Australian Corporate Bonds

The missing asset class for Australian retail investors

An independent report prepared for National Australia Bank by the Australian Centre for Financial Studies. The principal author of this report is Professor Kevin Davis, Research Director at the Australian Centre for Financial Studies.

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What are bonds?

A bond is a form of debt instrument issued by a borrower, evidencing a promise to make specified coupon payments and repayment of the principal amount at designated dates. Historically, when issued as paper certificates, holders would collect interest payments by clipping off the relevant coupon attached to the bond and presenting to the paying agent. Nowadays, as with equities, ownership of most bonds is evidenced by electronic entries in a registry and interest payments are made automatically to the registered holder.

Bonds are issued for a specified face (or par) value, such as $100 and the coupon interest paid as a designated percentage of that face value at specified intervals. Thus, if the coupon is fixed at 6 per cent per annum, paid semi-annually, the interest payments on $100 face value would be $3 every six months until the maturity date – when the face value is due to be repaid.

Bonds can be traded (bought and sold) by investors at mutually agreed prices, such that the original purchaser does not necessarily have to hold the debt until maturity. As the promised future cash flows on such a bond are fixed, an increase in market interest rates after a bond has been issued will cause its market price to fall. So also will an increase in the market's perception of the issuer's risk and ability to make the promised repayments.

The coupon rate may alternatively be specified as a floating interest rate which is linked to, and varies in line with, some market indicator rate such as the Bank Bill Swap rate in Australia. A Floating Rate Bond's price is sensitive to market interest rate movements, but the price can vary for other reasons such as changes in investor concerns about default risk.

Bonds can be issued by governments, companies and other organisations. As the issuer may default on the promised repayments, the coupon required to attract investors will be higher for issuers perceived to be more likely to default. Similarly, the lower expected recovery rate if default occurs, then the higher the required coupon. One relevant factor is the seniority status of the bond relative to other claimants against the issuer, as well as the extent to which a defaulting issuer is likely to possess valuable assets which can be sold to meet the claims of creditors.

1. Introduction

In this, the first of a series of reports on the Australian bond market, we examine the importance of corporate bonds as an asset class for investors. Unfortunately for Australian investors, this suite of valuable investment options has long been in short supply – a deficiency compounded in recent years by the shortage of government bonds easily accessible to individual investors. Given most bonds trade 'over the counter' in wholesale markets rather than on the Australian Securities Exchange (ASX) has been another factor which has inhibited retail investor access. There have been few options, other than bank deposits, for individual investors (such as trustees of self-managed super funds) wishing to tilt their investment portfolios away from equities and more towards 'fixed interest' investments.

Table 1 illustrates the lack of bond market investment for self-managed super funds: debt securities accounted for only 0.7 per cent of total assets at September 2012.

Table 1: Self-managed super fund asset allocation September 2012

Asset class	A$million
Managed investments	81,949
Cash and term deposits	134,836
Debt securities	3,271
Loans	2,943
Shares and derivatives	148,133
Australian property	69,333
Other assets	14,046
Overseas assets	3,939
Total	**458,450**

Source: ATO[1]

The shortage of corporate bonds available for retail investors can be seen from the small number and size of listings on the ASX shown in Table 2.

While there is a supply of other 'fixed interest' securities such as hybrids, convertible notes and floating rate notes, (to be reviewed in a subsequent report in this series) there were only five listed corporate bond issues (mostly by relatively small entities) at November 2012 with a market capitalisation of A$400 million.

Table 2: ASX listed fixed interest securities November 2012

Type of fixed interest security	Number of issues	Market capitalisation (A$million)
Corporate bonds	5	400
Hybrids	32	20,100
Convertible notes	13	1,400
Floating rate notes	24	13,500
Total	**74**	**35,400**

Source: ASX[2]

The focus of this report is for investors to consider corporate bonds issued by non-financial companies for inclusion in their investment portfolios.

For those readers not familiar with the features of bonds, see 'What are bonds?' on the facing page. Annex 1 on page 8 outlines the important concepts of yield to maturity and expected return, and shows why it is important to take into account the frequency of interest payments when comparing different bonds. One important feature for investors to know is that the price of a fixed interest bond currently held will increase in value if market interest rates fall (and vice-versa). The reason is that the bond promises a fixed stream of future cash flows which become more valuable when market interest rates fall. The longer the maturity of the bond, the greater its price sensitivity to interest rate movements. The following outlines why including corporate bonds in an investment portfolio is worth considering by retail investors.

