CHAPTER 2

Debt Securities and Markets

Overview

In Chapter 2, we discuss debt instruments (securities) and the markets in which they are traded. A debt security is one that promises to make certain payments on specified dates in the future determined by a known formula. They do not give any ownership rights in the organisation issuing the debt. These instruments are traded in securities markets and the liquidity of the market for a security is an important determinant of its attraction to investors.

The major instruments covered in Chapter 2 are:

- cash market instruments and money market instruments, especially BABs, and NCD;
- Commonwealth government securities (CGS) – Treasury bonds and Treasury notes;
- repurchase agreements otherwise known as repos;
- state government bonds, otherwise known as semi's;
- corporate bonds; and
- asset-backed securities, especially RMBS .

Objectives

- describe the short-term and longer-term Australian debt market, including the cash market, the broader money market and the fixed-income market;
- examine the markets for debt securities in Australia, including the corporate and government bonds market;
- examine and describe short-term (discount) debt instruments and long term debt instruments, including the associated benefits and risks to security holders;
- briefly examine the operations and methods of the Australian Office of Financial Management and the Reserve Bank of Australia in the market for debt securities;
- examine the increasing role of the repurchase agreement market, including the wide use of repurchase agreements in open market operations conducted by the Reserve Bank of Australia;
- examine the role of credit rating agencies and their methodologies, including the potential risks involved in using credit ratings;
- examine the growing corporate paper market and the market for so-called interest rate securities; and
- briefly examine the role of securitisation, including developments before and after the Global Financial Crisis.

Key Concepts

The key concepts introduced in this chapter are:

- Asset-backed Commercial Paper (ABCP)
- Austraclear
- Australian Financial Markets Association (AFMA)
- Australian Office of Financial Management (AOFM)
- Australian Securities and Investment Commission (ASIC)
- Australian Stock Exchange (ASX)
- Australian Taxation Office (ATO)
- authorised deposit-taking institution (ADI)
- bank-accepted bill (BAB)
- bank bill swap rate (BBSW)
- Commonwealth Government securities (CGS)
- corporate bond
- coupon bond
- debt security and debt market
- enhancement
- exchange settlement (ES) funds
- Global Financial Crisis (GFC)
- Negotiable certificate of deposit (NCD)
- Non-bank financial instution (NBFI)

- open market operations (OMO)
- promissory note
- real-time gross settlement (RTGS)
- repurchase agreement (repo)
- Reserve Bank Information And Transfer System (RITS)
- Reserve Bank of Australia (RBA)
- Residential mortgage-backed securities (RMBS)
- Secondary mortgage market (SMM)
- special service vehicle (SPV)
- Treasury bond
- Treasury indexed bond (TIB)
- Treasury note
- zero-coupon bond.
- Australian Government bond
- Bearer security
- cash market
- collateralised debt obligation (CDO)
- credit rating agencies
- fixed-income market
- inscribed stock
- interest rate security
- issue credit rating

- issuer credit rating
- junk bond
- money market
- securitisation
- tendering

Revision Questions

1 What type of investor would be interested in Australian TIBs?

These bonds could be attractive to:

- *retirees who want to maintain the real value of their retirement income; and*
- *superannuation funds which are obliged to pay indexed pensions.*

However, a problem with these indexed bonds is that the nominal rather than the real rate of return is subject to tax. This can result in a negative after-tax real return. As a result, investors are often attracted to such investments as shares and property which are regarded as inflation hedges (i.e. their prices increase with the general price level).

2 Discuss the advantages and disadvantages of BABs as:

(a) a form of investment

(b) a way of borrowing money

A BAB is paper issued by a private borrower promising to pay a certain amount of money on a specified date where the payment has been guaranteed by a bank. Bank bills carry the credit rating of the banks guaranteeing them which gives them a

rating close to that of government paper. This is because banks are widely regarded as "government guaranteed", although there is no legislative basis for this view.

The attraction of bank bills as an investment is the safety of the investment. They also provide a good return for investors looking to park money for a short period, e.g. money intended for payments of tax obligations. If the yield curve is inverse (as it was in the 1980s), these securities yield a higher return than longer-term securities. BABs are also attractive as investments when interest rates are expected to rise. Note that, in this situation, the yield curve will be normal.

BABs can be used as an investment (bought) by wholesale 'and' retail clients (in either case investors normally approach a bank/s to ascertain daily yields, on particular amounts invested, and maturity). Banks also make markets in wholesale BABs by quoting a bid-offer spread to wholesale investors. This allows banks bundle-up draw downs and on sell them into wholesale markets (including other banks and non-banks).

