debt-like features than Tier 1 securities.
- **Tier 1 securities:** These securities tend to have more equity-like features than Tier 2 securities - in that, these securities are often subordinated below Tier 2 securities and contain provisions allowing deferred and non-cumulative coupons. Further, Tier 1 securities generally carry no maturity dates - with most securities containing provisions for mandatory or optional conversion – however, there are provisions for redemption by the issuer.

Financial institutions have issued Tier 1 securities in efforts to boost their capital ratios under Australian Prudential Regulation Authority (APRA) regulations—this class of securities, together with equity, are viewed as enhancing the ability of issuers to absorb losses. Examples of Tier 1 securities include mandatory convertible preference shares and capital notes.

Hybrids tend to offer significantly higher yields than other debt securities such as corporate bonds – to compensate investors for taking on the additional associated risks, including:

- Subordination
- Conversion and/or mandatory write-off (non-viability event provisions*) risk
- Discretionary/deferred/non-cumulative dividends
- Early redemption/call
- Long investment term/perpetuity

*Note: As of January 2013, APRA requires Tier 1 and Tier 2 securities issued to contain a 'non-viability' clause in order for issuers to be able to treat the funds as regulatory capital. The inclusion of this provision gives APRA the discretion to deem an issuer as 'non-viable' and convert these securities into equity.

A BRIEF OVERVIEW OF BASEL III

The series of Basel regulations are regulatory standards developed by the Basel Committee on Banking Supervision – which is comprised of members from various countries around the world and has the task of facilitating the effective regulation of banks.

Basel III aims to address the weaknesses in the financial system highlighted by the Global Financial Crisis, including the ability of banks to absorb shocks caused by financial and economic stress.

This set of reforms are voluntary and depend on national regulators to implement the framework.

Australia Prudential Regulation Authority (APRA) is in the process of consulting and implementing this comprehensive set of reforms in Australia – including increased funding and liquidity requirements as well as enhanced capital requirements.

For further information and updates, refer to the APRA website: www.apra.gov.au

Figure 4.7. Common characteristics of hybrid securities

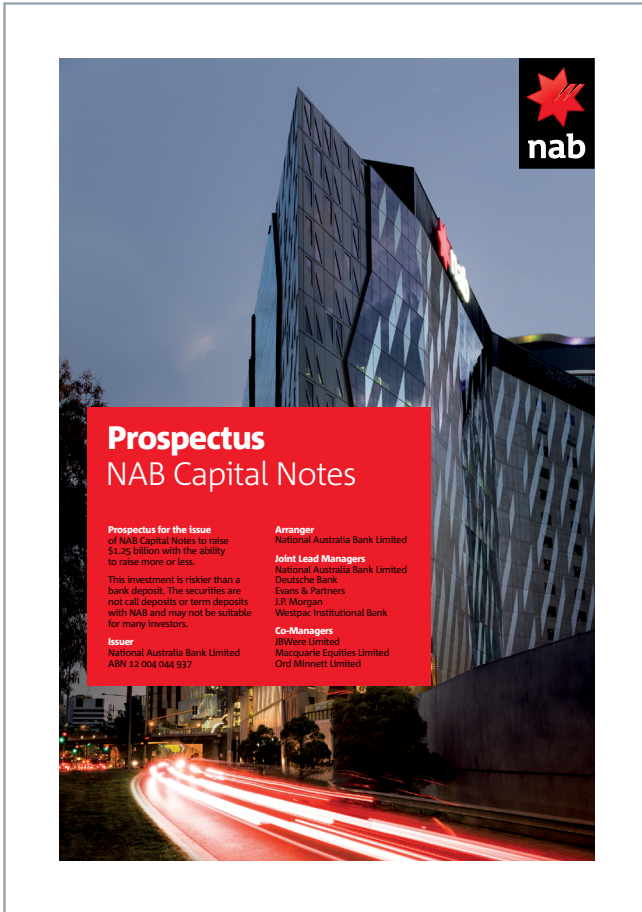
Redeemable preference shares	Step up preference securities	Capital Notes/ Convertible preference securities	Convertible bonds/notes	Equities/ Perpetual instruments
Maturity/call date				
5 years (No fixed maturity with discretionary call date)	10 years (No fixed maturity with discretionary call date)	5+ years (No fixed maturity with discretionary call date)	3+ years	None
Outcomes for holder at synthetic maturity (note issuer chooses method of exchange)				
New reset terms; Conversion into ordinary shares (at discount); or Redemption at par	Conversion into ordinary shares (at discount); Redemption at par; or Step up of margin	Conversion into ordinary shares (at discount); or Redemption at par	Conversion into ordinary shares (at discount/ predetermined rate) Generally, the investor has an option to convert to equity Redemption at par	These securities have no maturity period with the intention to pay distributions to the investors for perpetuity (subject to distribution stopper). The issuer may, but is not required, to redeem these bonds.
Potential for early redemption or conversion upon various events (e.g. tax, regulatory, takeover)				
Yes	Yes	Yes	Yes	Yes

Redeemable preference shares	Step up preference securities	Convertible preference securities	Convertible bonds/notes	Perpetual
Risks				
<p>If holder does not request exchange on a reset date, the instrument could be perpetual.</p>	<p>If the issuer does not elect to exchange from ten year, the instrument could be perpetual.</p> <p>The step-up may not be large enough to encourage the issuer to exchange.</p>	<p>If the mandatory conversion conditions are not satisfied at year five, the instrument could be perpetual or mature at a later date.</p>	<p>Investors are usually provided with the option to convert their security into an equitable interest in the firm. If the share price of the issuer is below that of the option, then the investor will most likely redeem the value of the security at par.</p>	<p>Investors must sell their investment in the secondary market if they seek to redeem security.</p>

Source: JBWere and National Australia Bank

To illustrate some of the key features and risks of hybrids, the following section will take a closer look at the prospectus for the NAB Capital Notes.

Figure 4.8. National Australia Bank Capital Notes Prospectus (February 2015)



The prospectus outlined the key features of the security including details about the issuer, type of security, term and how funds raised will be used by the issuer.

Section One: Investment Overview

This section provides a summary of the key features and risks of NAB Capital Notes and the Offer. You should read the Prospectus in full before deciding to apply for NAB Capital Notes.

1.1 Key features of the Offer and NAB Capital Notes

Topic	Summary	Further Information
Issuer	National Australia Bank Limited (" NAB ")	Section 4
	<p>The Group is a financial services group that provides a comprehensive and integrated range of financial products and services, with over 12,700,000 customers and 42,800 employees, operating more than 1,750 stores and business banking centres globally. Our main operations are based in Australia, with interests in New Zealand, Asia, the United Kingdom and the United States of America.</p> <p>NAB is a public limited company, incorporated on June 23, 1893 in Australia, which is NAB's main domicile. NAB's registered office address is Level 1, 800 Bourke Street, Docklands, Victoria 3008, Australia.</p>	
Offer Size	\$1.25 billion, with the ability to raise more or less.	
Use of proceeds	<p>The net proceeds of the Offer will be used for general corporate purposes. APRA has provided confirmation that NAB Capital Notes, once issued, will qualify as Additional Tier 1 Capital for the purposes of NAB's regulatory capital requirements.</p>	
Type of security	<p>Convertible notes directly issued by NAB which are not guaranteed or secured. NAB Capital Notes are not deposit liabilities of NAB and are not Protected Accounts for the purposes of the Banking Act.</p>	
Face Value	\$100 per NAB Capital Note	
Term	<p>Perpetual. NAB Capital Notes do not have a fixed maturity date.</p> <p>However, NAB must Convert NAB Capital Notes into Ordinary Shares on the Mandatory Conversion Date (23 March 2022) (subject to the Mandatory Conversion Conditions being satisfied). NAB must also Convert NAB Capital Notes into Ordinary Shares if another entity acquires NAB, subject to certain conditions.</p> <p>In addition, with APRA's prior written approval, NAB may elect to Convert, Redeem or Resell NAB Capital Notes on 23 March 2020, or earlier following the occurrence of certain events.</p>	Sections 2.2 – 2.7

The prospectus also summarised the key risks associated with the security to help investors make informed decisions about their investments.

Section One: Investment Overview

1.2 Key risks of NAB Capital Notes


You should read Section 6 "Key Risks of NAB Capital Notes" in full before deciding to invest. The key risks outlined in that section include risks associated with an investment in NAB Capital Notes and an investment in NAB. Some of these risks are summarised below.