Fixed interest investments

The term 'fixed interest' is generally used to refer to long term debt securities issued by companies, governments, financial institutions etc. Such securities promise an eventual return of the principal invested at their maturity date as well as regular coupon payments.

They have different risk characteristics to investments such as equities, but are generally regarded as lower risk. An issuing company could default on promised payments – but in the resulting company windup, bond holders rank ahead of equity holders whose loss would be greater. If the bond is sold prior to maturity, the market price could differ from the purchase price – but the extent of price variability is generally less than that of shares and less correlated with overall stock market volatility.

It is worth noting that the 'fixed interest' asset class also includes long term debt securities which offer a 'floating rate' of interest – where the coupon rate varies in line with some market indicator rate. The term 'fixed interest' may incorrectly include 'hybrid' securities.

1 http://www.ato.gov.au/superfunds/content.aspx?menuid=0&doc=/content/00341118.htm&page=8&H8
2 http://www.asx.com.au/documents/products/IRM_Monthly_update_-_Nov_2012.pdf

2. The outlook for the missing asset class

The virtual absence of corporate debt accessible by retail investors is likely to change significantly in the near future. Development of a retail corporate bond market is being widely supported by government and financial market participants, and becoming a more attractive source for corporate financing because of regulatory changes. We will discuss this in a later report, but a major factor is that regulatory imposts on banks may make it cheaper for companies to borrow directly from investors rather than by way of bank loans which the banks fund by raising deposits or issuing their own debt. Whilst on the demand side, investors (including those nearing retirement age) who are looking for investment options with lower risk than equities should provide a ready investor clientele.

Increased issuance of corporate bonds in Australia has occurred recently with large issues by companies such as Wesfarmers, BHP Billiton, and Telstra. However, the issues have generally been aimed at institutional investors (who invest in multi-million dollar parcels) and not readily accessible to retail investors. Minimum investments are typically in the order of $500,000. Regulatory requirements associated with the issuance disclosure arrangements limit participants to sophisticated[3] and wholesale/institutional investors. Trading in such securities occurs directly between investors or via brokers in over the counter markets rather than on the ASX.

The potential demand from retail investors for 'fixed interest' securities can be inferred from their demand for bond-like securities which have recently been issued by major banks. Most of those securities are better described as 'hybrid' securities (including convertible notes) which include some equity-like or option characteristics. As Table 2 (page 3) shows, over half of the ASX-listed fixed interest market consists of hybrid securities/convertible notes, with floating rate notes also significant. Financial institutions have been the dominant issuers, with NAB, Westpac and Colonial First State all having issued floating rate notes recently in amounts of c$1 billion.

Investor demand for bonds and other fixed interest products has also been heightened by the poor performance of equities over recent years. The relative performance of corporate bonds, government bonds and equities over recent years can be seen in Table 3 which presents returns based on the S&P/ASX indices for the various asset categories.

Table 3: Five year performance of various asset classes 2007-2012

Index	Average rate of return (%pa) over past 5 years (arithmetic mean)	Standard deviation of return (%pa)
S&P/Government Bond Index	10.28	5.01
S&P/ASX Corporate Bond Index	11.04	3.41
S&P/ASX 200 Index	-6.20	22.07

Source: Derived from Standard and Poor's Index Time Series Data[4]

The strong historical performance of bonds reflects the downward trend in interest rates over recent years. As interest rates have fallen, prices of bonds promising fixed payments have increased giving their holders good capital gains. The small gap between returns on corporate and government bonds reflects partly an increased demand for government bonds driven by their role as a liquid asset. Such historical returns, from a relatively short period of declining interest rates, do not provide reliable information about potential future returns from these asset classes.

Nor do they reflect returns from a 'buy and hold' strategy which would deliver the yield to maturity at the time of investment over the maturity of the bond. For example, an investor in a 5 year government bond in October 2007 locked in a yield to maturity of 6.45 % p.a. Rather, the returns in Table 3 reflect the return on a trading strategy which correctly predicted the long run downward trend in interest rates and involved continually buying long term bonds for subsequent resale when rates fell to capture short term capital gains. The corporate bond returns also reflected the movements in credit spreads (the yield offered over the government bond rate) over the period. For example, an investor in AA bonds in March 2009 locked in a credit spread of 301 basis points, and that had declined to 113 basis points by October 2012.