Some disadvantages include that fact that interest rates are tiered to those investors that have more funds to invest (i.e. a retail client investing in a 90-day BAB worth $100 000 would receive a different rate than a wholesale client investing 10 million for the same term). There are also penalties for terminating an investment early

(particularly in the case for retail clients where there is no open market for small parcels of investment bills).

BABs are an attractive way of borrowing when:

- *the yield curve is normal (i.e. short-term interest rates are lower than long-term interest rates); or*
- *interest rates are expected to fall.*

Note that, in the latter case, the yield curve is likely to be inverse.

Borrowers can use the BAB market as an alternative and cheaper form of finance compared to an overdraft or a corporate/business loan.

3 What are the advantages/disadvantages of securitisation? How does it affect the original mortgage borrower?

The advantages of securitisation are:

- *the housing mortgages of lenders such as banks have become liquid assets. They can be used in the process of asset/liability management;*
- *fund managers have access to a new asset class (home mortgages) allowing a greater diversification of their portfolios;*

- *securitisation increases the volume of bonds traded in the market; and*
- *securitisation potentially increases the availability of funds available to borrowers in particular segments such as the housing market. This increased competition also places downward pressure on the cost of borrowing.*

The major danger with the securitisation process arises from the credit enhancement necessary to make it work. If defaults exceed the expected level, the organisation guaranteeing the asset-backed bonds can get into difficulties. For example, such a development could undermine the viability of mortgage insurers.

Securitisation of a mortgage has no direct impact on the borrower. However, many borrowers would be disconcerted to discover that they no longer have a relationship with the original lender, the lender of their choice. During the GFC many non-banks found it very difficult to issue new, and roll-over existing, bonds. The result can be substantially higher interest rates for those borrows with a variable mortgage relative to the top-tier banks that rely less on securitisation as a source of funds.

4 Discuss the differences in the functions of the AOFM and the RBA.

The AOFM manages the Government's debt obligations. It also manages the Government's surplus cash balances and invests surplus funds in financial assets.

The RBA manages the entire monetary system by maintaining exchange settlement accounts, issuing currency notes, and actively participating in the short-term money market to set the official interbank cash rate.

5 Describe the difference between Austraclear and RITS

Both are payment systems. However, Austraclear is privately owned and operated by the ASX. RITS is owned and operated by the RBA. RITS is also Australia's RTGS system and is used mostly by banks and those with exchange settlement accounts for settlement of interbank transfers. Austraclear is used by banks, non-banks, corporations, and high-value worth individuals. RITS membership is limited to those with an exchange settlement accounts and those that wish to deal in the RBA's OMOs while Austraclear has over 650 participants.

6 Why has the RBA preferred the use of repos in their OMOs over the last 10 years?

The main reason is that repos provide a great degree of flexibility in carrying out monetary policy. From the RBA's perspective it expands the potential pool of investors (as investors are not required to permanently buy/sell existing securities), it reduces risk as the RBA is not obligated to hold large parcels of riskier private sector securities in its portfolio for extended periods of time, and it allows the RBA to better manage the cash position into the future (i.e. if the cash position is

expected to be in surplus in 14 days time, the RBA could ensure its maturity of repos bought today also ends in 14 days time).

Market convention and financial market innovations have ensured the repos play an integral part in borrowing and lending, liquidity management and risk management.

7 Why has the composition of RBA repurchase agreements shifted to private sector securities in recent years?

Main reasons include:

- *steady decline in CGS in the 10-13 years leading up to the GFC;*
- *the need to extend eligible repo collateral to include private sector securities which account for the largest proportion of securities traded in financial markets; and*
- *a flexible monetary policy that also caters for intra-day liquidity needs of the large banks*

8 What type of investor would be interested in a zero-coupon bond?

Zero-coupon bonds are attractive to investors who do not need regular cash flows but who want to lock in a return over a long period of time.

9 How has the recent GFC affected the demand and supply of government bonds in financial markets?

Commonwealth Government deficits, resulting from the impacts of the GFC, have increased the supply of Treasury bonds dramatically and reversed a decade long retreat away from debt finance. Conversely, the GFC has also prompted investors to re-evaluate the concept of risk and riskless assets such as Treasury bonds. This risk aversion has seen an increase in the demand for Treasury bonds by investors in order to reduce risk and to replenish underweight portfolios.

10 What are the potential investment risks involved with interest rate securities?

Interest rate securities can be traded on the ASX, e.g. floating rate notes, convertible notes, and hybrid debt securities. This type of security is a form of bond which pays a coupon payment, either fixed or floating, plus it pays the face value upon maturity. The main risk associated with these securities is that the coupon payment (cash flow) is fixed for the life of the security unless it is a floating rate security. The investment risks associated with longer term interest rate securities are greater due to the variability of interest rates over time.