1.2.1 Key risks associated with an investment in NAB Capital Notes

Topic	Summary	Further Information
NAB Capital Notes are not deposit liabilities or Protected Accounts	NAB Capital Notes do not constitute deposit liabilities of NAB, are not Protected Accounts for the purposes of the Banking Act or any other accounts with NAB and are not guaranteed or insured by any person.	Section 6.1.1
Distributions may not be paid	There is a risk that Distributions will not be paid, including where the Directors do not resolve to pay a Distribution or where a Payment Condition exists on the Distribution Payment Date. As Distributions are non-cumulative, if a Distribution is not paid then NAB has no liability to pay that Distribution and holders have no claim or entitlement in respect of such non-payment. Failure to pay a Distribution when scheduled will not constitute an event of default.	Section 6.1.2
The Distribution Rate will fluctuate	The Distribution Rate will fluctuate up and down. There is a risk that the return on NAB Capital Notes may become less attractive compared to returns on other investments.	Section 6.1.3
Market price of NAB Capital Notes	The market price of NAB Capital Notes may fluctuate up or down and there is no guarantee NAB Capital Notes will trade at or above their Face Value. The price at which NAB Capital Notes trade may, for example, be affected by how the Distribution Rate of NAB Capital Notes compares to that of other comparable instruments.	Section 6.1.4
Liquidity of NAB Capital Notes	The liquidity of NAB Capital Notes may be low, which means that, at certain times, you may be unable to sell your NAB Capital Notes at an acceptable price, if at all.	Section 6.1.5
Liquidity and price of Ordinary Shares	Where NAB Capital Notes are Converted, the market for Ordinary Shares may be less liquid than that for comparable securities issued by other entities at the time of Conversion, or there may be no liquid market at that time. The market price of Ordinary Shares will fluctuate due to various factors, including investor perceptions, domestic and worldwide economic conditions, NAB's financial performance and position and transactions affecting the share capital of NAB. As a result, the value of any Ordinary Shares received by Holders upon Conversion may be greater than or less than anticipated when they are issued or thereafter. The market price of Ordinary Shares is also relevant to determining whether Conversion will occur (except for Conversions on account of a Loss Absorption Event) and the number of Ordinary Shares you will receive. Depending on the market price of Ordinary Shares at the relevant time, Conversion may not occur. See on page 15 the heading "Conversion or Write Off following Loss Absorption Event" and Section 6 for further information on the Conversion or Write Off of NAB Capital Notes following a Loss Absorption Event.	Sections 6.1.4, 6.1.5, 6.1.6 and 6.1.9

The prospectus included a simplified diagram illustrating where the security ranked within the capital structure.

Illustration of ranking on winding up

	Examples	Examples of existing NAB obligations and securities ¹
Higher ranking		
	Senior obligations Liabilities preferred by law and secured debt	Liabilities in Australia in relation to Protected Accounts under the Banking Act (generally, savings accounts and term deposits) and other liabilities mandatorily preferred by law including employee entitlements, liabilities to secured creditors and in respect of covered bonds
	Unsubordinated unsecured debt	Bonds and notes, trade and general creditors
	Term subordinated unsecured debt issued before 1 January 2013	NAB Subordinated Notes and other dated subordinated unsecured debt obligations issued before 1 January 2013
	Term subordinated unsecured debt issued after 1 January 2013 and perpetual subordinated unsecured debt	NAB Undated Subordinated Floating Rate Notes issued in 1986 and €750 million Subordinated Notes due 2024
Equal ranking obligations	Preference shares and other equally ranked instruments	NAB Capital Notes² , and any securities expressed to rank equally with NAB Capital Notes, which include: <ul style="list-style-type: none"> • NAB CPS II. • NAB CPS. • The preference shares comprised in the National Income Securities. • The preference shares which may be issued under the TPS, TPS II³, AUD NCI's and EUR NCI's (if issued). • The 2009 Capital Notes.
Lower ranking obligations	Ordinary shares	Ordinary Shares
Lower ranking		

¹ This is a very simplified capital structure of NAB and does not include every type of security or other obligation issued by NAB. NAB has the right to issue further debt, deposits or other obligations or securities of any kind at any time. NAB Capital Notes do not limit the amount of senior debt, deposits or other obligations or securities that may be incurred or issued by NAB at any time.

² If a Write Off of a NAB Capital Note occurs following a Loss Absorption Event, the rights of Holders to distributions and returns of capital in respect of that NAB Capital Note will be terminated, the NAB Capital Note will not be Converted, Redeemed or Resold on any subsequent date and the Holder will not have their capital repaid. If a NAB Capital Note is Converted, the Ordinary Shares a Holder receives on Conversion will rank equally with other Ordinary Shares in a winding up of NAB.

³ NAB has given notice on 22 January 2015 that the TPS II will be redeemed on 23 March 2015.

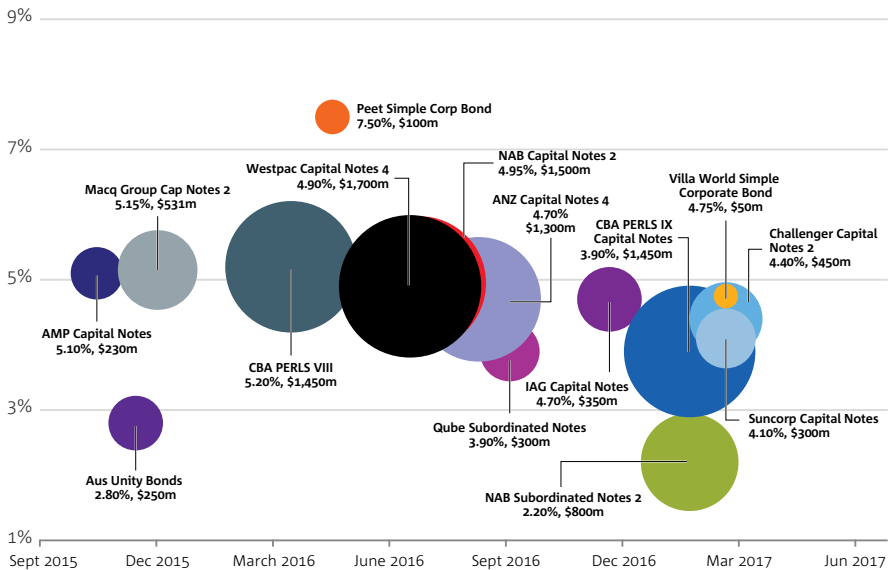
ASX interest rate securities

Institutional, private and retail investors can access a segment of the debt market directly by buying interest rate securities, listed on the ASX. Interest rate securities are issued by ASX listed companies such as AGL Energy, Woolworths and National Australia Bank – and since May 2013, Commonwealth Government Securities. These securities generally fall into three categories – government bonds, non-government bonds and hybrid securities.

One of their attractions is the relative ease with which they can be bought and sold (note that trading debt securities prior to maturity may affect the potential capital gain, or loss, on the investment).

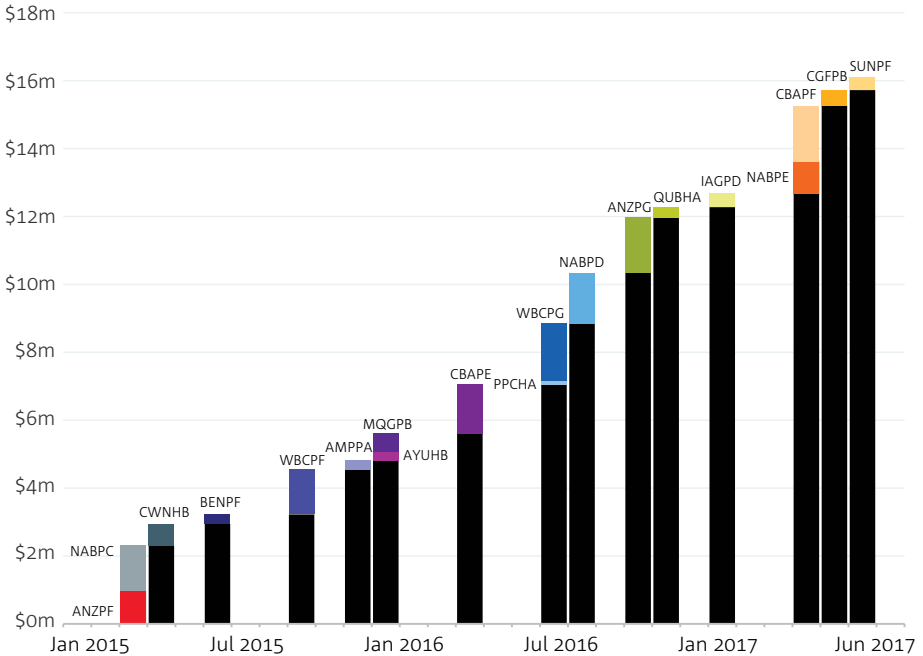
As at 30 June 2017, ASX interest rate securities (excluding government securities) had a market capitalisation of \$45.704 billion (NAB, 2017).