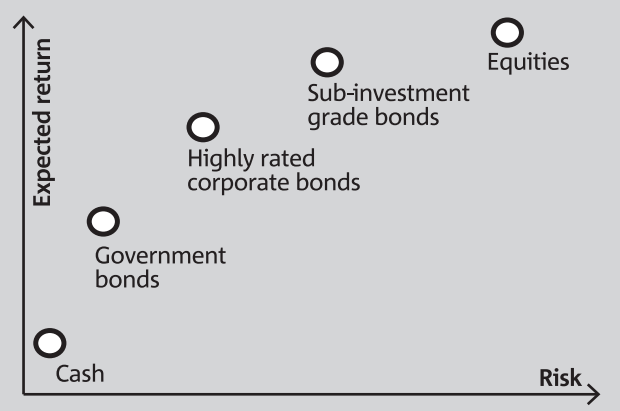
3 The Australian Securities and Investment Commission defines a sophisticated investor as an individual with a gross income that has exceeded $250,000 in each of the previous two years or an individual with net assets exceeding $2.5 million.

4 http://au.spindices.com/indices/ (accessed on 9/11/2012)

3. Why include corporate bonds in an asset portfolio?

In structuring an investment portfolio it is crucial to determine the objectives. They can vary from investor to investor depending on risk aversion, age, non-financial wealth and anticipated holding period. In general, the objectives can be expressed in terms of a preferred position on what is generally referred to as the risk-return trade-off available from combining a range of assets offering differing degrees of risk and expected returns. Higher risk assets are typically believed to offer higher expected returns as reflected in Figure 1.

Figure 1: Risk and expected return



Market forces create such a situation, as investors demand a higher expected return to hold assets they regard as more risky. Of course, markets do not always get it right, as the experience of the Global Financial Crisis illustrated. Many complex structured investment products were much more risky than investors had thought, and had been sold to (even those thought to be sophisticated) investors at prices which were too high (and yields which were too low) to compensate for the risk involved. While corporate bonds can be issued with all sorts of bells and whistles attached which make their risk and relative reward difficult to assess, assessment of the merits of a 'plain vanilla' corporate bond depends upon many of the same factors involved in assessing the merits of equity investment in the issuing company.

Table 4 provides indicative information about the current rates of return from investments in asset classes such as those shown in Figure 1. The bond returns are yield to maturity which is the return received if there is no default, and which is somewhat above the expected return which takes into account probability of default. Note that BBB rated corporate bonds (although less highly rated than AA bonds) are still regarded as 'investment grade'. 'Sub-investment grade', also known as 'junk' or 'high yield' bonds would have significantly higher expected returns. Unlike the USA where there has long been a significant sub-investment grade debt market with bonds issued by companies which are viewed as high risk at the time of issue, in Australia there are few sub-investment grade bonds – other than those arising from the demise of formerly highly rated companies.

Table 4: Indicative asset class returns October 2012

Asset	Rate of return (%pa)
Cash (bank cash management accounts)[a]	2.15
10 year government bonds	3.02
AA rated corporate bonds[b]	3.71
BBB rated corporate bonds[b]	5.30
Equities[c]	9.00

Notes: (a) accounts over $50,000; (b) yield to maturity on 1-5 year maturity; (c) estimated by adding historical equity risk premium (incorporating franking credits) of approximately 6% p.a. to 10 year government bond rate.

Source: RBA Statistical Tables F2, F3, F4

Corporate bonds should be less risky investments than equities issued by the same company. Bonds promise a stream of coupon payments and return of principal on maturity with risk arising from the possibility that the company fails and cannot honor those promises. In contrast, dividends to be paid on shares are at the discretion of the company and the capital invested in purchase of shares can only be recouped, generally, by selling at the market price at that time. Dividends declared and stock market prices will reflect the actual (and prospective) economic fortunes of the company.

However, there is a fundamental difference to equity investments. The 'upside' for bond investments is capped at the promised interest and principal repayments, whereas for equity investments, the sky is (metaphorically speaking) the limit. This asymmetry works in reverse on the downside. Should the company fail, bond holders rank ahead of shareholders in liquidation, and thus may recover some (often substantial) part of their capital investment from sale of the company's assets, whereas shareholders will lose their entire investment unless creditors such as bondholders are paid in full.