11 What factors determine a company's credit rating?

Ratings agencies attempt to make informed conclusions based upon information from a range of sources, but importantly from the company itself. There are three major credit rating agencies globally, and each of these agencies applies different criteria to calculate company credit ratings. However, the ratings of each company can be compared with each other. For example, Moody's investment grade "good – A3" is equated with Standard and Poor's investment grade "good – BBB+". The main factors influencing company ratings include key financial and accounting ratios such as:

- *Cash flow ratios*
- *Earnings data*
- *Cover ratios*
- *Capital structure*

As well as these financial ratios, ratings agencies consider some 'macro' factors such as the economic performance and direction of the country's economy, and how changes to national and international accounting practices would impact upon the particular company.

True/False Questions

Answer True or False to each of the following.

1 An Australian Government bond with two months to maturity is equivalent to a Treasury note.

True. The bond has the same credit standing as a Treasury note and it pays a single payment (its face value and the final coupon) at maturity.

2 There are no significant bearer securities in Australia.

False. Bank bills are bearer securities.

3 The AOFM holds an Australian Government bond tender every Wednesday.

True/False. The AOFM determines the timing of Treasury bond tenders depending on the need to raise funds. At the time of writing this book, Treasury bond tenders are conducted every Wednesday 'and' Friday. Note: Treasury notes are conducted every Thursday. Again, the weekly timing of tenders for both Treasury bonds and notes are subject to change.

4 The amount of Australian Government bonds on issue has fallen because of the GFC.

False. The amount of Australian Government bonds have risen to finance a growing Commonwealth budget deficit resulting from the impacts of the GFC.

5 Treasury notes, promissory notes and zero-coupon bonds are discount securities.

True. They all sell at a price below their face value and the dollar return earned is the difference between the price and the face value.

6 Bearer bonds and zero-coupon bonds have been used for tax avoidance.

True. Bearer bonds were suitable vehicles for tax avoidance because the authorities had no record of who was holding them. When zero-coupon bonds were first introduced, the return on them was taxed only when it was realised (i.e. at maturity). This allowed investors to shift the income into a period when they had a lower marginal tax rate (e.g. after they retire). The ATO closed this loophole by requiring tax to be paid on the accrued income on zero-coupon bonds.

7 Australian TIBs pay a quarterly coupon which is set when the bond is issued.

False. These bonds do pay a quarterly coupon but it is based on the face value of the bond adjusted for inflation.

8 ADIs are the major issuers of short-term non-government debt securities.

True. See Table 2.2. Banks issue bank bills and certificates of deposit.

9 The amount of corporate bonds on issue has been growing rapidly showing that corporate bonds are perfect substitutes for government securities.

False. Corporate bonds are not perfect substitutes. Government securities are free of default risk while corporate bonds are not.

10 A majority of Australian RMBS carry a AAA rating.

True. The majority of Australian RMBS are of very high quality with relatively low default rates.

11 Securitisation accounts for a major part of non-intermediated new debt finance in Australia.

True. See Table 2.2 in the text. While the securitisation market has declined in proportional value during the GFC (see, for example, Figure 2.3 in terms of securitised mortgages in Australia), their growth is expected to play an important part of non-intermediated new debt into the future.

12 An advantage of securitisation is that it transfers classes of risk away from originator to the enhancers.

True/False. Technically the process does transfer risk (see Figure 2.4) but it can also be argued that the process can only work consistently in good times. For example, many international banks were forced to buy-back securities during the GFC. In addition, many Australian holders of asset back securities are now in litigation action because the securities they bought (or were sold) have lost most of their value (see for example Wingecarribee Shire Council's legal action to recover $4 million invested in CDOs allegedly recommended by Grange Securities, which was later bought out by Lehman Brothers). A number of other councils, charities and schools also lost millions in similar investments.

13 Better balance sheet management of the funding institution is one of the advantages of securitisation.

True. The mortgage originator can better manage the balance sheet by being able to adjust the mix of liabilities, together with the ability to free-up non-working capital.

14 CDOs are based on a diversified pool of loans.

True. CDOs are quite diversified, and include assets with varying credit ratings.

15 Credit ratings are determined by the profitability of companies.

False. Ratings agencies analyse a range of financial and accounting ratios and indicators to evaluate a company's credit rating. Profitability is only one aspect of this assessment. See pp. 41–43 of the text.