Figure 4.9. Initial margins over the applicable swap rate offered on ASX listed interest rate securities issued as at 30 March 2017



Source: Bloomberg, National Australia Bank

Figure 4.10. ASX Issuance in the bond and hybrid sector January 2015 - June 2017



Source: Bloomberg, National Australia Bank

Asset backed securities

- **Asset backed securities are a type of debt security in which the interest payments are linked to the performance of an underlying pool of assets.**

With government and corporate bonds, interest payments are typically made out of cash flows arising from tax revenues in the case of governments and operating income in the case of companies. For asset backed securities, the interest payments are serviced by the cash flows generated by a specific class of assets – home loans, for example, or finance leases or credit card payments. This is a form of structured finance known as securitisation.

Categories of structured products include:

- **Residential mortgage-backed securities (RMBS):** a security that is backed by a pool of mortgages, from an authorised financial institution, carrying maturities from three to eight years which usually pay periodic payments that are similar to coupon payments. The quality of the loan pool can vary significantly, from prime residential mortgages to low documentation, and no documentation mortgages.
- **Asset-backed securities (ABS):** A type of security that is backed by a loan, lease or receivables against assets other than real estate. ABS are often viewed as an alternative to investing in corporate debt. These securities tend to have maturities of three to eight years.

5

DEBT SECURITIES AS PART OF A DIVERSIFIED INVESTMENT PORTFOLIO

Debt securities can provide investors with:

- Regular, defined cash flows;
- Liquidity;
- Capital preservation; and
- Diversification.

These factors become increasingly important to investors as they approach retirement.

An investor may consider increasing their allocation towards debt securities year on year to reflect their growing need for defined cash flows and capital protection.

In this section:

- Lifecycle investing
- How debt securities can improve portfolio performance
- Volatility and sequencing risk
- Diversifying your portfolio of debt securities

The key to a successful investment strategy, over time, is having the right mix of assets in a portfolio. Diversification may offer a better outcome for an investor's objectives by balancing risk and reward. Further, diversification across asset classes may help investors reduce the overall risk of an investment portfolio.

Asset allocation – the mix of assets – should vary according to market conditions and an investor's appetite for risk. Portfolio construction should also vary depending on an investor's time horizon – i.e. how much time until the investor reaches retirement. The investment strategy of a 25 year old investor, and that of a 50 year old investor, should not be the same.

Younger investors, for example, tend to weigh their portfolios towards growth assets, such as shares. This may be attributed to the increased time and opportunities these investors have to recoup any losses on any investments prior to their retirement.

Investors who have relatively low risk profiles and are seeking greater capital protection, tend to focus on more defensive assets – with a focus on income – such as debt securities, within their portfolio.

Generally speaking, as an investor ages, asset allocation within their portfolio will be adjusted to reflect the changes in their risk profile and investment strategy.

Lifecycle investing

- **Lifecycle investing is a strategy that focuses on increasing the stability of income, and reducing the level of risk in a portfolio, as an investor ages.**
- **This investment strategy evolves with the investor, and the time remaining until their target retirement date.**

Lifecycle investing takes into account the risk appetite, and the ability of the investor to withstand losses, at different stages of their life. This strategy is centred upon the premise that an investor's ability to invest in high risk, and yielding assets, should vary depending on the amount of time an investor has until retirement.

As an investor nears their target retirement age, their risk appetite generally decreases, and the need for security generally becomes greater. As such, the asset mix of a portfolio should be adjusted to reflect the changing objectives and needs of the investor.

Figure 5.1 summarises the five main stages of lifecycle investing that should shape asset allocation.

Figure 5.1. Summary of key stages in lifecycle investing

	High growth	Growth	Balanced	Moderate	Conservative
Years to retirement	Significant years to retirement	Five to ten years to retirement	Within five years to retirement	Retirement in near future	In retirement
Risk appetite	Higher	Tapering	Needs certainty, lower risk	Moderate/very low risk appetite	Moderate/very low risk appetite/high certainty needed
Loss tolerance	One year of negative returns in every three to four years	One year of negative returns in every four to five years	One year of negative returns in every five to six years	One year of negative returns in every six to seven years	One year of negative returns in every eight to nine years
Use of gearing	Suitable	Maybe	Unlikely	Not suitable	Not suitable

Source: ASX

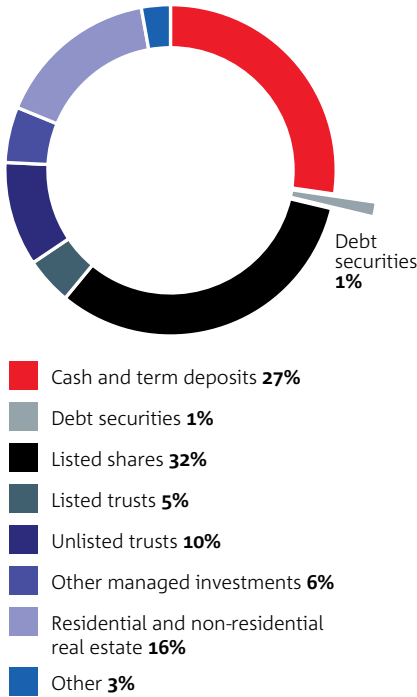
Typical asset allocations for high growth, growth, balanced, moderate and conservative portfolios in a self-managed superannuation fund (SMSF) should reflect the changing investment agendas, and the risk appetite of the investor.

For instance, a high growth portfolio, which is typically suited for investors with significant years to retirement, is unlikely to have a significant allocation to debt

securities. Conversely, a conservative portfolio, for investors such as retirees, is likely to have a much greater allocation to debt securities.

In addition to this, investors generally adjust and reweight their portfolios towards growth, or defensive assets, according to their short to medium-term outlooks on the economy and financial markets.

Figure 5.2. SMSF asset allocation as at 30 June 2016



As at 30 June 2016, SMSFs held over A\$158 billion in cash and term deposits. **Figure 5.2** illustrates SMSFs as heavily weighted towards cash and term deposits, as well as listed shares. These asset classes represent two ends of the risk spectrum.

While this significant allocation towards cash and term deposit products can provide investors with a defined income stream, and reduce the overall risk profile of a portfolio, investors should remain mindful of the other investment options available to them such as debt securities. Like a portfolio of equity investments, investors can create a diversified portfolio of cash and debt securities.

Source: Australian Taxation Office, National Australia Bank

The Australian retirement story

\$2.3 tr. Assets under management in Australian superannuation funds.

\$555 bn. Funds held in SMSFs.

11.2%. Growth in assets under management per year.

3,670,000. Australians aged over 65 in 2016.

9,600,000. Australians aged over 65 by 2064.

160%. Growth in Australians aged over 65 by 2050.

Source: APRA (May 2017), Australian Bureau of Statistics

Australia is undergoing a profound generational change that is having a significant impact on the suite of investment products required by our ageing population, and the financial institutions that invest on their behalf. With the number of Australians reaching the retirement age of 65 set to dramatically increase by over 160 percent by 2064 – and these retirees enjoying a longer lifespan than any

previous generation – there's a new focus on providing certainty of cash flow, particularly through debt security products.

80.3 years. Life expectancy of Australian males born in 2013-2015.

84.4 years. Life expectancy of Australian females born in 2013-2015.

Source: Australian Bureau of Statistics

This generational change is coinciding with major legislative change that will have an equally shaping effect on the Australian superannuation market. Australia's Superannuation Guarantee rate (SG) increased from 9% to 9.5% in 2014, and will gradually continue to increase to 12% by 2025. The Federal Government also introduced MySuper, a new low cost, simpler superannuation option on 1 July 2013, which replaced default superannuation funds.

These reforms will increase the volume of superannuation money requiring investment, and heighten the expectations of investors in terms of return, efficiency and simplicity.

How debt securities can improve portfolio performance

- **Debt security investments can provide investors with a defined income stream, and reduce the overall risk profile of a portfolio.**
- **Similarly to holding a diversified portfolio of equity investments, investors can create a diversified portfolio of debt securities. There are a wide range of debt securities available to suit various investor profiles and risk appetites.**

The Global Financial Crisis illustrated that investors do not know when the next crash will occur. The market is cyclical - downturns and rallies will occur. As such, investors nearing retirement should consider how they are positioned when faced with poor economic conditions.