Also relevant in comparing bonds to equities is potential 'inflation risk'. Equity values could be expected to trend in line with the general price level, offering protection against loss of purchasing power value from inflation – although the empirical evidence does not support this. For bonds, there is a clear 'inflation risk' – the real value of the promised cash flows fixed in dollar terms will be eroded by high inflation. Typically, if there are widespread expectations of inflation, the interest rates on bonds will be higher to reflect and counteract the inflation effect. It is when unexpected inflation occurs that bond holders lose out because of the unanticipated decline in the real value of the promised cash flows. Governments, but few corporates, offer inflation-indexed bonds where promised cash flows are adjusted in line with the inflation outcome to offer protection against unexpected inflation.

4. Reducing risk via diversification

It is worth noting that investors in corporate bonds are also exposed to the risk that market prices for bonds can fluctuate prior to maturity, as the market continually reassesses their merits relative to other securities available and in the light of the perceptions about the issuer's prospects. This can provide some 'upside' opportunities if a bond is selling below its par value increased significantly, as occurred in recent years when credit spreads blew out after the financial crisis and have subsequently eased. Similarly, if market interest rates decline, short term capital gains can be made by selling a bond whose coupon rate is now attractive compared to the lower interest rates being offered on new securities. However, it must be remembered that such a trading strategy means that reinvestment of the sale proceeds will be at a lower rate of return.

Generally, the market prices of bonds and equities of the same company should tend to move in the same direction, because their value depends on the company's fortunes, with bond prices being less volatile. However, bond prices can exhibit some independent variability if market interest rates change and affect the attractiveness of that bond's promised payments relative to other new offerings in the market.

Figure 1 suggests that investors who want a low risk investment portfolio should invest in assets such as cash, government bonds and highly rated corporate bonds. It is important to remember three points about asset allocation. First, diversification is a fundamental technique for managing risk. Second, the relevant risk concept can vary depending on the investor's time horizon. Third, while risk can be interpreted as the variability of future returns (or of asset portfolio value) it arises from a variety of sources.

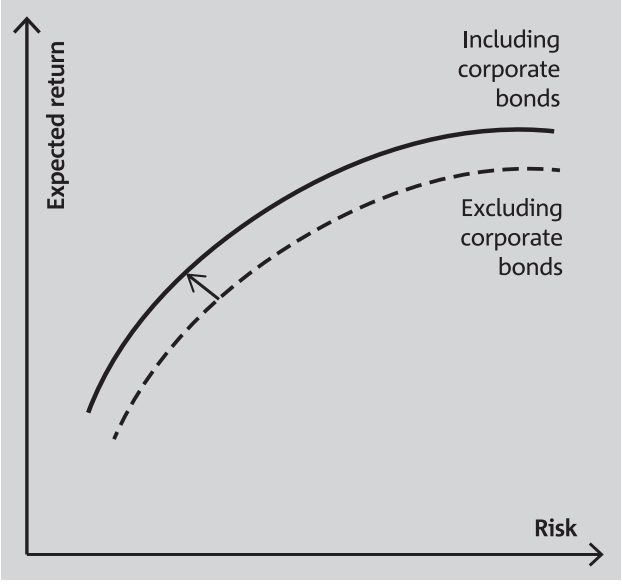
Diversification matters because it reduces the degree of exposure to any single source of risk (such as default by a particular bond issuer), but also because bad outcomes for some investments may be offset by good outcomes for other investments. Thus the total risk of a diversified portfolio is generally far less than the sum of the risks of its component parts. A retiree looking for a stable income stream and asset portfolio value may find it beneficial to have some allocation to equities – if the higher expected return for the portfolio outweighs the somewhat higher risk level.

The effect of diversification on overall asset portfolio returns depends upon the degree of correlation between returns on the components. If, for example, asset A always has good returns when asset B has bad returns, and vice-versa, combining A and B in a portfolio will tend to reduce risk. If the returns on A and B always move exactly in harmony, combining them brings no diversification benefits. In that regard, it is worth noting that buying shares and bonds of the same company is not diversification.