Investors can utilise debt securities to stabilise their income stream, and reduce the overall risk profile of their portfolio.

By increasing asset allocation towards a diverse range of debt securities, an investor can reduce the potential losses to a portfolio in the event of an economic downturn. These securities can provide investors with a defined income stream (i.e. scheduled coupon payments), which can potentially act as a buffer against the extent of losses from growth assets in a portfolio.

When determining and constructing the asset allocation of a portfolio, it is imperative to consider:

- The goals and retirement needs of the investor;
- The ability of the investor to sustain losses; and
- The options available to diversify, within asset classes.

The goals and retirement needs of an investor should play a critical role in determining how a portfolio is constructed, and how it should evolve as the investor approaches retirement.

Decisions as to asset allocation between debt securities and equities should be one that takes into account the investment time horizon of the investor, as well as their preference between growth and defensive assets. As investors near retirement, their need for security and their ability to sustain losses will change. These investors are less comfortable risking their capital than those in the earlier stages of their working lives. As such, the emphasis on capital preservation and steady income becomes greater.

The ability of an investor to sustain losses should match that of the overall risk profile of the portfolio. In times of share market volatility, debt securities can help smooth out the performance of a balanced portfolio. This is due to the counter-cyclical nature of debt securities – generally, there is an inverse relationship between economic

conditions and the debt market (refer to **Section 2 - An introduction to debt securities**).

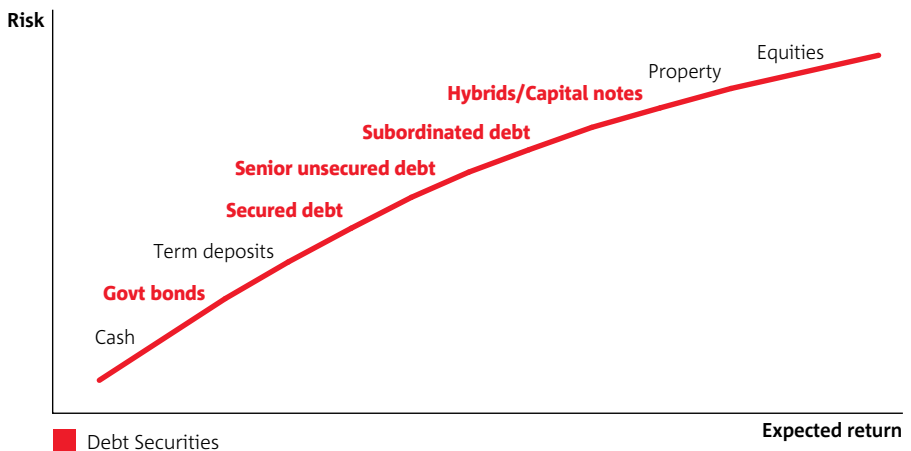
Investments in debt securities may act as a natural hedge against fluctuations in the market. The regular returns on these investments can potentially enhance stability in a portfolio that may otherwise be impacted by adverse conditions in the market.

Similar to the strategies applied to equities, there are numerous investment strategies

that can be applied to funds allocated towards debt securities. These strategies range from passive and low risk (i.e. holding Commonwealth Government Securities until maturity) to active and diversified (i.e. regularly trading a range of non-government bonds and hybrids).

Figure 5.3 below maps the various investment products available, according to the respective risks and expected returns, for each option.

Figure 5.3. Risks and expected returns of various investment products



Source: National Australia Bank

Volatility and sequencing risk

- **Investors need to consider their cash flow requirements, and appetite for market volatility and sequencing risk.**
- **Volatility is the measure of the severity of price movements.**
- **Sequencing risk highlights how the timing, and sequence, of negative returns can impact a portfolio differently, depending where the investor sits on the investment lifecycle.**

When determining the asset allocation of a portfolio, investors should remain mindful of their risk appetite; this includes their ability to withstand losses resulting from market volatility.

Volatility refers to the amount of uncertainty or risk about the size of changes in a security's value. A higher volatility means that a security's value can potentially be spread out over a larger range of values; i.e. the price of the security can change dramatically over a short period in either direction. A lower volatility would mean that the security's value does not fluctuate dramatically (AFMA 2017, p. 5-17). It is important for investors to consider the market volatility in relation to their investments as some assets may respond more severely to changes in the market.

Investors with low risk appetites should select investment options that are more

resilient to changes in the market, such as those offering greater liquidity and defined returns.

Sequencing risk is the risk that the order and timing of investment returns may have a negative impact on a portfolio. Investment returns, positive and negative, can affect an investor's portfolio in different ways, depending on the time of those returns.

Superannuation portfolios are subject to fund and market volatility. Both of these dynamics create sequencing risk.

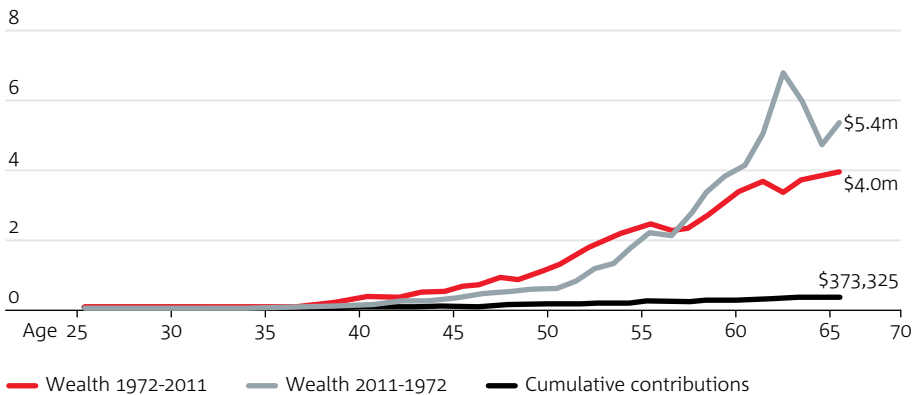
It is critical for investors to be mindful of this type of risk when determining the asset allocation and the investment strategy of their portfolio.

Sequencing risk highlights a simple, yet often overlooked, concept: an investor's susceptibility to market risk increases as their pool of assets grows. As an investor approaches retirement, theoretically speaking, their asset pool should be at its greatest. The portfolio at this stage is the accumulation of all the investor's contributions and investment returns since the investor commenced their working life. As such, any negative returns sustained at this later stage would impact all the preceding contributions and returns.

For instance, a 20 per cent crash in the market in the year prior to retirement would severely impact the ability of the investor to retire, compared to the same event occurring earlier in the investor's working life.

Figure 5.4 demonstrates how the order in which investment returns occur can impact a portfolio. The example below illustrates how the same returns from 1972 to 2011, when reversed, will yield two very different results: \$4.0 million (1972–2011) and \$5.4 million (2011–1972), a difference of \$1.4 million, or around 35%.

Figure 5.4. Wealth accumulation paths for returns from 1972 to 2011: in chronological order and the reversed order

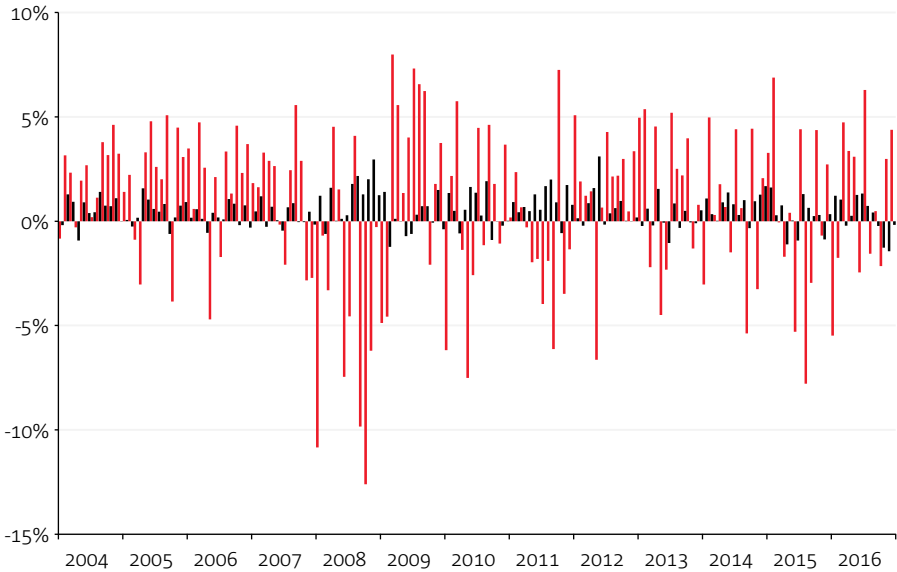


Source: Finsia

Figure 5.5 graphs the rolling 12 month average returns for bonds and equities from January 2004 until December 2016, using the Bloomberg AusBond Composite 0+ Yr Index and S&P/ASX200 Accumulation Index. The below highlights the counter-cyclical nature of bonds – noting that although the performance of bonds remains relatively stable during this period, average returns from the bond index increase during downturns in equities.

For further information on the Bloomberg AusBond Composite 0+ Yr Index, refer to **Section 1 - What are debt securities?**

Figure 5.5. Comparison of the rolling 12 month average returns for the Bloomberg AusBond Composite 0+ Yr Index and the S&P/ASX200 Accumulation Index



■ S&P/ASX 200 Accumulation Index ■ Bloomberg AusBond Composite 0+ Year Index

Source: Bloomberg, National Australia Bank

CASE STUDY EXAMPLE

To illustrate how diversifying asset allocation towards debt securities can stabilise returns for a portfolio holding only Australian equities, two sample portfolios have been constructed: one with a 100% allocation towards equity, and the other a 50% allocation to each of equity and debt securities (bonds). The hypothetical portfolios replicate the performance of two indices; the S&P/ASX 200 Accumulation Index and the Bloomberg AusBond Composite 0+ Yr Index. Whilst it is difficult in reality for small investors to create such portfolios, the examples are included to highlight the potential benefits of diversification of asset classes on a portfolio.

This case study assumes that an investor had an accumulated principal balance of \$1,000,000 in 2010 and made contributions of \$20,000 per annum.

Figure 5.6 demonstrates how adverse economic conditions can affect a portfolio and its ability to recover losses. Like the Asian crisis, IT bubble and September 2011 attacks, the Global Financial Crisis highlighted that markets can move and turn suddenly – and market downturns, in general, should be expected.

Any investor, especially those approaching retirement, would have been severely impacted if their portfolios had large

exposures to the equities market during these periods. As such, investors should consider constructing their portfolios and positioning themselves in a way that prepares them for such events.

In the case study example, the 50% equity/50% bonds portfolio outperformed the 100% equity/0% bond portfolio in nine of the ten years and had a better return at the end of the ten year period.

By increasing the amount, and types, of debt securities in a portfolio, an investor can potentially enhance the ability of a portfolio to deliver more stable returns. Due to the 'fixed' nature of these investment returns, the scheduled interest payments can often act as a buffer in a portfolio against fluctuations in the market.

As an investor ages, greater emphasis should be placed on capital preservation and increasing the portion of defined income streams within a portfolio. To this, investors close to retirement should consider how increasing their allocations towards debt securities, and diversifying their holdings beyond simply cash and term deposits, can deliver the stable income stream they need for their future.

CASE STUDY EXAMPLE (CONTINUED)

Figure 5.6. Sample portfolio of returns

Year	Equity (S&P/ASX 200 Accum. Index)	Fixed Income (Bloomberg AusBond Composite 0+ Yr Index)	Sample Portfolio 1 (100% equity/0% bonds) Investment (\$20,000 contribution pa)	Sample Portfolio 2 (50% equity/50% bonds) Investment (\$20,000 contribution pa)	Variance (sample portfolio 2- sample portfolio 1)
			\$1,000,000	\$1,000,000	
2007	16.07%	3.46%	\$1,183,914	\$1,119,603	-\$64,311
2008	-38.44%	14.95%	\$741,129	\$1,005,757	\$264,627
2009	37.03%	1.73%	\$1,042,976	\$1,224,548	\$181,573
2010	1.57%	6.04%	\$1,079,637	\$1,291,887	\$212,250
2011	-10.54%	11.37%	\$983,698	\$1,317,309	\$333,612
2012	20.26%	7.70%	\$1,207,024	\$1,524,250	\$317,226
2013	20.20%	1.99%	\$1,474,863	\$1,715,539	\$240,676
2014	5.61%	9.81%	\$1,578,728	\$1,869,349	\$290,621
2015	2.56%	2.59%	\$1,639,668	\$1,937,972	\$298,304
2016	11.80%	2.92%	\$1,855,459	\$2,102,038	\$246,579

Note: past performance is not indicative of future performance.

Source: Bloomberg, National Australia Bank

Diversifying your portfolio of debt securities

The same principles of diversification and asset allocation apply within the debt securities component of a broad portfolio, and this is why it is important for investors to be able to look inside their allocation towards debt securities and understand what they see.

A portfolio of debt securities is likely to contain a number of different investments tailored according to strategic investment goals and prevailing market conditions.

In an Australian domestic portfolio of debt securities, for example, these different investments could include Commonwealth and semi-government bonds, bonds issued by banks, financial institutions and various industrial corporate bonds, inflation-linked bonds and bank bills.

How the portfolio is weighted between the different debt securities should largely depend on the economic outlook, and its implications for interest rates and credit - key topics discussed in **Section 2 - An introduction to debt securities** and **Section 3 - Credit quality, credit risk and credit spreads**.

In gaining a stronger understanding of the characteristics of the debt securities available, investors will be better positioned to construct and develop investment strategies that are more aligned with their portfolio objectives and future needs.

6

ENTERING THE MARKET

As with any asset class, the benefits and challenges of investing in debt securities should be considered in light of the investor's financial position, appetite for risk and overall investment goals.

In this section:

- Accessing listed debt securities
- Accessing unlisted debt securities
- Making access to unlisted debt securities easier

The first piece of advice for anyone considering an investment option is, 'talk to your market expert.' Investors should be mindful of tax – tax implications may vary depending on individual circumstances and the type of investor. For example, the tax implications for an Australian complying superannuation fund may differ to that of an Australian resident individual or Australian resident trust estate. You should discuss your specific taxation circumstances with, and obtain advice from, your independent tax adviser when considering whether to invest in various debt securities.

As with any other asset class, the benefits and challenges of investing in debt securities should be considered in light of the investor's financial position, appetite for risk and overall investment goals. A professional investment adviser can provide the insight, information and judgement necessary for increasing the prospects of success for any investment strategy.

As for the mechanics of investing in debt securities, these vary according to the type of asset and whether they are listed or unlisted securities.

Accessing listed debt securities

Investors can invest in listed securities, such as hybrids via:

- **An initial public offering:** after reviewing the prospectus (and any supporting collateral) investors can submit their application in response to the offer.
- **The ASX Exchange:** investors can buy and sell listed debt securities on the ASX, similarly to how they would buy and sell shares.

Accessing unlisted debt securities

The unlisted market is made up of all debt securities that are not available on an exchange. Major participants in this market tend to be banks, insurance companies and fund managers who access the market via brokers and banks.

Although unlisted debt securities are not as easily accessible as listed securities, most investors may already have indirectly accessed this market – via their superannuation funds – which may have invested a portion of their funds in a mix of listed and unlisted debt securities.

Making access to unlisted debt securities easier

Note: due to regulations under the Corporations Act 2001 (Cth), the following service 'NAB Access Bond Service' is only available to investors who qualify as a 'wholesale investor' (as defined within the Corporations Act).

To find out more about whether you qualify as a wholesale investor, please contact your adviser or NAB representative.

NAB Access Bond Service offers investors an opportunity to access the unlisted debt market.

As an investor, it is important to consider and understand the various markets available to best achieve your investment goals. Unlisted and listed debt securities offer investors increased investment options to create greater diversification and cash flow management – this may be of critical importance especially during times of higher volatility and poor performance in equity markets. Access to the unlisted debt market through NAB Access Bond Service enables investors to build a diversified portfolio of bonds and other fixed income securities.

NAB Access Bond Service provides wholesale investors with:

- **Direct access to the world of fixed income:** Access a range of unlisted debt securities issued by leading Australian and international companies - in minimum parcels of \$50,000 (normally only available in minimum amounts of \$500,000).
- **Choice and flexibility:** Select from an extensive list of bonds - offering a variety of issuers, credit rankings, maturities, and paying fixed or floating coupons. With NAB Access Bond Service, investors and their advisers have the choice and flexibility to build a diversified portfolio of debt securities suited to their individual investment objectives.
- **The control is yours:** Create the portfolio you want - you (and your adviser) decide what you invest in, how long to hold it for and when to sell it (subject to liquidity).
- **Seamless integration:** Through NAB Portfolio Access, NAB Access Bond Service is fully integrated with nabtrade so you can view your unlisted fixed income and equity holdings online as well as your NAB banking products and your investment lending.
- **Easy administration:** NAB will execute your orders and hold your bonds in safe custody as well as provide you with monthly reporting and regular coupon payment notices.
- **Security:** In dealing with National Australia Bank, you know that you are dealing with one of the safest banks in the world and a leading provider of custody – named Australia and New Zealand's Best Securities Service Provider (Global Finance Magazine, 2016).