One way of assessing potential diversification benefits is by examining the degree of correlation of returns on the asset in question with returns on the overall market of assets (often referred to as the beta of the asset). Lower betas indicate lower risk assets (if held as part of a diversified portfolio) which consequently have lower expected returns. Corporate bonds tend to have relatively low betas, because of the relatively low variability of their prices over time and relatively low correlation of returns with overall market returns. Their inclusion in a portfolio can thus lead to improved expected returns for a given overall level of portfolio risk.

This benefit of including corporate bonds in an asset portfolio, is shown in Figure 2 which depicts the risk-return trade-off available with and without corporate bonds.

Figure 2: Improving the risk return trade-off



5. Long term horizon investing

The risk-return trade-off depicted in Figure 2 relates primarily to the performance of an investment strategy in the relatively short run (eg over a month or a year) where much of the risk comes from changes in the market price of the assets involved.

However, for many investors, particularly retirees, the focus may be on achieving a safe income stream and preserving capital value over a number of years. This is where fixed income instruments such as corporate bonds assume significance. If held to maturity, and subject to the issuer not defaulting on promised repayments, the investor will receive future cash amounts which are known at the time of initial investment. While individual bonds have a pattern of payments where the coupon interest amounts are each small relative to the principal repayment at maturity, it is possible to design a relatively smooth, stable, stream of payments by investing in a mix of bonds with different maturities in conjunction with shorter term, cash holdings.

6. Limiting default risk

The main risk associated with investing in any one corporate bond is that the issuing company may fail and become insolvent. While bondholders rank above shareholders in claims upon the company assets, and may receive part of the funds owed to them from the sale of assets, this can be a significant risk. The company may have few saleable assets and there may be other creditors whose claims rank above the bondholders. In addition, the insolvency process can be a drawn out affair involving significant time lags before any payments are made.

There are a number of ways for investors to manage this risk, although it is unlikely to be possible to completely eliminate it. One approach is to only invest in bonds issued by very highly rated companies who are believed by analysts and other experts to have extremely low risk of failing. The low risk is, of course, reflected in relatively lower yields on such bonds compared to their more risky counterparts. A second approach is to invest in a diversified portfolio of corporate bonds, such that the failure of any one issuer has a limited effect on the overall value of the bond portfolio. A third approach is to invest indirectly through a managed investment scheme such as bond mutual funds (also referred to as unit trusts). While such funds are available to Australian retail investors, the limited supply of Australian corporate bonds, means that they often include investments in other types of bonds. It can be expected that as the Australian corporate bond market grows, specialised bond mutual funds will be developed.

7. Conclusions

- The shortage of corporate bonds available for retail investor portfolios is likely to decline over the next few years.
- The ability of retail investors to easily make and manage investments in corporate bonds which are issued into and trade in the unlisted (over the counter) wholesale market has been a deterrent to their involvement.
- Corporate bonds generally offer a higher expected return than cash, government bonds or bank term deposits, but less than equities.
- Corporate bonds offering higher yields are generally from higher risk companies.
- High expected inflation will lead to higher interest rates offered on bonds, but unexpectedly high inflation is a risk to bond holders by reducing the real value of promised future cash flows below that anticipated.
- Adding corporate bonds to an investment portfolio improves the risk-expected return combinations available to the investor.
- While the market price of corporate bonds can fluctuate, if held to maturity they promise a pre-specified cash flow over that period.
- The market price of floating rate bonds is likely to fluctuate less than that of an otherwise equivalent corporate bond, but the cash flows received can move up and down in line with movements in market interest rates.
- There is default risk associated with corporate bonds which can be mitigated by investing in highly rated securities and by diversification.
- The 'fixed interest' market includes a range of security types. Corporate bonds are simpler to understand and value than are securities like hybrids and convertible bonds.

Annex 1: Bond yield concepts

Bonds are issued with a designated or promised coupon rate, such as 6% p.a. (and the promise of repayment of principal amount (the par value such as $100) at maturity or over time according to some schedule). At any point in time, it may be possible to buy such a bond at a market price different to the par value. The yield to maturity is a calculation of the rate of return from purchasing the bond at its current market price on the assumption that promised repayments will occur. For example, purchasing a bond with a 6% coupon (ie with interest payments of $6 for each $100 par value) for a price of $98 will imply a yield to maturity somewhat greater than 6%. However, it may be that there is a probability that the issuer will not meet the promised repayments. There may be, for example, a 10% probability that only $80 of the principal is recovered because the issuer has become insolvent. The expected return takes that expected, rather than the promised, future cash flow into account, giving rise to an expected return lower than the yield to maturity. If there is zero probability of default the expected return and yield to maturity are equal, but the difference increases as the potential loss from default increases. If all other characteristics of two bonds issued by different companies, such as maturity and secondary market liquidity, are equal, a higher yield to maturity of one is indicative of market perceptions of a higher risk of default by that issuer.