NAB (and your adviser) will help you explore the unlisted bond market. In joining NAB Access Bond Service, you are joining a support network dedicated to helping you achieve greater diversification in your portfolio.

To gain direct access to bond markets through bespoke services, such as NAB Access Bond Service, please contact your adviser or NAB representative.

NAB ACCESS BOND SERVICE

Unlock fixed income opportunities

Fixed income can play an important role in a diversified and balanced portfolio. NAB Access Bond Service is now giving you direct access to this important market.

Bonds, also referred to as fixed income, enable you to build an income stream outside of the equity markets. Typically, fixed income securities pay a regular and defined income stream over their term and typically repay capital at maturity as described in their Terms of Issue.¹

Why invest in fixed income?

Receive a regular and defined income stream
Bonds can provide investors with regular income, in the form of quarterly or semi-annual interest (coupon) payments, depending on the type of security.

Enhance your returns
Depending on your risk appetite, you can earn attractive returns on bonds given the potential to lock in a margin or fixed rate of return that may be higher than a deposit.

Reduce some risks
In the event of the bond issuer's insolvency, its bonds typically rank above the issuer's ordinary equity for the repayment of principal of the bond.²

Decrease volatility
Due to bonds typically ranking higher than ordinary shares in an issuer's capital structure and the expectation of principal repayment at maturity, an issuer's bonds typically exhibit less volatility than the issuer's ordinary shares.

Diversification
Australian investors are heavily concentrated in growth assets, equities and property. Fixed income, often considered to be a defensive asset, may be used to diversify an investment portfolio by decreasing the portfolio's allocation to growth assets.
Due to their typically defensive nature, bonds can be used to create a more balanced portfolio that can help to cushion a portfolio from large movements in advance equity markets.

Source: National Australia Bank

¹ Securities may be bought from the issuer and resold at a profit. These securities are the subject of a letter of advice from NAB, which may be subject to change and does not constitute an offer of securities. Securities may be sold to the issuer and resold at a profit. These securities are the subject of a letter of advice from NAB, which may be subject to change and does not constitute an offer of securities. Securities may be sold to the issuer and resold at a profit. These securities are the subject of a letter of advice from NAB, which may be subject to change and does not constitute an offer of securities.

1. Register. Simply contact your NAB representative (or adviser) to see if you qualify as a wholesale investor and complete the NAB Access Bond Service Application Form available at www.nab.com.au/niis.

2. Choose. Select from an extensive list of bonds available - varying in terms of issuer, tenor, coupon type, credit ranking, and returns. You can choose from the bonds listed on our current rate sheet or contact your NAB representative (or adviser) for more support.

3. Transact. Contact your NAB representative (or adviser) for pricing and place your order.

4. Settle. Once your order has been received and executed, the payment will be debited from your nominated account. The NAB Group will hold the bonds in safe custody on your behalf and provide you with a contract note containing the details of the trade, regular coupon payment notices, monthly holding statements and annual tax statements. You can also view your holdings online through the nabtrade portal.

Appendix A:

Types of market risk

Market risk refers to the potential losses that may arise as a result of unfavourable movements in the market.

Investment market risk: The possibility that all investments in a market sector (such as shares) will be affected by an event. All financial instruments are exposed to this kind of risk.

Investment specific risk: The possibility that a particular investment may underperform the market, or its competitors. Each individual financial asset, from all classes, is exposed to investment specific risk.

Market timing risk: The possibility that an investment may be sold at a time when the sale price is low, or purchased at a high point. This risk can be somewhat negated with debt securities through a hold-to-maturity portfolio strategy.

Credit risk: The potential failure of a debtor to make payments on amounts they have borrowed. This risk is more profound the lower the credit rating of a borrower.

Refer to **Section 3 - Credit ratings and rating agencies** for more information on credit ratings.

Interest rate risk: The possibility that an investment will be adversely impacted by a fall or rise in interest rates. Debt securities are exposed to this risk – refer to ‘What drives bond prices?’ in **Section 2 - An introduction to debt securities**.

Legislative risk: The possibility that a change in legislation will impact the appropriateness of certain investments, for example in relation to taxation arrangements.

Liquidity risk: Relates to the ease with which an investor can sell or liquidate their investments. Some investments impose exit fees, or have limitations on withdrawals. Other investments may be difficult to sell due to a lack of buyers.

Appendix B:

Key bodies in the Australian debt market

Australia's stable and effective financial services regulatory environment has protected its economy from the worst of the Global Financial Crisis. The Australian Prudential Regulation Authority (APRA) and the Australian Securities and Investments Commission (ASIC) are the primary bodies responsible for our regulatory framework. Whilst the Australian Securities Exchange (ASX) serves to oversee compliance of the exchange's operating rules, it also predominantly acts as a platform to operate Australia's leading financial markets for equities and exchange-traded derivatives.

APRA

APRA oversees banks, credit unions, building societies, general insurance and reinsurance companies, life insurance, friendly societies and most members of the superannuation industry. Its key priority is to establish and enforce prudential standards and practices designed to ensure that, under all reasonable circumstances, financial promises made by supervised institutions are met within a stable, efficient and competitive financial system. It also acts as the statistical agency for the Australian financial sector.

APRA was established on 1 July 1998 and as at 30 June 2016 supervises institutions holding A\$5.9 trillion in assets for Australian depositors, policyholders and superannuation fund members.

For further information, see www.apra.gov.au

ASIC

ASIC is Australia's corporate, markets and financial services regulator, responsible for overseeing Australian companies, financial markets, financial services organisations and professionals who deal and advise in investments, superannuation, insurance, deposit taking and credit.

ASIC contributes to Australia's economic reputation and wellbeing by ensuring that Australia's financial markets are fair and transparent, supported by confident and informed investors and consumers.

The entity is an independent Commonwealth Government body, set up under and administering the Australian Securities and Investments Commission Act 2001 Cth (ASIC Act), and carrying out most of its work under the Corporations Act.

The ASIC Act requires ASIC to:

- maintain, facilitate and improve the performance of the financial system and entities in it;
- promote confident and informed participation by investors and consumers in the financial system;
- administer the law effectively and with minimal procedural requirements;
- enforce and give effect to the law;
- receive, process and store, efficiently and quickly, information that is given to ASIC; and
- make information about companies and other bodies available to the public as soon as practicable.

For further information, see www.asic.gov.au

ASX

ASX Group is a multi-asset class, vertically-integrated exchange group whose activities span primary and secondary market services, including the raising, allocation and hedging of capital flows, trading and price discovery (Australian Securities Exchange); central counterparty risk transfer (via subsidiaries of ASX Clearing Corporation); and securities settlement for both the equities and debt markets (via subsidiaries of ASX Settlement Corporation).

The ASX functions as a market operator, clearing house and payments system facilitator. It also oversees compliance with its operating rules, promotes standards of corporate governance among Australia's listed companies, and helps to educate retail investors.

The domestic and international customer base of the ASX is diverse. It includes issuers (such as corporations and trusts) of a variety of listed securities and financial products; investment and trading banks; fund managers; hedge funds; commodity trading advisers; brokers and proprietary traders; market data vendors; and retail investors.

In addition to its role as a market operator, the ASX relies on a range of subsidiary brands to monitor and enforce compliance with its operating rules. These subsidiaries are:

- **Australian Securities Exchange –** handles ASX's primary, secondary and derivative market services. It encompasses ASX (formerly Australian Stock Exchange) and ASX 24 (formerly Sydney Futures Exchange).
- **ASX Clearing Corporation –** is the brand under which ASX's clearing services are promoted. It encompasses ASX Clear (formerly the Australian Clearing House) and ASX Clear (Futures) (formerly SFE Clearing Corporation).

- **ASX Settlement Corporation** – is the brand under which ASX Group's settlement services are promoted. It encompasses ASX Settlement (formerly ASX Settlement and Transfer Corporation) and Austraclear.
- **ASX Compliance** – is the brand under which services are provided to the ASX Group for the ongoing monitoring and enforcement of compliance with the ASX operating rules. This entity replaces ASX Markets Supervision.

The oversight work performed by the ASX's subsidiaries ensures that it provides fair and reliable systems, processes and services that instil confidence in the markets that depend on its infrastructure.

Confidence in the operations of the ASX is reinforced by the market supervision and regulatory role undertaken by ASIC across all trading venues, clearing and settlement facilities, as well as through the Reserve Bank of Australia's oversight of financial system stability. ASIC also supervises ASX's own compliance as a listed public company.

For further information, see
www.asx.com.au

Appendix C:

Issuers of debt securities

Examples of issuers in the Australian market

Government/semi-government

Australian Commonwealth Government
New South Wales Treasury Corporation
Queensland Treasury Corporation
Treasury Corporation of Victoria
Western Australian Treasury Corporation
South Australian Government Financing Authority
Tasmanian Public Finance Corporation
Northern Territory Treasury Corporation
Australian Capital Territory Department of Treasury

Corporate and financial institutions

AMP Bank Ltd
AMP Group Finance Services Ltd
ANZ Banking Group
ANZ Wealth Australia Ltd
Asciano Finance Ltd
Australian Postal Corp
Australian Rail Track Corp Ltd
Bank of China Ltd Sydney
Bank of Queensland
Bank of Tokyo-Mitsubishi UFJ Ltd Sydney
Barclays Bank PLC Australia
Bendigo and Adelaide Bank Ltd
BNP Paribas Australia

Brisbane Airport Corporation Pty Ltd
Caltex Australia
Caterpillar Financial Services Corp
CFS Retail Property Trust Group
Colonial Finance Pty Ltd
Commonwealth Bank of Australia
Crown Group Finance Ltd
Deutsche Bank AG Sydney
Dexus Finance Pty Ltd
ETSA Utilities Finance Pty Ltd
GE Capital Australia Funding Pty Ltd
General Property Trust
Genworth Financial Mortgage Insurance
Holcim Finance Australia
HSBC Bank Australia
Industrial and Commercial Bank of China Ltd Sydney
ING Bank Australia
LeasePlan Australia
Lloyds Bank PLC Australia
Mirvac Group Finance
National Australia Bank
National Wealth Management Holdings
NEXTDC Ltd
PowerCor Australia
QIC Finance Shopping Centre Fund

Rabobank Australia Ltd
 Royal Bank of Scotland PLC, Australia
 SEEK Ltd
 Suncorp Group Ltd
 Suncorp-Metway Ltd
 Sydney Airport
 Telstra Corp
 Transurban Finance Company Pty Ltd
 United Energy Distribution
 United Overseas Bank Ltd Sydney
 University of Technology Sydney
 Volkswagen Financial Services Australia Pty Ltd
 Wesfarmers Ltd
 Westfield Retail Trust
 Westpac Banking Corporation
 Woolworths Ltd

Asset-backed securities
Sponsor (programme name)

AFG (*AFG Trust*)
 AMP Bank Ltd (*Progress*)
 ANZ Banking Group (*Kingfisher*)
 Bank of Queensland (*REDS*)
 Bendigo and Adelaide Bank Ltd (*Torrens Trust*)
 Beyond Bank (*Barton*)
 Bluestone (*Sapphire*)
 Citibank (*SAMT*)
 Columbus Capital (*Triton*)
 Commonwealth Bank of Australia (*Medallion Trust*)
 Credit Union Australia (*Harvey*)

FirstMac (*Firstmac Mortgage Funding Programme*)
 FlexiGroup (*Flexi ABS Trust*)
 Eclix Group (*FP Turbo Trust*)
 IMB Ltd (*Illawarra Trust*)
 ING Bank Australia (*IDOL*)
 Latitude Financial Group (*Latitude*)
 Latrobe Financial Group (*Latrobe Financial Capital Markets Trust*)
 Liberty Financial (*Liberty Series*)
 Macquarie Leasing (*SMART*)
 Macquarie Securitisation (*Puma*)
 ME Bank (*SMHL*)
 MyState (*Conquest*)
 National Australia Bank (*National*)
 Pepper Home Loans (*Pepper*)
 People's Choice Credit Union (*Light Trust*)
 Police and Nurse Bank (*Pinnacle*)
 RedZed (*RedZed*)
 Resimac (*Resimac Premier Series*)
 St George Bank (*Crusade*)
 Suncorp-Metway Ltd (*Apollo Series Trust*)
 Westpac Banking Corporation (*WST*)

Kangaroo bonds

African Development Bank
 Apple Inc.
 Asian Development Bank
 Bank Nederlandse Gemeenten
 Bank of Nova Scotia
 BNZ International Funding
 Canadian Imperial Bank of Commerce, Toronto Branch

The Coca-Cola Company
Council of Europe Development Bank
DNB Nor Boligkreditt AS
EUROFIMA
European Investment Bank
Export Development Canada
FMS Wertmanagement
Goldman Sachs Group Inc.
Hong Kong Mortgage Corporation
Hyundai Capital Services Inc
Industrial Bank of Korea
Inter-American Development Bank
International Finance Corporation
JPMorgan Chase & Co.
KfW Bankengruppe
Kommunalbanken Norway
Kommuninvest
Korea Eximbank
Korea Finance Corporation
Morgan Stanley
Nederlandse Financierings-Maatschappij
voor Ontwikkelingslanden
Nordic Investment Bank
Oesterreichische Kontrollbank
Province of Manitoba
Province of Ontario
Province of Quebec
Rentenbank
Societe Generale
Toyota Motor Credit Corporation
World Bank

Appendix D:

Tables of debt securities

Figure D1. Summary of total issuance by sector (A\$m)

	2010	2011	2012	2013	2014	2015	2016
Corporate	6,745	6,775	12,580	12,150	10,975	10,890	8,670
Financial	54,800	42,516	46,314	46,545	52,241	51,442	60,565
Government	1,800	3,260	4,160	12,000	14,000	9,500	19,200
Supranational, Sovereign and Agency	31,225	22,261	21,735	19,390	26,395	20,750	16,425
Semi-government	19,136	15,195	13,730	19,940	14,953	16,695	13,870
Total	113,706	90,007	98,519	110,025	118,564	109,277	118,730

Source: Bloomberg, National Australia Bank

Figure D2. Summary of total corporate and financial issuance by subsector (A\$m)

	2010	2011	2012	2013	2014	2015	2016
Corporates							
Auto	450	525	600	550	750	1,450	1,650
Consumer	0	1,300	1,300	350	575	3,450	2,605
Education	270	0	0	0	450	400	0
Energy and utilities	1,675	500	2,170	1,355	1,700	355	900
Public sector entities	0	200	280	700	240	0	780
Financial services (corporate)	750	950	1,510	1,650	1,125	0	0
Gaming	0	0	300	0	450	0	0
Industrials	250	400	2,050	925	975	1,300	425
Infrastructure	1,260	800	0	3,000	1,450	1,020	1,150
Media and telco	350	150	750	800	0	750	0
Property	1,740	1,950	2,120	1,720	1,835	1,065	835
Resources	0	0	1,500	1,100	1,425	1,100	325
Financials							
Banking	53,350	41,526	42,468	44,740	48,616	49,567	54,998
Financial services	1,450	990	3,846	1,805	3,625	1,875	1,842
Total Corporate and Financial issuance	61,545	49,291	58,894	58,695	63,216	62,332	65,510

Source: Bloomberg, National Australia Bank

Figure D3. Total issuance of corporate and financial by S&P rating (A\$m)*

		2010	2011	2012	2013	2014	2015	2016
AAA	AAA	8,965	5,000	0	775	1,175	300	900
	AA+	750	750	1,511	1,450	1,425	3,075	1,610
AA	AA	31,197	21,945	2,080	3,040	3,575	3,200	250
	AA-	3,960	5,720	31,568	28,010	27,729	22,840	40,960
	A+	7,900	6,865	8,780	8,425	8,477	10,337	5,785
A	A	3,800	4,824	6,730	5,425	7,090	11,450	6,175
	A-	2,160	2,952	5,970	6,020	6,970	5,390	4,450
	BBB+	501	400	330	1,885	2,440	1,365	5,112
BBB	BBB	1,110	765	1,445	2,140	3,040	1,150	1,638
	BBB-	832	50	300	1,275	450	955	425
Total		61,175	49,271	58,714	58,445	62,371	60,062	67,305

*excludes sub-investment and unrated issuance
 Source: Bloomberg, National Australia Bank

Glossary

Accrued interest

The amount of interest accumulated on a bond since the previous coupon payment date.

Ask (Offer)

The price at which a seller is willing to sell the security.

Asset allocation

An investment strategy that attempts to balance risk versus reward by adjusting the percentage of each asset in an investment portfolio.

Asset-backed security

A bond backed by a loan, lease or receivables against assets other than real estate.

Asset-backed commercial paper

A short-term instrument collateralised by a range of assets.