Interest rate frequency: more frequent is better

Receiving interest on an investment at more frequent intervals is an advantage, because of the possibility of reinvesting that amount to gain 'interest on interest' – referred to as compounding. If a one year maturity bond of par value $100 pays 4% interest p.a. once per year, then at the end of the year the investor will have $104. However, if it pays the interest semi-annually (ie $2 after 6 months and $2 after 12 months) the investor can reinvest the $2 received after six months to have more than $104 after 12 months. How much more depends on the interest rate available at that time, but if it were 4% p.a., the $2 reinvested for six months would have grown to $2(1+0.04/2) = $2.04, giving $104.04 in total. The annual percentage return (apr) is a concept which describes yields on securities bonds paying interest at different frequencies in a consistent, comparable, manner. In this case the bond paying 4% p.a. semi-annually would have an apr of 4.04%.

Glossary of fixed income terms

Accrued interest
The amount of interest accumulated on a bond from the last coupon payment date.

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

Bank bills
A short-term money market investment.

Basis point
A measure used to calculate interest returns. One basis point equals one hundredth of one per cent or 0.01%.

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

Buy and hold strategy
A passive investment strategy whereby the investor intends to retain the investment until maturity.

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

Convertible bond
A traditional fixed income style security that gives the investor the right to convert into ordinary shares of the company at redemption.

Corporate bond
A debt obligation (bond) issued by a corporation, either senior secured, senior unsecured or subordinated.

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 specified corporate bond.

Credit rating
As 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, (i.e. Commonwealth Government Securities), and lower rated assets.

Derivative
A financial instrument or contract based on (derived from) an underlying financial asset.

Duration (modified duration)
A measure of the sensitivity of a bond's price or market value to a change in interest rates.

Face value or principal
The amount that the issuer borrows which must be repaid to the investor at maturity. Also known as par value.

Fixed rate bond
Bond on which the coupon rate has been set at the time of issue and will remain fixed for the life of the security.

Floating rate note
A debt security that has a variable coupon, equal to a money market reference benchmark plus a quoted margin.

Inflation-linked bond
A bond created to provide protection from the risk of inflation.

Issuer
Borrower (government, financial institution or company) that issues the bond (that is, borrows the money) and pays the interest.

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.

Over-the-Counter
Off-exchange trading that is done directly between two parties.

Perpetuals
A floating rate note with no specific maturity date.

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

Secured debt
Secured debt is debt in which the borrower pledges some assets as collateral.

Sub-investment grade bond
A corporate bond rated below BBB- or Baa3 by the credit rating agencies or with no rating. Also known as high yield bond or junk bond.

Subordinated debt
Debt that ranks behind the liquidator, government tax authorities and senior debt holders in the hierarchy of creditors. It should be noted that in the case of liquidation or bankruptcy the holders of subordinated debt rank ahead of equity or shareholders.

Unsecured debt
Unsecured debt has no collateral backing from the borrower.

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

Yield curve
A line that maps the yields on comparable bonds (for example, bonds issued by the same borrower) of different maturities (1 year, 2 year, 10 years, etc).

Yield to maturity
The rate of return earned by an investor assuming that the bond will be held until maturity and that all coupon and principal payments will be made on schedule.

About the Australian Centre for Financial Studies

The Australian Centre for Financial Studies (ACFS) is a not-for-profit consortium of Monash University, RMIT University and Finsia (Financial Services Institute of Australasia) which was established in 2005 with seed funding from the Victorian Government. Funding for ACFS is also derived from corporate sponsorship and through research partnerships such as the one with the National Australia Bank which has led to this report.

The mission of the ACFS is to build links between academics, practitioners and government in the finance community to enhance research, practice, education and the reputation of Australia's financial institutions and universities, and of Australia as a financial centre.

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