Authorised deposit taking institutions (ADIs)

Corporations who are authorised under the Banking Act 1959 (Cth) to take deposits from customers, including banks, building societies and credit unions.

Bank bill

A bank bill is a type of short-term money market investment that is issued and

accepted by banks. These are also known as bills of exchange.

Bank bill swap rate (BBSW)

The bank bill swap rate refers to the average mid-rate for bank bills traded with standard maturities of one to six months.

Basis point

A measure used to calculate interest returns. One basis point is one hundredth of one percent, or 0.01%.

Benchmark

An index which measures the change in the value of a market, over a period of time.

Bid

The price at which a buyer is willing to pay for the security.

Bond

A debt security or loan, as a condition of which the issuer or borrower undertakes to make specified interest or income payments, at regular intervals and to repay the principal, or capital amount, at maturity.

Cash rate

The official interest rate used by the Reserve Bank Australia to influence interest rates.

Certificates of deposit

Generally issued by a commercial bank, it is a savings certificate entitling the bearer to receive interest.

Collateralised debt/loan obligation

A structured asset-backed security with multiple 'tranches', that is issued by special purpose entities, and backed by debt obligations, including bonds and loans.

Commercial paper

An unsecured, short term debt instrument issued by a corporation, typically for managing and financing its working capital.

Commonwealth Government Securities (CGS)

Debt securities issued and guaranteed by the Commonwealth of Australia. The Commonwealth guarantees the coupon interest payments, and the return of the original capital at the maturity date.

Convertible bond

A type of debt security where the investor has the right to convert into ordinary shares of the company at redemption. This may also be referred to as a 'convertible note'.

Corporate bond

A debt obligation (bond) issued by a corporation, either senior secured, senior unsecured or subordinated. Senior secured corporate bonds are secured against company property and rank ahead of other unsecured creditors.

Coupon rate

The rate of interest paid by the issuer of a bond. The rate is usually expressed as a percentage of the face value of the security.

Credit default swap

A form of insurance against the risk of default by the issuer of a specific bond.

Credit rating

An assessment of an entity's credit worthiness.

Credit risk

Credit risk is an assessment of the likelihood that a company issuing a bond may default on its obligation to pay interest, or repay principal.

Credit spread

A spread is the difference in yield between two securities. A credit spread generally measures the degree of risk between 'risk free' assets, ie Commonwealth Government Securities, and lower rated assets including corporate bonds and hybrid securities.

Current yield

The current yield (also referred to as the running yield) represents the annual coupon receipts as a percentage of the market price.

Default

The default risk refers to the risk that the issuer will not be able to make the scheduled interest payments and/or repay the principal at maturity.

Defensive assets

Investments focused on achieving stable returns, including cash and debt securities.

Derivative

A financial instrument or contract based on (derived from) an underlying financial asset and designed to manage risk in respect of that asset.

Duration (modified duration)

A measure of the sensitivity of a bond's price, or market value, to a change in the interest rates.

Eurobond

A bond issued in a currency other than the currency of the country, or market, in which it is issued.

Ex-interest period

Debt securities that have entered into an ex-interest period will not pay the next coupon payment to the buyer of the security. This is also sometimes referred to as the ex-coupon period.

Face value (principal/par value)

The amount that the issuer borrows, which must be repaid, to the investor at maturity.

Fixed rate bond

A bond with a coupon rate that is set at the time of issue, and will remain fixed, for the life of the security.

Floating rate note

These securities pay a 'floating' interest rate, comprised of a variable interest rate benchmark (eg BBSW) and a coupon margin. The rate is considered to be 'floating' as the coupon is periodically reset and adjusted for changes in the interest rate benchmark.

Futures contract

An agreement to buy or sell a particular commodity, or financial instrument, at a pre-determined price in the future.

Growth assets

Investments focused on generating investment return that outperform inflation, including Australian shares, international shares and alternative assets.

High yield bond

A corporate bond rated below BBB- or Baa3 by the credit rating agencies or with no rating.

Hybrid

Hybrids are securities that possess both debt and equity-like characteristics.

Inflation-linked bond

A bond created to provide protection from the risk of inflation. Inflation-linked bonds may be used to mitigate inflation risk by providing a direct hedge against inflation through coupon payments linked to an inflation index.

Inflation risk

The risk that the return of an investment is eroded or below inflation, reducing the purchasing power of an investor's funds

Interest rate

The cost of borrowing money, or the return on funds, provided by a lender.

Interest rate swap

An agreement in which counterparties can exchange floating-rate cash flows for fixed-rate, or vice-versa, and therefore hedge the interest rate risk on their debt security holdings.

Issuer

Borrower (government, financial institution or company) that issues the bond or security.

Liquidity

The ease with which an asset can be bought, or sold, in the market without significantly affecting the price. A liquid bond can be bought and sold more easily than an illiquid one.

Maturity

The end of a bond's life, when capital must be repaid to the investor.

Money market

Trading of financial instruments with high liquidity, and very short maturities.

Multinational

A corporation registered in more than one country, or that has operations in more than one country.

Nominal yield

The interest paid per annum over the face value of the bond.

Par

The face value of a security.

Perpetuals

A note with no specific maturity date.

Primary market

The market in which a security is issued for the first time.

Principal

The amount of funds borrowed, or face value of the security.

Recourse

The legal right to collect.

Residential mortgage-backed securities

A type of debt security that is backed by a pool of mortgages from an authorised financial institution.

Running yield

The coupon or interest payment on a bond, expressed as a percentage of the bond's market value or price.

Secondary market

A market in which previously issued financial instruments such as shares, bonds, options, and futures are bought and sold.

Secured debt

Secured debt is generally ranked highest within the issuer's credit hierarchy (i.e. it is the first debt to be repaid in the event of a default). This debt is usually backed with, or secured by, collateral to reduce lending risk.

Senior unsecured debt

Unsecured debt has no specific collateral backing from the borrower. In the event of a default unsecured creditors have a claim on the assets of the borrower, after the assets have been assigned to the secured creditors.

Sequencing risk

The risk that the timing, and order, of investment returns will adversely affect a portfolio.

Spread

The difference in pricing between bonds.

Subordinated debt

Debt that ranks behind the liquidator, government tax authorities and senior debt holders, in the hierarchy of creditors.

Supranational

An international entity transcending national boundaries, where member states share decision-making, and vote on issues relevant to the wider group.

Term deposit

A deposit held at a financial institution that has a fixed term.

Treasury notes

Short-term instruments issued by governments.

Volatility

The sensitivity and severity of price movements of securities.

Yield (yield to maturity)

The total expected returns on a debt security, expressed as an annualised rate of return.

Yield curve

A line that maps the yields on comparable bonds (for example, bonds issued by the same borrower) of different maturities (one year, two years, ten years, etc).

Zero coupon bonds

Bonds paying no interest (coupon) during the life of the investment. Instead, investors buy them at a deep discount.

Further reading

Where can I find out more information about debt securities and debt markets?

The following links are good places to start:

www.asx.com.au/products/bonds.htm

www.moneysmart.gov.au/investing/investments-paying-interest/bonds

www.aofm.gov.au

For further information, please consult with your investment adviser or NAB representative.

References

APRA 2017, *Quarterly Superannuation Performance*, accessed 20 June 2017, <<http://www.apra.gov.au/super/publications/pages/quarterly-superannuation-performance.aspx>>.

ASIC 2013, *Report 365: Hybrid securities*, accessed 22 August 2013, <<http://asic.gov.au/regulatory-resources/find-a-document/reports/rep-365-hybrid-securities/>>.

ASIC 2015, *Information Sheet 99 (INFO 99)*, accessed 20 June 2017, <<http://www.asic.gov.au/regulatory-resources/financial-services/financial-product-disclosure/disclosure-of-credit-ratings-in-australia/>>.

Australian Government Bonds 2013, *Exchange-traded Australian Government Bonds are available for trading on the Australian Securities Exchange*, accessed 13 August 2013, <<http://australiangovernmentbonds.gov.au/2013/05/08/exchange-traded-australian-government-bonds-will-be-available-for-trading-on-the-asx-from-21-may-2013/>>.

Debt Markets, 2017, Australian Financial Markets Association, Sydney.

Global Finance Magazine, 2016, *Global Finance Names The World's Best Securities Services Providers 2016*, accessed 1 July 2017, <<https://www.gfmag.com/media/press-releases/global-finance-names-worlds-best-securities-services-providers-2016>>.

World Federation of Exchanges 2017, *WFE FY 2016 Market Highlights*, accessed 30 June 2017, <<https://www.world-exchanges.org/home/index.php/statistics/market-highlights>>.

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